

POPULAR Computing WEEKLY

Only 50p.

17-23 April 1986

Vol 5 No 16

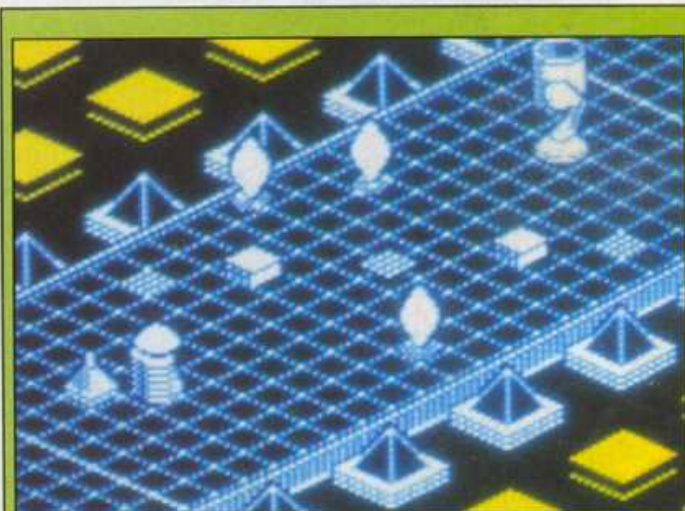
**£2000
WORTH
OF PRIZES
TO BE WON
WORD
WIZARDS
SEE P21**

Amstrad/Sinclair: more details emerge

- QL rights may be bought by independent consortium if Amstrad uninterested
- Backers for Sir Clive's new companies named
- Sir Clive rejected alternative deal in favour of Amstrad's £5m buy-out

Full details below and inside

MORE information is now coming to light about the future of Sinclair computers and Sir Clive himself, following the
Continued on page 4 ►



COLOUR FEATURE

*Vortex's Alien Highway
A worthy successor to
Highway Encounter?*

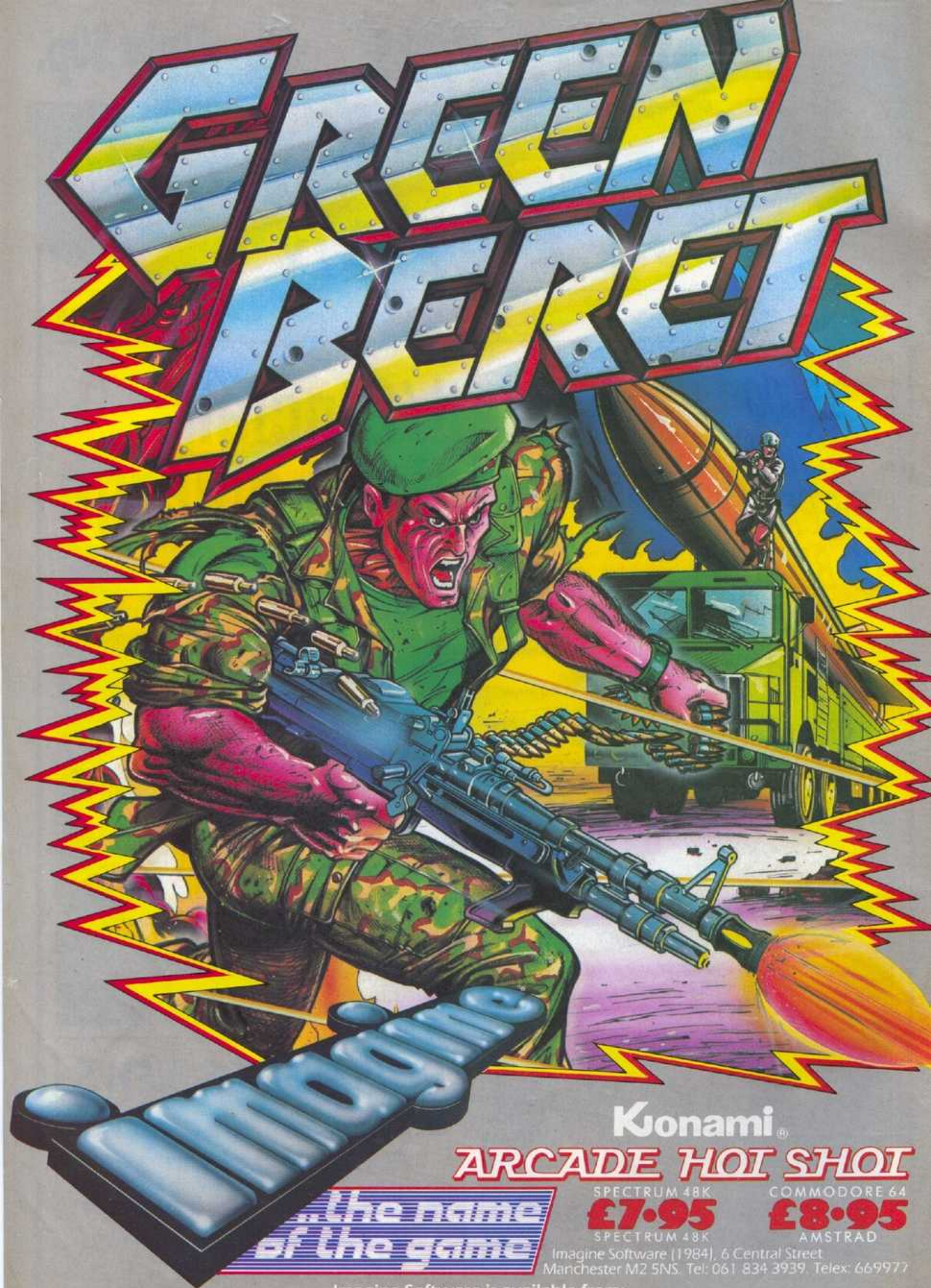
SPECIAL PULL-OUT

*Locoscript – the easy way
Graham Taylor demystifies
the Amstrad PCW manual
Turn to pages 23-26*



THIS WEEK'S NEWS

- Acorn set to announce RISC technology deal
- Plus much, much more on that Amstrad/Sinclair deal



Konami®

ARCADE HOT SHOT

SPECTRUM 48K

£7.95

SPECTRUM 48K

COMMODORE 64

£8.95

AMSTRAD

Imagine Software (1984), 6 Central Street
Manchester M2 5NS. Tel: 061 834 3939. Telex: 669977

Imagine Software is available from:



WHSMITH

John Menzies

WOOLWORTH

LASKYS

Rumbelows

Greens

Spectrum Shops

and all good dealers

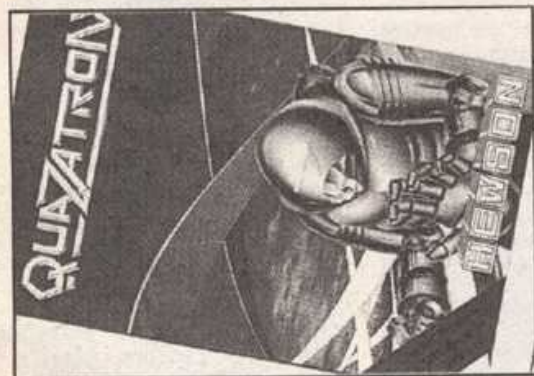
SOFTWARE ►

8 Reviews

Cut and Paste – 'truly a remarkably simple wordprocessor'? Utility jamboree, with *Laser Basic* compiler, *Discom 64* and *Polyprint*

11

Getting serious on the PCW machines – Tony Kendle finds a wealth of spreadsheets and databases available, running under CP/M Plus – and tells all

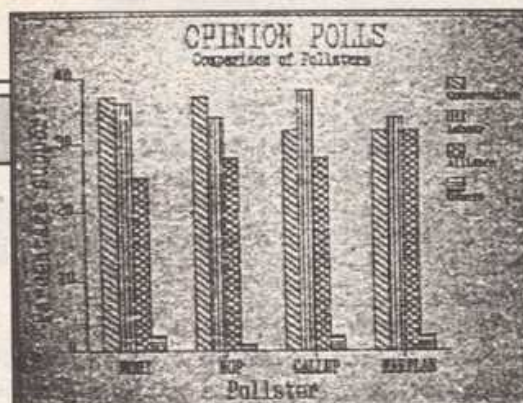


12 Reviews

Hot off the duplicating machine, Hewson's *Quazatron* – is bound to be a biggie

16 Colour Special

Graham Taylor takes a close look at *Alien Highway*, *Vortex's*



◀ GAMES

follow-up to last year's *Highway Encounter* – with hints and tips on how to succeed

14 Charts

18 Arcade Action

20 Adventure Corner

SPECIAL FEATURE ►

23 Locoscript – all you ever wanted to know

Nice package, shame about the documentation... yet help is at hand. Graham Taylor makes things clear and shows you the

way in our handy pull-out and keep guide. A step-by-step tour through the menus, how to create Ascii files – and more



30 Spectrum

Continuing our series of invaluable machine code utilities

32 QL

A Caps Lock indicator for Psion's

Quill... together with a multi-tasking clock

33 Peek & Poke

Phil Rodgers sifts his way through more of your programming queries

◀ PROGRAMMING

34 PCW 8256 and 8512

Some new functions for Mallard Basic

36 Bytes & Pieces

More short routines to help your programming

REGULARS ►

4, 5 News Desk

Acorn set to announce RISC deal

6 Letters

Readers riot over Speedysoft's Spectrum 128 incompatibility list

21 Competition

Another wordsearch puzzle forms part two of our mega-giveaway – there's a Commodore 128D and two Atari 520STMs up for grabs in a fortnight's time

48 New Releases

Includes *RSM Titanic*, the forthcoming release from Electric Dreams

50 Ziggurat, Puzzle, Hackers

Editor Christina Erskine Features editor Graham Taylor Software editor John Cook Production editor Lynne Constable Supplements editor Christopher Jenkins Promotions manager Simon Langston Advertisement manager Diane Holyoak Advertisement executive David Osen Classified executive Jon Beales Editorial secretary Annmarie O'Dwyer Administration Geraldine Smyth Managing editor Peter Worlock Publishing director Jenny Ireland.

Published by Sunshine Publications Ltd, 12-13 Little Newport Street, London WC2H 7PP. Tel 01-437 4343 Telex 296275 Typeset by Publishers Reprographics Services Ltd, 4 Roger Street, London WC1. Printed by Greenaway Harrison, Sutton Road, Southend-on-sea, Essex. Distributed by S M Distribution, London SW9. Tel 01-274 8611, Telex 261643.

© Sunshine Publications Ltd 1986.

Popular Computing Weekly. Tel: 01-437 4343.

ABC

How to submit articles Articles which are submitted for publication should not be more than 2000 words long. The articles, and any accompanying programs, should be original. It is breaking the law of copyright to copy programs out of other magazines and submit them here – so please do not be tempted. We cannot guarantee to return your programs – so please do not send your only copy. **Accuracy** *Popular Computing Weekly* cannot accept any responsibility for any errors in programs we publish, although we will always try our best to make sure programs work.

Amstrad/Sinclair: QL survival seems likely after all

◀ continued from page 1

shock announcement by Amstrad that it has bought Sinclair's computer business for £5 million (see *Popular Computing Weekly*, April 10).

It now looks likely that the QL will survive in some form. Last week, Amstrad's chairman, Alan Sugar, claimed that he "didn't see much future in the QL". Even if Amstrad does de-



Sugar - not much future in QL

cide not to pursue marketing of the QL, however, it looks as though it may survive. A consortium of independent companies, which have supported the QL in the past, plan to buy rights to the machine, if Amstrad doesn't wish to. The consortium would then hope to upgrade the QL to 512K, include a 3½ inch disc drive and use a full 68000 processor.

Sinclair Research staff are reportedly angry at the fact that Sir Clive rejected an alternative take-over offer, which would have meant Sir Clive

losing overall control of the company, but which would have retained the Sinclair brand name. Sir Clive has said that he did not feel the other offer was plausible, although it was strongly supported by Bill Jeffrey, the company's chief executive.

Concerning the Spectrum, speculation has risen concerning the configuration of Amstrad's enhanced version of the Spectrum, due out, according to chairman Alan Sugar, this Christmas. The speculation refers specifically to reports that Sinclair Research was developing a new games-orientated machine at its headquarters in Cambridge, with a larger memory (256K), and possibly using credit-card style software cartridges, which Sinclair also had plans to implement in Pandora, the portable micro.

Whether Amstrad bases its redesigned Spectrum on the current model or a forthcoming machine, it is certain that it will follow the 'one-box' principle which Amstrad has held for its entire product range.

However, it is now thought that the company may be able to offer it at a price below the £139 quoted by chairman Alan Sugar last week.

Sir Clive Sinclair, meanwhile, still has three projects under his wings: telecommuni-

cations, Pandora and wafer scale integration.

Pandora's development will continue under the aegis of his holding company; the other two being run by separate satellite companies. The number of staff who will continue to work on these projects is unclear - over 100 redundancies have been made at Sinclair.

The backer, apart from Sin-



clair and initial funding by Barclays, for the new companies, has turned out to be Timex, one of Sinclair's erstwhile creditors. It was Timex which bought the marketing rights to the flat-screen TV earlier this year.

Sinclair has always kept very quiet about its telecommunications division in Winchester, where research on cheap cellular telephone technology, and, it is thought, cheap satellite dishes, has been carried out over the last two years.

Acorn closes in on RISC technology licensing deal

ACORN Computers, recovering from its cash crises of last year, is set to announce a licensing agreement for its advanced RISC (reduced instruction set computing) project.

An unnamed major microchip group has been involved with Acorn in negotiations for a deal on the RISC microprocessor. Discussions have reached an advanced stage and Acorn expects to make the announcement this month.

RISC chips are extremely fast 32-bit processors - Acorn's own prototypes can handle up to three million instructions per second. Research into RISC technology has been carried out for some time now - Acorn's own project has been going for nearly two years - but mainly in the USA.

Last August, Acorn claimed a world first in producing RISC chips, but no products using the processors are expected in the next year or so.

MUD rival planned by Compunet

NOT content with running MUD (Multi-User Dungeon), Compunet is currently developing a new multi-user game, provisionally called *Federation II*.

Federation II will be a space trading and travelling game, with around 6000 locations.

Although it is set to be previewed at the Commodore show in May, it will not be up and running until next year.

Dealers cut by major US companies

HIGH computer stocks and slow growth in computer sales in the US have resulted in one of its major manufacturers, Apple, cutting down on its authorised dealer outlets.

Apple has dropped 600 of its 2600 dealers in the States. This follows a move by IBM, which announced at the end of last year that it would will not be adding to its list of 2500 dealers.

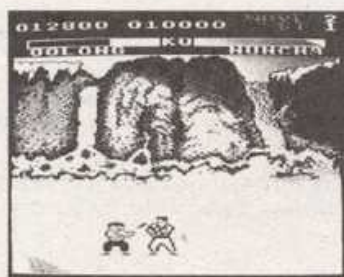
Spectrum 128 compatibility: Speedysoft updates the list

SPEEDYSOFT, the dealer which is testing Spectrum games for compatibility with the new 128 (see *Popular Computing Weekly*, April 3, and also this week's letters), has now updated its lists.

Speedysoft maintains that the titles listed below will all run happily on the 128:

Arnhem, *Desert Rats*, *Nato Alert* (CCS), *Astronomer 2*, *Bridge Player 3* (CP), *Austerlitz*, *Redcoats* (Lothlorien), *Avalon Dragonlord*, *Southern Belle*, *Quazatron* (Hewson), *Barry McGuigan* (Activision), *Bored of the Rings* (Delta 4), *Combat Lynx* (Durell), *Commando*, *Roller Coaster* (Elite), *Complete Machine Code Tutor* (New Generation), *Emerald Isle*, *Red Moon*, *Worm in Paradise* (Le-

vel 9), *Enigma Force* (Beyond), *FA Cup Football*, *Now Games 2* (Virgin), *Falklands 82*, *Swords and Sorcery* (PSS), *Fighter Pilot* (Digital Integration), *Fourmost Adventures*



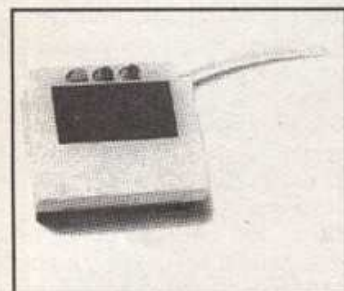
Thumbs up for Yie Ar

(Global), *Graham Gooch's Test Cricket* (Audiogenic), *Green Beret*, *Ping Pong*, *Yie Ar Kung Fu*, *World Series Basketball* (Imagine),

Gunright, *Knight Lore*, *Nightshade* (Ultimate), *The Hobbit*, *Lord of the Rings*, *Terrormolinos*, *Fist* (Melbourne House), *Hocus Focus* (Quicksilver), *Nick Faldo's Open*, *Core* (Argus), *The Quill*, *Illustrator*, *Patch* (Gilssoft), *Amazon Women* (US Gold), *Masterfile* (Campbell), *Match Day*, *Superbowl* (Ocean), *Monopoly* (Leisure Genius), *Samantha Fox* (Martech), *Spitfire 40* (Mirrorsoft), *Steve Davis Snooker* (CDS), *Tasword 3* (Tasman), and *Think!* (Ariolasoft).

Speedysoft stresses that the versions checked are current ones only. If a title is not in the list, it is quite likely to mean it has not been tested, not that it doesn't run. It can be contacted at 37 Church Street, London SW13 (01-846 9353).

Penman goes portable on its plotter



PENMAN Products, which made the award-winning Penman Plotter, has announced a new model in the range.

The first is a battery powered version of the plotter, designed as a portable, lightweight alternative to the original model.

Weighing 1½ kilograms, the battery is rechargeable and the package comes with a combined mains adaptor and charger unit.

The battery charged Penman Plotter costs £349. Details from Penman at 8 Hazelwood Close, Dominion Way, Worthing, West Sussex (0903 209081).

Ultimate's Cyberun arrives at last

CYBERUN, the long-awaited new game from Ultimate, and its first under the US Gold banner, has been released.

More of a space shoot 'em up than other recent Ultimate

releases, *Cyberun* uses multi-coloured graphics, rather than the two-colour displays pioneered by *Knight Lore* and *Alien 8*. *Cyberun* costs £9.95 on the Spectrum.

Hewson turns attention back to the Spectrum

HEWSON has announced a follow-up, stylishly speaking, to last year's successful *Paradroid* for the Commodore 64.

The new game, *Quazatron* is



a Spectrum title, and has you ridding the city of Quazatron of various robots. The action takes place on a solid 3D landscape on a number of levels.

Quazatron will be released at the beginning of May, at £8.95. Initially it will only be available for the Spectrum, and is compatible with the 128.

L9 latest enhanced for Spectrum 128

LEVEL 9 has developed an enhanced version of *The Price of Magik* for the Spectrum 128 – which is contained on the same cassette as the 48K version.

The 128K implementation has extra text plus a new feature, an 'oops' command. This enables you to take back a move when you make a mistake or get killed. Level 9 also says mysteriously that "some less polite synonyms for 'oops' " are permitted.

The Price of Magik should be released next week. Like other Level 9 games, it will be £9.95.

Ambyte comes to CPC disc users' rescue

AMBYTE is a new company set up to help CPC 664 and 6128 owners use cassette-based software. The company will duplicate cassette software on to 3 inch disc for customers, but is only charging the cassette-based price for each title.

So far, agreements have been signed between Ambyte and 19 major software houses to allow their software to be

duplicated from tape to disc. Customers can order a number of programs, which will be placed on a single disc; which particular titles is entirely up to the buyer's specification.

Ambyte should be fully operational, on a mail order basis only, by the end of May. Enquiries to 200, North Service Road, Brentwood, Essex (0277 220573).

←UK Home Computers

SPECIAL OFFERS.

SPECTRUM:

OPUS DISCOVERY 1 DISK SYSTEM.....	£149.00
DK'TRONICS KEYBOARDS.....	£29.95
RAM TURBO JOYSTICK INTERFACE.....	£15.00
BETA MAGIC BUTTON DISK INTERFACE.....	£108.00

(Can be used with the following Disk Drives marked *)

DISK DRIVES:

*500k EPSON DOUBLE SIDED 40Track.....	£125.00
*1mB " " " 80 " ".....	£150.00
B.B.C. 40T SINGLE SIDED 100k.....	£94.50

(All Drives are cased. Epson's have P.S.U.'s built-in. Discount 2+Drives)

CASSETTES & DISKS:

	C10's	C15's	C20's	C30's
10	£3.80	£4.00	£4.15	£4.60
20	£7.00	£7.20	£7.40	£8.20
50	£15.00	£15.20	£15.90	£17.50
100	£27.00	£28.00	£29.00	£33.00

(PRICES INCLUDE LIBRARY CASES AND POSTAGE & PACKING)

10 x 5¼" DS:DD £12 (Includes Plastic Case)

10 x 3½" SS:DD £25 (Boxed)

PRINTERS:

PANASONIC 1090 96cps, NLQ. CENTRONICS.....	£175.00
SHINWA CP80A+ " " " ".....	£189.00
Q.L. Centronics Interface & Cable.....	£24.95

ALL GOODS FULLY GUARANTEED. ABOVE PRICES ARE FULLY INCLUSIVE OF VAT, POST & PACKING. ORDERS/ENQUIRIES TO:

UK HOME COMPUTERS
82, CHURCHWARD AVE. SWINDON, WILTS. SN2 1NH
TELEPHONE (0793) 695034



ALL SYSTEMS GO TO THE NINETEENTH MICROFAIR

Blast off to the Spring ZX Microfair at the Horticultural Hall London SW1 on the 10th May '86. See for the first time at the show Sinclair's New 128K Spectrum plus hardware add-ons and software. Explore those just launched interfaces, programs, hardware, magazines and books. Have a wonderful day out, see everything for Sinclair computers under one roof, just about all you ever wanted for your computer. Full support for 48K Spectrums and a Big QL Section. Users Clubs and experts will be on hand to answer your technical queries plus bring and buy stand for special bargains. Watch out for fantastic show prices with Big Big savings. For the show that's out of this world come to the Spring Microfair. Send now for the reduced-price advance tickets on the coupon below.

THE SPRING MICROFAIR 10th May 1986

At the Horticultural Hall, Greycoat Street/Elverton Street, London SW1. 10am-6pm

Admission: £1.75 (Adults) £1.25 (Kids under 14 years)

SEND FOR REDUCED PRICE ADVANCE TICKETS TODAY

Send to Mike Johnston (Organiser), Dept 5 ZX MICROFAIRS, 71 Park Lane, London N17 0HG.
Please send me advance tickets Please send me advance tickets
(Adult @ £1.25) (Child under 14 @ £1.00)

Name: _____

Address: _____



Please include a stamped, self-addressed envelope and make cheques/POs payable to ZX Microfair

Exhibitors ring Mike or Moira on 01-801 9172 for details of stand availability.

Incompatible?

I am writing about the list of games compiled by Speedysoft and printed in the News Desk of the April 3 issue.

Of the 26 games listed as incompatible with the Spectrum 128, I have five: *Hypersports* (Imagine), *Impossible Mission* (US Gold), *Knights Lore* (Ultimate), *Way of the Tiger* (Gremlin), *Winter Games* (US Gold).

These games would not load using the Tape Loader routine, but by selecting 48K Basic on the menu screen and loading in the normal way (Load " "), all the games then load and run. The only game I could not get to load on the 128 was *Skyfox* by Ariolasoft.

Jude Williams
Abbey Wood
London SE2

Enigma Force, Impossible Mission, Movie, Swords and Sorcery, Winter Games and Way of the Tiger all work fine on my machine

Richard Hewison
Luton

I have copies of *Swords and Sorcery* (PSS) and *Steve Davis Snooker* (CDS), which both load and play on my Spectrum 128. Admittedly they will not load in 128K mode.

Perhaps Speedysoft neglected to clean their tape head, as Phil Rogers is continually exhorting us lesser mortals to do.

Hugh Walker
Burghaw
Surrey

I am in disagreement with some of the titles said to be incompatible: *Alien 8*, *Enigma Force*, *Knights Lore*, *Nightshade*, *Now Games 1* and *They Sold a Million*.

I found that all of these loaded in the normal manner, then

CORRECTION

In the copy for the Touchmaster competition (*Popular Computing Weekly*, March 20), we stated that the Touchmaster graphics tablet was operated by an electronic stylus. Not so! The stylus is made of plastic.

played as normal on my Spectrum 128 . . .

Robert McBride
Glasgow

PS. *Spy Hunter* loads, works up to a point, then freezes.

Okay, we get the message. But remember that Speedysoft did say it tested versions it had currently in stock. Anyway, see this week's News Desk for an updated list - of those that do work, this time.

System failure

I recently bought a copy of Rainbird's excellent *Art Studio* for my ZX Spectrum. Although this program is protected by Lenslok, the system works perfectly on my television. Why then does the same system fail to work with Firebird's *Elite*? One can only conclude that it is the software which is to blame.

The important question is will Firebird undertake to replace all existing faulty copies of *Elite* with new, debugged versions.

Andrew Wiseman
Huntingdon
Cambs

An innovator

I am writing with regard to the selling of the Sinclair Research product range to Amstrad, as disclosed today.

Is it not the case that Sinclair Research is perceived as a genuine 'computer company' whereas Amstrad is a 'marketing company'? Without doubt Sir Clive has been responsible for the generation of more employment than any other microprocessor related product manufacturer. While Alan Sugar has been content to wait until a market appeared and then exploit it (sound business sense, no doubt), Sir Clive has been an innovator of the highest order.

The miniature radios, pocket calculators, miniature TVs, 8-bit microcomputers, 16-bit microcomputers, flat screen TVs, microdrives and C5 vehicles have all been original products, the nature of their fabrication leading to low prices.

Some Sinclair products turned out to be unprecedented failures, others have maintained a healthy commercial existence but it is, of course, for the 8-bit microcomputers



"Does he take sugar?"

that so many must be grateful to Sir Clive. By taking what would be for most people enormous financial risks, Sinclair created the homecomputer market as we know it. Countless numbers of hardware and software companies, magazine publishers and retailers (with their supporting industries such as cassette duplication, printing, advertising) all owe their existence to Sir Clive.

Am I overstating the case for Sinclair? Not at all, for without him computers would still sell at the silly prices originally demanded by Acorn and the American manufacturers.

We are always quick to laugh at the Sinclair C5, but please remember that it's through Sir Clive's willingness to produce such products that you are reading this magazine today. Will Alan Sugar give us as much?

J D Lawson
Managing Director
Eigen Software

Problem-solver

I should like to take this opportunity of replying to your correspondent, D A Snoad who had his letter published in the April 10 issue of *Popular Computing Weekly*, concerning the Amstrad PCW 8256.

I am a Saturday assistant with one of the major high street stockists of the Amstrad PCW 8256 and PCW 8512, and consequently, being interested in computers, I am a demonstrator and general 'problem-solver' for the Amstrad range

of word-processors.

Mr Snoad states that he wonders whether the Amstrad is a suitable business computer. My answer to this is most definitely yes. For £460 you cannot really go wrong in purchasing this machine for your business. For your money you get a full (very good) wordprocessor. This wordprocessor, in my own opinion, is better than *Easyscript* for the Commodore 64, is equivalent to *View* on the BBC, but not as good as *Wordstar* (at about £345) which far exceeds the facilities offered by *Locoscript*. But note, the price of *Wordstar* is almost the same as the Amstrad PCW 8256!

Also, with the system, you receive CP/M Plus. So, if Mr Snoad so desires, he could purchase a copy of *Wordstar* and have all the features that he wants.

The manuals supplied with the machine are not the greatest of manuals, but could anyone show me a manufacturer who has supplied a good initial manual with their computer? If Mr Snoad had purchased a Commodore 64 and had a look at the manual supplied with that machine, I think that he would agree that the manuals supplied with the Amstrad are in fact very good.

It is a fact that the manuals are deficient in certain parts especially in the formatting and copying of discs, but in our shop we have been able to overcome this problem and will go through the procedure with any customers having this trouble. I would recommend that Mr Snoad goes back to the shop from where he purchased his computer to see if they can help him.

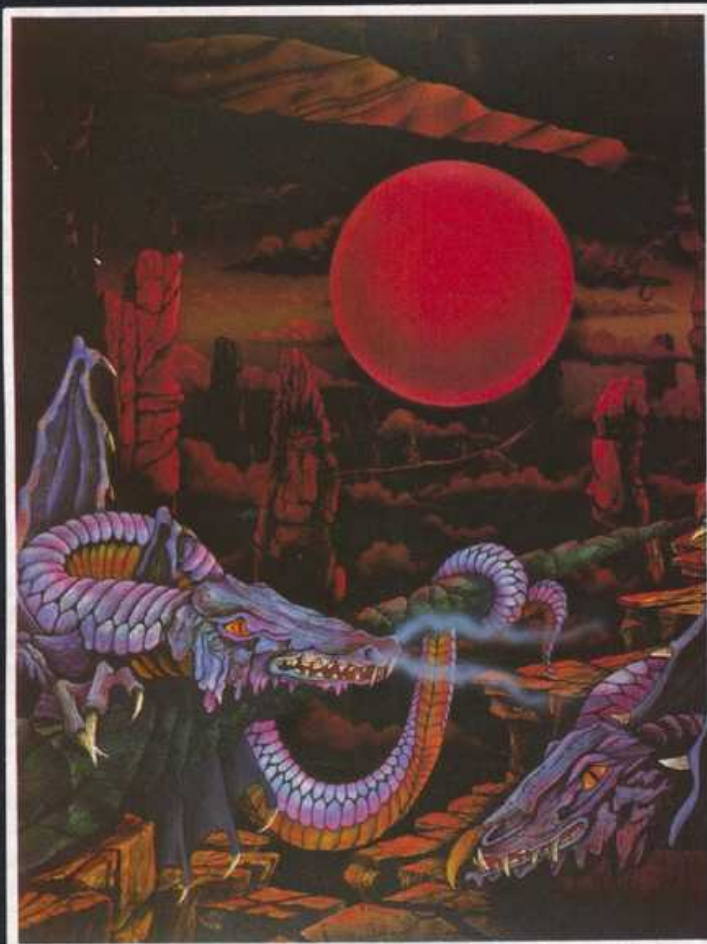
The views expressed in this letter in no way represent the views of the company for whom I work.

Marc Bray
Merseyside

Atari group

I would like to ask, through your magazine, for any Atari 8-bit owners in the Glasgow area to contact me, with a view to forming a user group.

Allen O'Neill
53 Gilbertfield Rd
Ruchazie
Glasgow
G3 3UD



Voted
"BEST ADVENTURE OF THE YEAR"

Commodore Computing International
Amstrad Computer User
Computer and Video Games

Voted
"BEST GRAPHICAL ADVENTURE 1985"

Zzap! 64
Amtix
Crash

£6.95
Cassette

The Price of Magik

NOW
AVAILABLE

Rise from Sorcerer's Apprentice
to Supreme Wizard

Many Powerful Spells

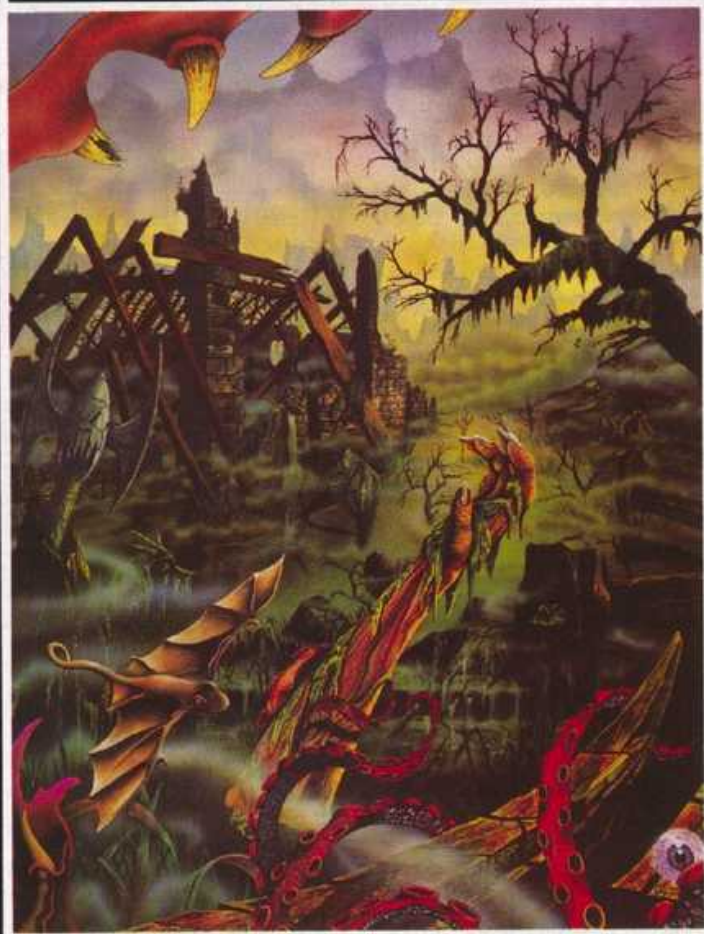
Independent Creatures

200+ locations, all illustrated
(not BBC)

Sophisticated word-recognition and
fast response.

NEW

£9.95
Cassette



Laser Compiler

Oasis Software's *Laser Basic Compiler* is now available for all the machines that the Basic itself runs on. The principal aim of the program is to allow you to compile any games written with the Basic into 'stand alone' machine code.

However, because *Laser Basic* is itself an extension of the standard resident Basic for these machines, you also get for your money a compiler that will work on programs which don't use any of the *Laser Basic* commands.

Of the three versions the Commodore has the most features. You are given both a floating point (ie, slow because of some seemingly incontrovertible technical reason) compiler that will handle any keyword or a much faster integer-only compiler. It can also save the resulting program in a turbo-load form.

The Spectrum version is a full floating point compiler with very few restrictions but it is therefore a bit slow. The main attraction may only be to those who have *Laser Basic*.

The Amstrad version is conversely integer only and cracks along at quite a speed. As is frequently pointed out, most games software can easily be written in integer only form (although the illustration of how to produce a circle without using *Pi*, *Sin*, *Deg*, etc, shows that floats can be important in some obscure places).

First impressions on using the compilers are that they emphasise just how brilliant the *Laser Basic* interpreters are. The graphics routines are already nearly as fast as they can be and compiling either makes little difference or makes them too fast! Ordinary Basic logic is dramatically speeded up using integer only.

I was a bit disappointed with the documentation, as not all restrictions on use seemed fully explained but on the whole it is a valuable release for everyone who is getting good results from the Basic.

Tony Kendle

Program *Laser Basic Micro*
Amstrad CPC, Commodore 64/
128, Spectrum **Price** £19.95
Supplier Ocean IQ, 6 Central
Street, Manchester M2 5NS.

POLYPRINT PAGE FORMATTING

A	LEFT MARGIN	Centre
B	TEXT WIDTH	164 mm.
C	LINES PER PAGE	65
	CHARS PER LINE	65
	RIGHT JUSTIFY?	Yes
	START PAGE No.	1
	STOP PAGE No.	99
	ESCAPE	

```

text text text text
text text text text
text text text text
text text text text
      *
(-A-)(----- B -----)
      *
text text text text
text text text text
    
```

Polyprint

Polyprint is a utility that not only has a serious application, but is also cheap enough to be bought just for fun. Basically it will print out any Ascii text file (with the appropriate embedded commands if required) in a variety of different typefaces. These range from something known as "minuscule print", suitable for printing very wide files such as spreadsheet dumps to "Cooper Black (large)" which is big and bold and suitable for titles and headings.

The fonts are high quality and they all print clearly on the PCW printer. The largest are suitable for posters, etc. If you tire of those supplied on the disc you can write off for another selection.

If you have a word processor such as *Newword* that will let you create multiple column pages you can use *Polyprint* to add headings for a reasonable *Pagemaker*-type program.

Because the characters of the fonts vary so much in size, *Polyprint* is capable of re-formatting any document itself so that the print fits within specified limits of page width and length.

Discom 64

If the use of a computer is an essential part of your business life, it figures that a lot of confidential or personal data will be stored on it. It also goes without saying that the thought of someone copying some of your files, for whatever reason, can cause a small business person sleepless nights.

Do not despair, for Imcom has come up with a package

that performs a variety of functions including a version of Commodore Dos and a file maintenance system.

Best of all though are some pretty nifty security routines for your precious files. One of them is *Delete Directory* which does just that, so when the directory is loaded (which it appears to do), nothing in fact happens, when listed! Once this device is selected the disc cannot be copied.

Another of my favourites is *Repeat Directory* which just re-

Using the program is extremely simple - based on a mixture of direct menu choices and command embedded in the document - but getting the right results will be a case of trial and error for the first few attempts.

Presumably because producing Ascii files from *Locoscript* can be a hassle (impossible for early versions) you are also provided with a free program called *Polyword*. It is a word processor, which uses *Wordstar*-like editing keys, but, like *Tasword*, it produces plain Ascii files. This is invaluable in itself if you ever want to make changes to a file that you have converted to Ascii form.

A good value release that has the added advantage that it has been extremely well implemented on the PCW - very good use is made of all the special function keys and none of the installation is left up to the user.

Tony Kendle

Program *Polyprint Micro*
Amstrad PCW **Price** £29.95
Supplier Newstar, 200 North
Service Road, Brentwood,
Essex.

plays the directory endlessly without allowing the user entry into the programs on the disc.

There are a number of other useful programs available like a disc back up, and a disc protect, but it's the security aspect that I find most appealing.

Andy Moss

Program *Discom 64/1541* **Price**
£14.95 **Micro** Commodore 64
with disc drive **Supplier**
Imcom, 96 Worcester Road,
Malvern, Worcester WR14 1NY.

Cut and Paste

This word processor program is aimed at people who don't have the first idea about a) using a computer and b) using a word processor. It's billed as 'the remarkably simple word processor' and it is - well sort of! You see, it offers you automatic word wrap and editing, cut and paste facilities, block indenting, tab and printer commands, but that's all. Important commands

such as centring or justifying are not present.

You can see the level it is aiming at, by a quote from the manual: "You use your cursor keys (the ones with little arrows on them) to move this bright little block (the cursor) over the names you want to get".

Okay, bringing out a simple, no frills utility is useful, but it must not sacrifice quality for simplicity.

The screen has a menu running across the bottom, accessed by pressing *Esc*.

Press the arrow keys to select a command, hit *Return* to execute it. All files can be saved, and the program does have a back-up facility which is heartily recommended. Buy this package to get the feel of word processing, as a stand alone utility, it's not versatile enough to compare with its more powerful competitors.

Andy Moss

Program *Cut and Paste Micro*
C64/128, Atari 800. **Price** £24.95
Supplier Ariolasoft, 68 Long
Acre, London WC2.

NEW!

M/DRIVE DOCTOR (Spectrum 48K/+/128K)

Extends BASIC to provide extra disk-like commands.
*Rename facility *Sector restorer *Full catalogue
*MEGAFORMAT (105-120K) *Cartridge clone (2 drives)
*Merge ANY program *Default drives and wildcards
*File finder *Printer output *Special commands for advanced users and much more. Compatible with all Interface One ROM types. Included is a full sector editor program for on screen alteration of data.

"... this program is an excellent buy ... useful to anyone who uses microdrives seriously ... Highly recommended" (Simon Goodwin - Author QL SUPERCHARGE).

"excellent utility ..." (S. Crow - Author STARQUAKE)

AVAILABLE MAIL ORDER ONLY. SUPPLIED ON CARTRIDGE COMPLETE WITH A 2500 WORD USER MANUAL FOR £7.50 inc P & P. (Price £8.50 inclusive outside U.K.)

QL version coming soon. Enquire for details.

SEND CHEQUES/P.O TO:

'PIPEQ SYSTEMS'
151 MILLBRIDGE
DOLLIS VALLEY WAY
BARNET
HERTS EN5 2UH

PIPEQ SYSTEMS

PD906

BYTE

SPECTRUM

GAME	RRP	OUR PRICE
SUPERMAN	9.95	7.45
ENIGMA FORCE	8.95	6.50
SUPERBOWL	9.95	6.95
RAMBO	7.95	5.25
GUN FIGHT	9.95	6.95
I.D.	7.95	5.95
FALKLANDS 82	7.95	5.95
AMAZON WOMEN	7.95	5.95
RUNESTONE	7.95	5.50
NOW GAMES II	8.95	6.50
SKYFOX	8.95	6.70
MUGSY'S REVENGE	7.95	5.95
THE YOUNG ONES	7.95	5.95
SWEET'S WORLD	7.95	5.50
WINTER SPORTS	9.95	6.95
ART STUDIO	14.95	11.00
SAMANTHA FOX	8.95	6.70
HYPERSPORTS	7.95	5.50
TAU CETI	9.95	6.99
TWISTER	7.50	5.60
TOMAHAWK	9.95	7.40
WAY OF TIGER	9.95	7.45
COSTA CAPERS	7.95	5.95
CYBERUN	9.95	7.50
COMMANDO	9.95	7.40
I.C.K.U.P	8.95	6.70
ELITE	14.95	10.25

COMMODORE

SUPERMAN	9.95	6.95
ENIGMA FORCE	9.95	6.95
QUAKE-1	9.95	6.95
BATTLE OF BRITAIN	9.95	5.99
BLADE RUNNER	6.95	5.50
ZORRO	9.95	6.95
DRAGON SKULLE	6.95	4.99
WAY OF TIGER	9.95	7.45
WINTER GAMES	9.95	7.45
ZOIDS	8.95	6.75
ACE	10.95	7.95
IWO JIMA	8.95	6.75
DOCTOR WHO	14.95	9.70
ART STUDIO (OCP)	15.95	11.25
SKYFOX (cassette)	9.95	7.50
CAUSES OF CHAOS	8.95	6.70
LORD OF THE RINGS	15.95	11.20

GAME	RRP	OUR PRICE
ROCK & WRESTLE	9.95	7.45
ELECTRAGLIDE	9.95	7.45
SUPERBOWL	9.95	6.90

AMSTRAD

SUPERMAN	9.95	7.45
STRANGE LOOP	8.95	6.50
STARION	9.95	4.95
RAMBO	8.95	5.99
FA CUP	8.95	5.99
COMPUTER HITS 10 Vol 2	9.95	7.45
ROBIN OF SHERWOOD	8.95	4.95
AMTIX ACCOLADE	9.95	7.45
WORM IN PARADISE	6.95	4.95
GEOFF CAPES	8.95	6.50
RASPUTIN	7.95	5.95
SPY v SPY	9.95	7.20
ELITE	14.95	11.00
FAIRLIGHT	9.95	7.45
THE YOUNG ONES	7.95	5.95
ZOIDS	8.95	6.70
SABATEUR	8.95	6.50
YIE AR KUNG FU	8.95	5.95
STRIKE FORCE HARRIER	8.95	6.75
STRIKE FORCE HARRIER (disc)	12.95	8.95
GET DEXTER	9.95	7.45
GRAPHIC ADV CREATOR (Disc)	22.95	16.95

C-16

COMMANDO	7.95	5.95
TOPEDO RUN	6.95	3.95
DALEY THOMPSON'S S/E	6.95	4.99
KUNG FU KIDD	6.95	4.99
CLASSICS II	9.95	6.99
ACE	10.95	7.99

BBC or ELECTRON

YI AR KUNG FU	9.95	7.45
WAY OF EXPLODING	7.95	6.50
BLOCK BUSTERS	7.95	5.95
GOLD RUN	7.95	5.99
COMPUTER HITS 10 VOL 2	9.95	7.45
CITADEL	9.95	6.95
COMP. PRO. JOYSTICK	18.95	14.95
KONIC SPEEDSTICK	12.95	9.99

Overseas orders, please inc. 75p per tape
ALL PRICES INCLUDE P&P

PLEASE NOTE IF OUR ORDER EXCEEDS £30
YOU GET 10% FURTHER DISCOUNT

SEND CHEQUES/P.O. TO: P00396
GOODBYE PCW10
UNIT 10-11, IMPERIAL STUDIOS,
IMPERIAL, LONDON SW6
(TEL: 01-731 4607)

NOW! MONOPOLY® for the AMSTRAD



	AMSTRAD	BBC/B	CBM 64	EINSTEIN	SPECTRUM	QL
CLUEDO	*	○	*		*	○
MONOPOLY	*	*	*	*	*	○
SCALEXTRIC	○		* †		○	
SCRABBLE	*	*	*	*		*
RRP cass	9.95	12.95	12.95		9.95	14.95 (cart)
disk	14.95	14.95	14.95	15.95		

* Available Now!

† CBM 64 Scalextric, £9.95 (cassette)

○ Available 2nd quarter.

MAIL ORDER:

Please send cheque or Postal order to: LEISURE GENIUS, 3 Montagu Row, London W1H 1AB.
Please send me the following items as marked, for the computer.

CLUEDO	CASS <input type="checkbox"/> DISK <input type="checkbox"/>	NAME
MONOPOLY	<input type="checkbox"/> <input type="checkbox"/>	ADDRESS
SCALEXTRIC	<input type="checkbox"/> <input type="checkbox"/>
SCRABBLE	<input type="checkbox"/> <input type="checkbox"/>	POST CODE

(please tick)

Software by...
**Leisure
Genius**

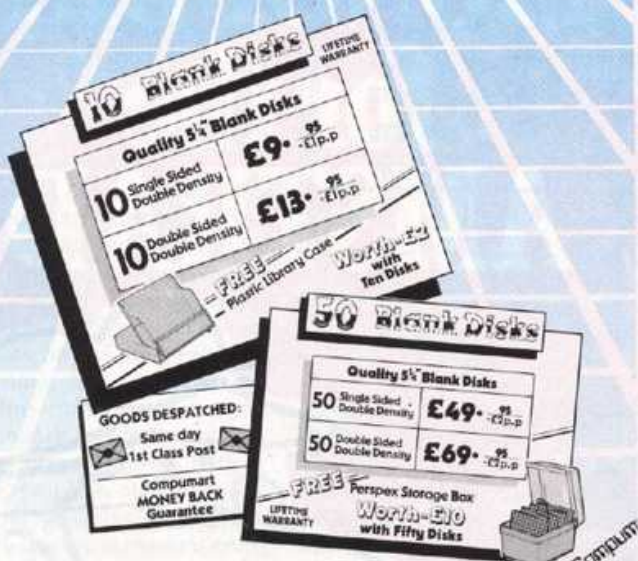


CLUEDO® trade mark and copyright licensed by Waddingtons Games Ltd.
MONOPOLY® is produced under license from Parker Brothers and
Waddingtons Games Ltd. SCALEXTRIC® is a registered trade mark of
Hornby Models Ltd. SCRABBLE® trade mark and copyright licensed by
J W Spear & Sons PLC. All copyrights reserved LEISURE GENIUS® is
a registered trade mark of Winchester Holdings Ltd

3 Montagu Row, London W1H 1AB.

Compumart

Megadeals



Please send cheques/postal orders to:
Compumart, Dept PCW
71 Gracedieu Road, Loughborough
Leics. LE11 0QF



Compumart...Computer...HOTLINE
0509-262259
HOTLINE...HOTLINE...HOTLINE

SPECIAL OFFER
TO POPULAR
COMPUTING WEEKLY
READERS!

CHROMAGRAPHICA

Works: BEVERLEY, N. HUMBERSIDE
Sales: HORNSEA N. HUMBERSIDE
Telephone: 04012 4699

HIGH RESOLUTION COLOUR MONITOR

14" (585 X 895 PIXELS)
£229.95 INC VAT

SOUND FACILITY NOW
AVAILABLE
£19.95



Chroma I

HIGH
RES!
Cased in
colour
to
match
your
computer

**A low introductory price for APRIL ONLY
and whilst the first batch lasts**

FOR AMSTRAD, ATARI, BBC COMM128, AMIGA,
Q.L., SPECTRUM 128 Etc

R.G.B. input and High Resolution is the only way to see properly the true
detail and brilliance of modern computers and software.

Spectrum 48 needs the converter.

Special price £28.95 to buyers of Chroma I.

First come, first served! Telephone your order for priority.

Send your cheque to:

CHROMAGRAPHICA, 135 Cliff Road, Hornsea, North Humberside HU18 1JB
Telephone: 04012 4699

NAME.....

ADDRESS.....

TELEPHONE.....COMPUTER.....

Please supply: Chroma I £229.95 + £9.95 carriage. Converter (for
Spectrum 48) £28.95 inc. VAT

Please indicate your choice of case colour..... 16PD911



PROGRAMMERS REQUIRED

Beyond Software are seeking proficient programmers for the **Spectrum, CBM 64, Amstrad** and **Atari ST** computers for development conversion and technical work. We have a high throughput of programs scheduled for 1986 and require talented people to work freelance under contract.

You should be able to demonstrate a high level of proficiency, preferably with experience in games programming/playing.

Rates of payment will vary according to the project, but will certainly be commensurate with the top level of work expected.

You would be expected to work from home, where necessary assistance will be given with hardware and software.

We also require original products for publication, if you have a completed program or detailed game specification please submit it to us.

So if you feel you could produce quality work and enjoy challenging programming, then please write to: **Peter Moreland, Production Manager, Beyond Software, Wellington House, Upper St. Martin's Lane, London WC2H 9DL.**

16PD928

Not just a wordprocessor . . .

Tony Kendle debunks the myth that the PCW machines are only wordprocessors. With CP/M Plus, there is a surprising variety of packages available: spreadsheets and databases, including the big daddy of them all, *Dbase II*

For those adventurous users who see their PCW as primarily a general purposes CP/M Plus computer, there is a wide and rapidly expanding choice of highly respected programs available at bargain prices that would have been unbelievable just a year ago.

Companies such as William Poel's Newstar have done a superb job in negotiating price cuts, but there are one or two things to bear in mind when buying these "cheap" programs. The average price is £50 which is peanuts to a business, but not to an individual.

Secondly, most of the price reduction is explained away as a "reduction in after-sales service". In plain English the companies are no longer prepared to spend hours on the phone explaining the program and solving your problems. In such cases the quality of the documentation becomes important.

The two main categories of serious computer applications (other than word processing, for which, see pages 23-26 in this issue) are spreadsheets and databases.

The function of a database is pretty obvious – it should at the very least be able to store data efficiently, sort it into order, select subsets of the data based on specified criteria, be able to print out the selected data and save it as a separate file.

The two simplest programs available are Saxon's *Flexifile* (£39.95 but with a throwaway Wordstar mini-copy word processor for £49.95 total) and Caxton's *Cardvox* (£99.99). At those prices it is obvious which to go for the far too brief manual of *Flexifile*.

A small step up in power comes with Camsoft's *Cambase* (very attractively de-

signed for different applications).

To be honest, if you are new to databases you will probably find that even the simplest will do everything that you ever wanted to do. So just go for the cheapest – at least until you know exactly what else you wish you could do.

The real star of the database market is Ashton Tate's *Dbase II* which is a database language rather than just a program. It is very powerful and is THE business database, but unfortunately Ashton Tate is still living in the past and refuse to drop the price from a staggering £385. They may come to the same solution as Micropro did with *Wordstar* and repackage the program as *Mickey Mouse's Database* or somesuch.

In the meantime if you really need something special and you have a PCW 8512 or a second disc drive, look at Comsoft's *Delta 1* (£99.00). It's another data management language with a friendly front end, and if not quite as powerful as *Dbase* it is way beyond most programs.

Spreadsheets let you create large numerical calculations based on columns rows and cells of data linked to each other by formulae. Like a word processor, you can simply edit some of the data (eg, to reflect annual sales) and the program instantly works out the implications through all of the formulae.

If your requirements are pretty mainstream there is little to challenge *Supercalc 2* which is another extremely famous and respected business program, but sold at a giveaway £49.00. The manual is a model in the computer industry.

The Cracker is a strong competitor to *Supercalc* because of its friendliness and flexibility. It is very hard to make mistakes with *The Cracker* and you are also provided with simple database facilities, superb graph and chart displays which must be one of the strongest selling points, peripheral control (it can run your central heating!), label printing, etc, etc. It is an excellent value buy if you want one program that does everything, but not surprisingly it isn't the largest capacity sheet around.

Caxton makes that claim for their *Scratchpad* which uses the disc to hold data that overflows the memory. This is £69.00, but 'for a limited period' you get a free program called *Smartkey* that lets you assign extended functions to different keys on your computer.

Comshare's *Plannercalc* (£39.95) is also pretty famous – it finds a niche by emphasising its business planning aspects rather than number crunching so it has less versatile calculation options but is simple to use. It is supposed to have a

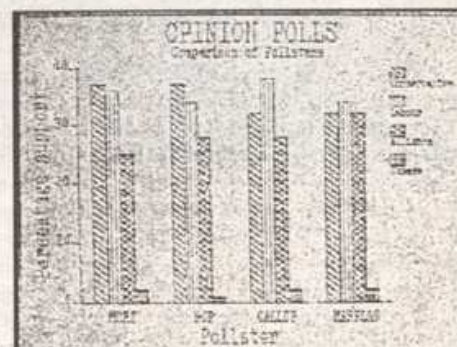
good manual, but I find it dull and unenlightening. Masterplanner (£69.00) is an expanded version – more versatile and again with the ability to use disc storage for data that doesn't all fit in memory.

Date	Description	Amount
	Receiving Balance	100.00
	Bank of America	50.00
	Customers	25.00
	Department Store	10.00
	Pharmacy	5.00
	Electric Company	2.00

Supercalc

Microsoft's Multiplan is another BIG name in the spreadsheet world. Again you won't go far wrong with this but as £69.00 there is no real need to pay the extra unless you need its very clever capacity to link several data files together.

One of the obvious uses for a spreadsheet is to keep personal accounts and I must throw in a quick plug for a dedicated program, *Money Manager*, (£23.95) from Connect Systems. It is good enough to make most programs of this type give up in shame.



Graphics on The Cracker

My personal tips are *Cambase*, *Flexifile*, *Supercalc*, *Cracker*, *Money Manager*.

Where to get them:

Try Newstar Software, 200 North Service Road, Brentwood, Essex.

Timatic Systems, Fareham Market, Fareham, Hants. Load and Run, PO Box 123, Dartford, DA1 5AA.

Software City, 382 Kings Road, Chelsea; 14 Thames Street Kingston and 47 Cheap Street, Newbury.

Connect Systems are at 3 Flanchford Road, London W12 9ND.

Tony Kendle



Flexifile

signed and excellent value at £39.95) and Sage Software's *Database* (£69.99). The latter can produce mail letters and envelope labels without a word processor. Saxon also sell a label printer addition and some ready made "database templates"

Quazatron

I've been a Steve Turner fan for years – yes – I was up 'till the early hours wondering what to do with the fish in *Avalon*. I sucked up to those annoying elves in *Dragontorc*.

As for *Astro-Clone*... well... I found it an uncomfortable mix of arcade and adventure. Was Steve losing his touch, we all asked ourselves? With the release of *Quazatron*, the answer is an emphatic no.

Any Spectrum owner that enviously coveted their Commodore owning friends (at least while *Paradroid* was up and running) need fret no more, as *Quazatron* heavily draws on elements from that particular hit, enhances the strategic element, and presents it in a *Gyroscope* type 3-D environment. Yup – that good!

Your basic mission is to go forth where *Paradroid* Influence devices have failed, into the Droid inhabited city of Quazatron (impenetrable to normal attack) and take out everything in sight... the problem being that you start out with severely "entry-level" hardware, and your power unit is just about to burn out. Quite a challenge really.

Your only advantage is the 'Grabber' device, which allows you to attempt to take over any enemy droid you encounter in a *Paradroid* type, 'Battle of the circuit board.' Selection of opponent is important as not only must you not take on something too beefy but as, after the event, you are going to incorporate what's left of it into your own system (it's what's known as upgrading) you need to know what type of Droid carries the best Drive System, Power Unit, or, say Weaponry.

But come to think of it, would you prefer a Linear-type Power unit, or a Gravitronic Mk 2... what is the best Chassis type; Coralloy or Trialium? Get the idea?

Add to this, the plain blasting elements, the fab graphics and the sheer professionalism of the programming – you've got yourself another classic.

John Cook

Program *Quazatron* **Micro** Spectrum **Price** £8.95 **Supplier** Hewson, 55b Milton Trading Estate, Milton, Oxon OX14 4RX.

Return to Ithaca

Troy has fallen courtesy of the wooden horse and the victorious Greek horde has returned home – all that is, except Odysseus.

It seems the fool missed the boat and so, forced to journey alone, took 10 years to get back to Ithaca.

So goes the fable and so goes the adventure from Atlantis and, I might add, it will probably take you 10 years to solve it.

This is a *Quilled* adventure (actually *Quilled* and *Illustrated*) and full marks to the authors for owning up to it. Al-

though you can't mistake the now familiar blue background and "have a nice day" tag at the end of play.

They have created a text rich descriptive narrative, with some fine locations to explore but, unfortunately, haven't paid enough attention to the vocabulary.

Hence finding exactly the right words to use becomes a long process of trial and error.

A little more time and effort to incorporate as many words as possible in the vocabulary would have given this adventure a more professional feel.

While I'm complaining, I've also seen better examples of *The Illustrator* at work and these graphics do little to add

to the atmosphere of the tale, although they do only appear the first time you enter the location which is a saving grace. There are, few errors in the routines – I had a rope which decided to disappear along with some exits, but generally it flows pretty well.

At the beginning of the program, the authors modestly announce their next release – I'll be interested to see if they can improve on this one. It's certainly not perfect, but at £1.99 it's the right price.

Andy Moss

Program *Return to Ithaca* **Micro** Spectrum **Price** £1.99 **Supplier** Atlantis, 19 Prebend Street, London W1 8PF.

The Last V8

The Last V8 caused quite a stir in the computer press when it was first released on the Commodore 64. Great sound by Rob Hubbard, good graphics and synthesised voice, all for under a fiver! Having given the original such rave reviews, I eagerly anticipated the conversion to the Atari (a machine, which at worst, is comparable to the Commodore for sound and

colour).

Imagine my despair, when I finally cast my eyes over said conversion. Where is the voice synthesis, so loudly acclaimed on the packaging, where have all Rob Hubbard's great sounds gone, in fact, where is the game that I thought I was going to play?

The actual plot is all about a race against time, trying to reach your underground base before a nuclear bomb drops. In any other car your mission would be a non starter, but in the ultra fast V8, you do have a

slim chance. It's a shame that this is a poor implementation of the original, and it's made worse by a car that is practically impossible to control.

If you haven't seen the original, this game is an average release, if you have seen the Commodore version, weep along with me.

Andy Moss

Program *The Last V8* **Price** £2.99 **Micro** Atari 800XL/XE **Supplier** MAD Games, Mastertronic, 8-10 Paul Street, London EC1

Computer Hits

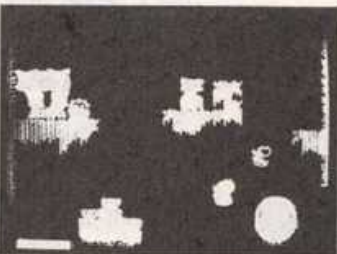
The compilation has now become so common that we can see trends developing amongst the different types. This one belongs to the history lesson, providing ten programs from the last two or three years. Some good, some bad, some so-so.

Most of the program here though, make a welcome addition to your collection, if you haven't already bought them. *Codename Mat* was a much praised title in its day, a *Star Trek* game combining shooting and strategy as you clear up the universe, sector by sector. Though the graphics are far from '86 state of the art it still plays well.

More recently, *Wizards Lair* brought Bubble Bus into the Spectrum public's eye and it's still a wonderful copy of Ultimate circa *Sabre Wulf*.

No history lesson would be

complete without platforms and ladders and *Technician Ted* was the one that everyone raved about after Jet Set You-know-who and it still stands up fairly well today.



Covenant

Mutant Monty though shouldn't be confused with the mole of a similar name – it's an Artic maze game which is fairly simple in appearance but Okay.

Visions' Snooker was a workmanlike adaptation of the tele-dominating sport, though it isn't the most playable version imaginable.

Android 2 is no more than a maze game with nice graphics,

though it's rather addictive and *On the Run* is a similarly simple concept, though not quite so addictive, owing to its tendency to dump you into perilous situations.

Covenant was a personal favourite when it appeared last year and *Superpipeline* is well worth having at this price. Finally there's *Circus*, an adventure, which, though it never achieved the fame of Level 9's offerings, still seems to keep the helplines busy.

By spreading these ten over two tapes there's not too much searching and there's not really a major failure amongst them. Providing you don't already have too many of them, or suffer an allergy to straightforward games that don't require a PhD to understand, then you'll find this a Beau-jolly good show.

John Minson

Program *10 Computer Hits 2* **Price** £9.95 **Micro** Spectrum 48K **Supplier** 29A Bell Street, Reigate, Surrey RH2 7AD.

Dept. PCW, Unit 1, 1 Esmond Road, London W4 1BR



**BUY BY
PHONE**
RING 01-995 2763

If you wish to purchase any product from our list and find that you can buy the same product cheaper from another mail order company, simply enclose the lower amount, stating the name of the other company and where you saw the advert. (It must be a current issue). Price Promise does not apply to other companies' "Special Offers".

**ORDERS OVER
£30
DEDUCT 10%**

[illegible][illegible]

SPECTRUM SPECIAL OFFERS		
VIEW TO A KILL	10.99	3.99
CODE NAME MAT II	8.95	3.99
ALIEN	9.95	3.99
GREAT SPACE RACE	14.95	3.49
VALMALLA	14.95	3.99
EUREKA	14.95	3.99
DEATH STAR	7.95	3.49
QUICKSHOT II		5.95

COMMODORE	9.95	6.50
HARD BALL	9.95	6.70
LORD OF THE RINGS	15.95	11.90
URIDIUM	8.95	6.70
PING PONG	8.95	6.70
MIKIE	8.95	6.70
YIE AR KUNG FU	8.95	6.70
MERCENARY	9.95	7.45
LEGEND OF AMAZON WOMEN	9.95	7.45
V	8.95	6.70
BACK TO THE FUTURE	9.95	6.50
MAX HEADROOM	9.95	6.50
TIME TUNNEL	9.95	6.50
TRANSFORMERS	8.95	6.70
RAMBO	8.95	6.70
ACE	8.95	6.70
KUNG FU MASTER	9.95	6.50
EIDOLON	9.95	6.50
ROCK 'N' WRESTLE	9.95	6.50
MUGSYS REVENGE	8.95	6.70
ASYLUM	9.95	6.50
TIGERS IN THE SNOW	9.95	6.50
BOUNDER	9.95	6.50
DESERT FOX	9.95	6.50
BOMB JACK	8.95	6.70

Please send me the following titles. BLOCK capitals please!

Name

Address

Tel. No.

Elsewhere please add £1.00 extra per tape

Amstrad

1	(3)	Way Of The Tiger	(Gremlin Graphics)	£9.95
2	(1)	Spindizzy	(Electric Dreams)	£9.95
3	(2)	Last V8	(Mastertronic)	£2.99
4	(-)	Into Oblivion	(Mastertronic)	£1.99
5	(4)	Rambo	(Ocean)	£8.95
6	(10)	Finders Keepers	(Mastertronic)	£1.99
7	(5)	Computer Hits 10 (2)	(Beau Jolly)	£9.95
8	(8)	Formula One Simulator	(Mastertronic)	£1.99
9	(-)	Chiller	(Mastertronic)	£1.99
10	(7)	They Sold a Million	(Hit Squad)	£9.95

Atari

1	(1)	Last V8	(Mastertronic)	£2.99
2	(3)	Action Biker	(Mastertronic)	£1.99
3	(2)	One Man And His Droid	(Mastertronic)	£1.99
4	(5)	Fighter Pilot	(Digital Integration)	£9.95
5	(7)	Steve Davis Snooker	(CDS)	£8.65
6	(-)	Strip Poker	(Artwork/US Gold)	£9.95
7	(8)	Spy v Spy 2	(Databyte)	£9.95
8	(4)	Chimera	(Firebird)	£3.95
9	(9)	Mercenary	(Novagen)	£9.95
10	(-)	Goonies	(US Gold)	£9.95

BBC

1	(1)	Commando	(Elite)	£9.95
2	(3)	Winter Olympics	(Tynesoft)	£7.95
3	(2)	Karate Combat	(Superior)	£8.95
4	(9)	Yie Ar Kung Fu	(Imagine)	£9.95
5	(6)	Comp. Hits 10 Vol 2	(Beau Jolly)	£9.95
6	(7)	Citadel	(Superior)	£9.95
7	(4)	Phantom Combat	(Doctorsoft)	£9.95
8	(-)	Tennis	(Bug Byte)	£2.99
9	(-)	Strike Force Harrier	(Mirrorsoft)	£9.95
10	(5)	Way of the Exploding Fist	(Melbourne House)	£9.95

Commodore 64

1	(2)	Uridium	(Hewson Consultants)	£8.95
2	(-)	V	(Ocean)	£8.95
3	(1)	Superbowl	(Ocean)	£9.95
4	(3)	Hardball	(US Gold)	£8.95
5	(4)	Ping Pong	(Imagine)	£9.95
6	(5)	Zapp Sizzlers	(Gremlin Graphics)	£9.95
7	(-)	Computer Hits 10 Vol 2	(Beau Jolly)	£9.95
8	(7)	Kane	(Mastertronic)	£1.99
9	(10)	Yie Ar Kung Fu	(Imagine)	£8.95
10	(-)	Electra Glide	(English)	£9.95

Spectrum

1	(1)	Green Beret	(Imagine)	£7.95
2	(4)	Bomb Jack	(Elite)	£7.95
3	(3)	Way Of The Tiger	(Gremlin Graphics)	£9.95
4	(2)	Superbowl	(Ocean)	£9.95
5	(-)	V	(Ocean)	£7.95
6	(8)	Incredible Shrinking Fireman	(Mastertronic)	£1.99
7	(7)	F A Cup Football	(Virgin)	£7.95
8	(-)	Samantha Fox Strip Poker	(Martech)	£7.95
9	(-)	Starstrike 2	(Realtime)	£7.95
10	(-)	Devils Crown	(Mastertronic)	£1.99

All figures compiled by Gallup/Microscope

Top Twenty

1	(3)	Way of the Tiger	(Spectrum/Amstrad/MSX)	Gremlin Graphics
2	(-)	Green Beret	(Spectrum)	Imagine
3	(1)	Superbowl	(Spectrum/C64/MSX)	Ocean
4	(-)	V	(Spectrum/C64)	Ocean
5	(4)	Bomb Jack	(Spectrum)	Elite
6	(6)	Last V8	(C64/Amstrad/Atari)	Mastertronic
7	(14)	Computer Hits 10 (2)	(Various)	Beau Jolly
8	(8)	Commando	(Spectrum/C64/BBC/C16)	Elite
9	(15)	Formula One Simulator	(Various)	Mastertronic
10	(5)	Ping Pong	(Spectrum/C64/Amstrad/MSX)	Imagine
11	(11)	Yie Ar Kung Fu	(Various)	Imagine
12	(7)	Uridium	(C64)	Hewson Consultants
13	(9)	F A Cup Football	(Spectrum/C64/Amstrad)	Virgin
14	(10)	One Man And His Droid	(Various)	Mastertronic
15	(12)	Action Biker	(Spectrum/C64/C16/Atari)	Mastertronic
16	(-)	Finders Keepers	(Various)	Mastertronic
17	(19)	BMX Racers	(Spectrum/C64/Amstrad/C16)	Mastertronic
18	(-)	Bandits at Zero	(C16)	Mastertronic
19	(-)	Mr Puniverse	(C16)	Mastertronic
20	(13)	Rambo	(Spectrum/C64/Amstrad)	Ocean

Figures compiled by Gallup/Microscope

Readers' Chart No 70

1	(1)	Elite	(Spectrum/C64/Amstrad/BBC)	Acornsoft/Firebird
2	(2)	Uridium	(C64)	Hewson
3	(5)	Commando	(Spectrum/C64/C16)	Elite
4	(4)	Lord of the Rings	(Spectrum/C64/Amstrad)	Melbourne House
5	(7)	Swords and Sorcery	(Spectrum/Amstrad)	PSS
6	(6)	Yie Ar Kung Fu	(Spectrum/C64/Amstrad/BBC/MSX)	Imagine
7	(3)	Movie	(Spectrum)	Imagine
8	(-)	Gunfight	(Spectrum/Amstrad)	Ultimate
9	(-)	Hypersports	(Various)	Imagine
10	(9)	Winter Games	(Spectrum/C64/Amstrad)	Epyx/US Gold

Winning Phrase No 70: "Red smile if Everton go", from Elaine Hudson, of Walton on Thames, in Surrey, who wins £25. An honourable mention goes to M. G. Crawford of Harrogate (why are they so good at anagrams in Harrogate?) for "ITV motel: no life here!"

Now voting on week 72 - £25 to win

Each week *Popular* is compiling its own special software top ten chart - compiled by YOU.

And each week we will send £25 to the person who sends in, with their chart votes, the most original (witty, neat or clever - but never rude) phrase or sentence made up from the letters (you don't have to use them all) in the titles of the top three programs in this week's Readers' Chart, published above.

You can still vote in the chart without making up a slogan - but you won't be in with a chance of winning the prize.

All you have to do is fill in the form below (or copy it out if you don't want to damage your magazine) and send it off to: Top 10, *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP.

Voting for Week 72 closes at 2pm on Wednesday April 23, 1986. Entries received after that time will not be eligible for inclusion in that week's voting. The judges decision is final. Only one entry per individual per week will be allowed.

Name	My top 3: Voting Week 72
Address	1
.....	2
.....	3
My phrase is:	



FREE-LANCE PROGRAMMERS

A very small number of 1st CLASS Free-Lance Programmers are sought to work on a number of PRESTIGE TITLES to be published WORLDWIDE by Elite during 1986.

If you wish to be associated with the publication of some of the major titles of the next twelve months, and can demonstrate responsibility for at least one TOP-FLIGHT published work, we would like to talk to you.

A choice of Royalty or Contract payment systems are available to you, as an integral part of the Free-Lance force behind one of the most dynamic software houses in Europe. This is your chance to be part of a small team associated with the Company responsible for major releases including:

Airwolf, Frank Bruno's Boxing and Commando

which is now planning for Worldwide growth in 1986.

Call Steve Wilcox now for a preliminary discussion on 0922 55852 or write quickly to:

Elite Systems Limited,
Anchor House, Anchor Road, Aldridge,
Walsall WS9 8PW West Midlands.

elite.

The Road to Oblivion

Graham Taylor, armed only with a laser-equipped dustbin, ventures once more down Vortex's Highway

Highway Encounter was, to my mind, one of the great Spectrum games of last year. Few other games mixed technical ingenuity with original thought and pure addictiveness in quite so perfect a blend. I remember still the opening moments of the game, when the intrepid troupe of vortons set off one behind the other on their journey down the alien highway, a journey from which they were unlikely to return – if the flames didn't get them the dreaded ergonomically designed eyes would surely end their little metallic lives. It brings a lump to the throat, I can tell you.

Alien Highway is the sequel, and if it largely repeats the ideas of the original game... well, who cares, it's still about a million times more entertaining than most of the other games released this week. The basic plot still has your vorton pushing a small pyramid along an alien road, absolutely chock full of danger. Most notably, those damn eyes are back again.

The Plot

There are important differences between *Alien Highway* and *Highway Encounter*. In *Alien* you get only a single vorton (a sort of dustbin with laser), which loses energy whenever aliens bump into it or whenever it crashes against the side of the road.

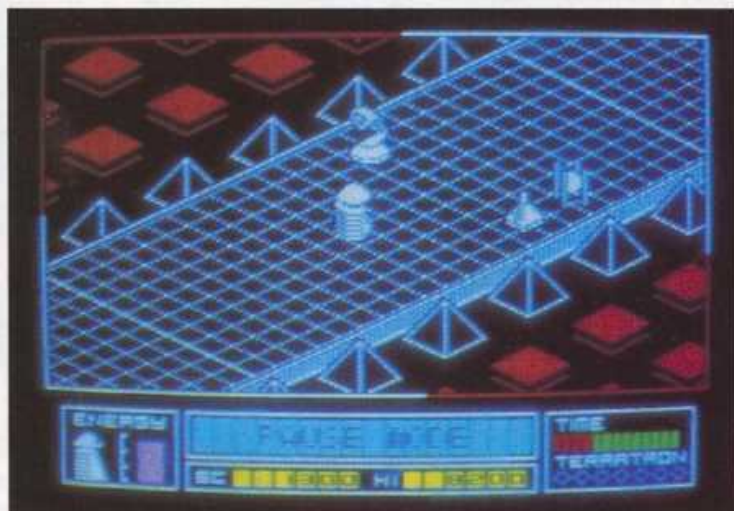
Another key aspect is the idea that the terratron (the little pyramid) must be pushed through seven key energising points found scattered about the 30 screens that comprise the highway. This means that you have to learn how to manipulate the vorton very precisely to

push the terratron exactly where you want it.

Get the terratron to the final screen and something (Vortex, the publisher, won't say what) dramatic happens.

Graphics

Very reminiscent of *Highway Encounter*. The graphics are highly detailed with the central playing area restricted to black and white only, presumably because of colour



The terratron reaches a regeneration point

attribute problems. But there are plenty of colourful and changing alien landscapes to admire along the highway embankment, and the sprite design is full of personality. These roving eyes look and act genuinely malevolent.

Sound

Rarely a strong point with Spectrum games, but the machine's limited resources are well used here for assorted blasting and laser effects.

Playing Tips

There is no single solution to the game but lots to watch out for.

- 1) Each time you play the game the layout of screens is generated afresh – this means you should never rush into a new screen without carefully checking to see what's ahead first.
- 2) Try to conserve energy; the only place to build up lost energy is a terratron regeneration point (see below) and the next one may be a long way away...
- 3) You must push the terratron through each of the seven regeneration points on the route – don't miss one.
- 4) Don't linger against obstacles. It wastes time and in some places may lose you energy.
- 5) It is sometimes possible to take a mad rush at an obstacle and get through without losing too much energy – sometimes it may be worth it... you have to judge.
- 6) If the terratron gets stuck against the edge of the road it is possible to get it out the the centre again by very careful manipulation of the vorton – press against the terratron at an angle and you should be able to slide it out.
- 7) Some aliens wander around, others home in on you – learn to distinguish which does what!
- 8) The barrels only become essential in the later sections of the game. You may be able to manage early sections without them, but suddenly find one is essential and it's several screens back. So...
- 9) Get used to the idea that you may have to go backwards.

Amstrad and Spectrum versions of *Alien Highway* should be released this week. Prices are Spectrum £7.95, Amstrad tape £8.95, Amstrad disc £13.95.

Vortex is at 24 Kansas Avenue, off South Longworthy Road, Salford M5 2GL (061-872 4747).

Stuck barrel-less before the deadly 'lemons'



Devron Sensational Printer Offer

£49.99!

COMMODORE COMPATIBLE



The incredible Citizen two-colour dot matrix printer!

Thanks to a super deal we can offer you this highly advanced, high quality printer at the low, low price of £49.99!

You can make more of your Commodore with the CITIZEN printer. If you have a VIC-20, C64, C16, Plus-4, C128 or C128D, you'll be expanding into word and data processing in no time at all.

This top notch printer from CITIZEN — famous for hi-tech watches and electronic office products — is packed with some really stunning features.

All you have to do to obtain your CITIZEN printer is to complete and post the coupon below, enclosing payment for £49.99 plus £2.50 p&p. But hurry, stocks are limited!

- Compatible with Commodore VIC-20, C64, C16, Plus-4, C128 and C128D Home Computers.
- Helical-driven print head — as used on expensive printers.
- Seven-wire dot matrix head.
- Uses STANDARD plain paper roll.
- Uses STANDARD two-colour typewriter ribbons.
- Responds to Epson control codes in dot addressable graphic mode with single and multi-line printing.
- Prints Commodore graphics and inverse characters.
- Programmable line spacing and expanded print capability.

Devron

155 MOORGATE LONDON EC2 TEL: 01-638 3339/1830
CALLERS WELCOME MON-FRI 9.30am — 5.30pm. E& OE. Prices correct at time of going to press. All offers subject to availability. UP TO £1000 INSTANT CREDIT AVAILABLE. Written details on request.
Typical APR 32.9%

Please send me . . . CITIZEN Printers at £52.49 each, including postage and packing, at a total cost of £ . . .

Name _____ Address _____

Tel No: _____

I enclose cheque/p.o./cash. £ _____
Please charge to Access/Barclaycard
No: _____ Post to: DEVRON LIMITED,
155 MOORGATE, LONDON EC2
Please allow up to 28 days for delivery



Late releases – whose responsibility?

This week, Tony Kendle, concludes that some games are delayed by the very nature of their sophisticated quality. Plus: *International Karate* (does it out-list *Fist?*), and tips for *One Man and his Droid*, *Dragonskulle* and *Who Dares Wins II*

Picture *Way of The Exploding Fist* with very similar sprite design, the same joystick control, better graphics, and faster and more vicious in the way it plays. Is it the long awaited *Fist 2*? No, it's *International Karate* from System 3 software on the Commodore. It's a fascinating game, the most intriguing questions being, who they are aiming it at and will Melbourne House sit back and take the competition?

There's been a lot of 'borrowing' of graphics style in the past (Ultimate having suffered more than many) but this must be the first time that the design has been so, well, accurate.

In the meantime, if you haven't got a copy of *Fist*, you really should consider this alternative, as it is a better game.

You may have seen in the news pages recently that there's been a lot of concern lately from all sides of the industry about games that have been continually advertised and which do not appear, or, when they do finally come out, are of such a poor standard that you wish they hadn't bothered.

I've had more than a few complaints sent to me about this recently and I must confess that my attempt to do a roundup of software available for Christmas and the new year was a bit abortive because we are still waiting to see some of the releases.

Still, it's difficult to know what to say. In almost no case can it be blamed on companies trying to pull a fast one on the public – it can't be Ocean's idea of fun to put out expensive full page colour ads for *Knight Rider*, etc, with nothing to show for it. The real problem is down to a combination of the long advance warning required by the monthly mags for adverts together with an increasing reliance on freelance programmers.

PROFESSIONAL DESIGN

The standard of games releases are now far beyond that of just a year ago – programmers are pushing home computers to a level of performance we would have only expected on 16-bit machines. Graphics are reaching new heights, thanks to the use of professional design specialists and almost every spare byte of Ram is being used. It is no wonder that prices are slowly (or not so slowly) creeping up and development times are longer.

A couple of years ago the freelance programmers were being heralded as the saviour of the industry, freeing producers from the expense of trying to keep a full time working team. Now the wheel is turning, as some programmers are finding the expected standards are too high and the promised delivery dates (on which advertising is based) are impossible. For its part, the producing company have to decide whether to pull the plug on its investment so far (eg, Elite's *Basketball*)

```
10 REM***Pokes for Who Dares Wins II***
20 REM***Hacked by Kevin Young***
30 REM***Type in listing exactly as shown***
40 REM***Do not miss anything out***
50 ENV 2,1,13,1,1,0,15,13,-1,5
60 ENV 3,1,13,1,1,12,-1,3
70 ENV 3,5,40,1,5,20,1,10,25,1
80 ENV 4,11,1,5,2,0,120,11,-1,14
90 ENV 5,14,-10,1,1,120,1
100 ENV 5,1,15,1,15,-1,12
110 ENV 6,1,12,1,12,-1,9
120 ENV 7,15,-1,2
130 ENV 8,10,1,1,20,0,1,10,-1,2
140 ENV 9,1,1,1,1
150 ENV 9,1,15,1,15,-1,4
160 ENV 9,9,5,3,1,-45,3
170 SOUND 125,220,0,0,5,3
180 LOAD "LOADERS",6C700
190 C=0:FOR AND TO 1:READ A$POKE 6C700+A VAL(16)*A$
200 IF C=1699 THEN PRINT"Error in data statements"END
210 CALL 6C700
220 DATA 36,0,21,00,00,32,c1,60,22,c2,62,36,FF,32,20,
    a1,c3,10,40
```

Infinite lives on *Who Dares Wins II* – see below

or to continue with the eventual hope of results like Ocean has.

It is companies like Virgin with its in-house team, the Gang of Five, that seem to be suffering least – probably because they can more accurately judge exactly when a game will be ready.

VICIOUS CIRCLE

All of this leaves us with a vicious circle and no one really to blame. The future looks especially grim for the next generation of 16-bit machines where the same problems can only be magnified. What do you see as the solution? Write in and let us know.

In the meantime it is nice to see that some programs come out on time and that they are still worth playing. Elite has had its Spectrum version of *Bomb Jack* in the shops almost as soon as the adverts appeared and another excellent arcade conversion it is too, good enough to challenge *Commando*. The Ocean/Imagine combo has also scored two hits in my book with *Ping Pong* and *Batman* (just when you thought all *Knight Lore* style games were

totally boring, along comes one that brings a new touch of fun to the format and I look forward to hints and tips on these.

COMMODORE TIPS

I'm still getting the odd letter from people who are having trouble with the Commodore *Elite* editor program – the solution to the problem was that by the action of some gremlin the lines containing the data for the save routine and the data for the space stations were mixed up. A more detailed solution has been printed in the magazine on the letters page, so check your back issues.

This week we have some tips for the Commodore from Chris Eastwood who has found all of the passwords for the game *One Man and his Droid*. Starting with level two these are in turn bubble, Commodore, finders, genetic, zapped, megasonic, time warp, ectoplasm, gorgeous, seaside, gizmo, King Kong, hologram, curry rice, coffee, cassette, telescope, computer, edacraeda.

Tips for hacking into *Dragonskulle* have been sent by a few people, including our old friend Mr Wass, but to get them to work you need a reset switch. Load the game, reset, and type the following:

For x = 5300 to 5500 : Poke x,234 : Next x
SYS 3080

Then press F1 and hit *Runstop/Restore* and type the following:

For x = 5500 to 5510 : Poke x,234 : Next x
SYS 3080

Finally press F1 and you start the game with infinite lives.

To finish this week here is a welcome routine from Kevin Young for the Amstrad version of Alligata's *Who Dares Wins 2*. Type in the listing and save it, then run it. Rewind the game tape and press play – don't worry about the screen display.

The game should load with infinite lives and 99 grenades. Do not pick up grenades until you are down to two or three or the number will go down to the same as those in the box you picked up. There are some odd side effects – your bullets become smaller and soundless and the enemy plane also has no sound as it approaches – beware!

THE ULTIMATE POOLS PREDICTION PROGRAM

-

Boxed, with detailed
instruction booklet

PRICE £15.00 (all inclusive)

FIXGEN 85/6 AT LAST: No more struggling for hours to get the fixture list into the computer. FIXGEN has been programmed with all English and Scottish fixtures for 1985/86. Simply type in the date, and the full fixture list is generated in seconds. Fully compatible with Poolwinner.

POOLSWINNER with FIXGEN £16.50 (all inclusive)

POOLSWINNER with FIXGEN £16.50 (all inclusive)

NOT JUST A TIPSTER PROGRAM, Coursewinner V3 can be used by experts and occasional punters alike.

You can develop and test your own unique winning system by adjusting the analysis formula, or use the program in simple mode. Coursewinner V3 uses statistical analysis of major factors including past form, speed ratings, course statistics, prize money, weight, going, trainer and jockey form etc. etc. It outputs most likely winners, good long odds bets, forecasts, tricast etc. The database includes vital course statistics for all British courses. You can update the database - never goes out of date.

PRICE £15.00 (all inclusive) includes Flat AND National Hunt versions.

PRICE £15.00 (all inclusive) includes Flat AND National Hunt versions.

PRICE £15.00 (all inclusive) includes Flat AND National Hunt versions.

Send Cheques/POs for return of post service to . .



phone 24 hrs



selec
SOFTWARE

SOFTWARE



phone 24 hrs

37 COUNCILLOR LANE, CHEADLE, CHESHIRE. ☎ 061-428 7426
(Send for full list of our software)

(Send for full list of our software)

46 THE MALTINGS, STANSTEAD ABBOTS, WARE, HERTS

OUR		OUR		OUR				
SPECTRUM 48K	RRP PRICE		RRP PRICE		PPR PRICE			
Lord of the Rings	15.95	11.99	Winter Games	7.95	5.43	14.95	11.50	
Starstrike II	7.95	5.75	Rock & Wrestle	8.95	5.75	Bomb Jack	9.95	9.95
Way of the Tiger	9.95	8.95	West Bank	7.95	5.50	Ping Pong	9.95	6.75
Skyfox	7.95	5.75	Sam Fox	8.95	5.50	Mercenary	9.95	6.95
Commando	8.95	5.45	Now Games II	8.95	5.50	V	9.95	8.50
Turbo Esprit	8.95	6.50	Movie	7.95	5.75	Boulder	9.95	9.95
Enigma Force	9.95	6.95	FA Cup	8.95	5.75	Uridium	8.95	6.75
Cyberman	9.95	6.99	ID	7.95	5.75	Superowl	9.95	6.95
Zoids	8.95	5.50	Showjumping	7.95	5.75	Zoids	8.95	6.75
Muzzy's Revenge	8.95	6.50	Electron	7.95	5.45	Kung Fu Master	9.95	9.95
Tyrie Ar Kungfu	9.95	6.95	Back to the future	9.95	5.75	Commando	9.95	6.95
Scitrix 40	9.95	6.95	Legend Amazon Women?	9.95	5.45	Ayulim	9.95	9.95
V	7.95	5.75	COMMODORE 64/128			Fairlight	9.95	9.99
Superowl	9.95	6.55	Eldon	9.95	6.99	Rambo	8.95	5.50
Bomb Jack	7.95	5.75	Back to the Future	9.95	6.95	Starship Andromeda	9.95	9.99
Green Beret	7.95	5.75	Critical Mass	8.95	5.50	Max Hucker	9.95	9.95
Thunder	7.95	5.35	Lord of the Rings	15.95	11.95	Comic Bakery	9.95	9.75
Ball Blazer	7.95	5.45	Rock 'n' Wrestle	9.95	6.95	Hard Ball	9.95	9.99
Rasputin	7.95	5.45	Enigma Force	9.95	6.95	Ark Pandora	9.95	9.99
Ping Pong	7.95	5.75	Tyrie Ar Kung Fu	7.95	5.50	Doomdarka Revenge	9.95	9.99
Gun Fight	9.95	6.95	Starquake	8.95	6.75	Rasputin	9.95	9.75
B. McGuigan's Boxing	7.95	5.45	Way of the Tiger	7.95	5.45	FA Cup	8.95	5.75
Rambo	7.95	5.45	Wizards in the Snow	9.95	6.95	Electrolight	9.95	6.50
Cornet Game	7.95	5.75	Koro Nisi Ritt	9.95	6.95	Saboteur	9.95	8.75

All prices include free test delivery & same day despatch, when available. Personal callers welcome. 5% discount on all orders for seven or more tapes or to a value over £45. Cheques/PDs/ECs payable to EB40. For up to date news on available & Access orders ring (0620) 878558. Free Game included for orders over £20 or overseas orders. 16PD980

to **Popular Computing Weekly** and receive a free **PCW binder** holding 13 issues of your favourite weekly.

Please enter my subscription to PCW for one year at **£19.95**
UK, £37.40 Overseas.

Name:

Address:

Return to PCW subs, 12-13 Little Newport St., London WC2H
7PP

1. РЕГУЛЯЦИЯ

OUR PRICES ARE EVEN BETTER – NOW YOU CAN ORDER BY FREEPOST

SPECTRUM		OUR		COMMODORE 64		OUR	
	RRP		PRICE		RRP		PRICE
GREAT SPACE RACE	14.95	3.25	AZTEC CHALLENGE (Disk)	14.95	3.99		
TRAVEL WITH TRASHMAN	7.95	2.99	CODENAME MAT II	14.95	3.99		
BACKPACKERS GUIDE	7.99	2.50	EURKA	7.95	2.99		
TEACHO	7.95	2.50	MAMA LLAMA	8.95	2.99		
BRUCE LEE	7.95	4.25	PSYCHEDELIA	8.95	2.99		
TAPPER	7.95	4.25	BLUE MAX 2001	9.95	4.25		
SHADOWFIRE	9.95	3.95	UP 'N' DOWN	9.95	4.25		
CODENAME MAT II	7.95	3.25	SOLO FLIGHT	14.95	3.99		
POOL	5.95	1.99	STAINLESS STEEL RAT/SAVED THE				
WORLD CUP FOOTBALL	7.95	1.99	WORLD (complete with Papermedia)	14.95	3.25		
BEAU JOLLY VALUE PACK	14.95	2.90	FLYER FOX	6.95	2.50		
ORDS OF MIDNIGHT	9.95	3.50	PYJAMARAMA	7.95	2.50		
PSYTRON	9.95	3.50	TALLADEGA	7.95	2.50		
GYRON	9.95	3.95	HERBERT'S DUMMY RUN	9.95	3.95		
			FRANKIE GTH (Special Price)	9.95	4.95		
BBC				COMMODORE C16			
SPIDERMAN/HULK TwinPack	19.90	3.50	CUTHERBURN IN CODLER	8.95	2.99		
LINKWORD ITALIAN	14.95	3.99	WINTER OLYMPICS	6.95	5.75		
LINKWORD FRENCH	14.95	3.99	KURPAK - Hop n' Shoot II				
LINKWORD SPANISH	14.95	3.99	Munch n' Climb II	14.95	7.95		
LINKWORD GERMAN	14.95	3.99	MOUNT VESUVIUS	6.95	6.75		
TRIPLE PACK - SEAL ORKALAXKY			GREMLINS	8.95	3.99		
WARS/CITY DEFENCE only		2.50	TYLOON TEX	8.95	2.99		
MR MEPISTO	6.00	1.99	DORR'S DILEMMA	8.95	2.99		
MUSIC SYNTH/GRAPHIC			KARON WAX	8.95	2.99		
TWIN PACK	15.95	3.99	PETALS OF DOOM	8.95	2.99		
TEWFILE	14.95	2.99					
REWALC	14.95	2.95	VIC 20				
PYRAMID OF DOOM	8.95	2.50	MOLE ATTACK (cart)	9.95	2.99		
FRANK ARDARBARK	7.95	2.99	FROG RUN	5.95	1.99		
JOYSTICK INTERFACE + free game	9.95	4.25	SPACE BOMBER/Man on Run	8.95	2.50		
NIGHT FLIGHT (HEWSON)	7.95	1.99	COSE	8.95	2.99		
			ASTEROIDS	5.95	1.99		
ELECTRON			JUMPIN JACK	7.95	2.99		
BANDIT at 3 O'CLOCK	7.95	2.95	PIXEL	8.95	1.99		
BEACH-HEAD	8.95	4.25	SNACKMAN	6.95	2.25		
GHOULS	7.95	2.95	PIVOT SLOT	4.50			
PAUL DANIELS MAGIC SHOW	7.95	2.99	AMSTRAD				
SPACE SHUTTLE	9.95	3.25	VIEW TO A KILL	9.95	2.99		
LINKWORD ITALIAN	14.95	3.99	LINKWORD GERMAN	14.95	3.99		
LINKWORD FRENCH	14.95	3.99	LINKWORD FRENCH	14.95	3.99		
KILLER GORILLA	7.95	2.99	CHIFFER SQUAD	6.00	6.00		
LINKWORD SPANISH	14.95	3.99	BOUTY BOB STRIKES BACK	8.95	2.95		
LINKWORD GERMAN	14.95	3.99	WARGAME	8.95	2.50		
			GREMLINS	8.95	3.00		
ATARI 400/800			CODE NAME MAT II	8.95	2.50		
SOLO FLIGHT	14.95	5.25	ARABIAN KNIGHTS	6.00	2.25		
CUTHERBURN/WALKABOUT	6.95	2.99	MESSAGE FROM ANDROMEDA	6.00	2.00		
WALKABOUT RANGER	6.95	2.99	PAWS	7.95	2.00		
MIN DIG	6.95	2.99	BEACH HEAD	8.95	4.25		
PENGON	8.95	2.99					
FIGHTER PILOT	8.00	2.99	CHUCKIE EGG	8.95	2.50		
GOLDEN BATON (Adv)	8.95	2.50	LASER BIKES	5.95	3.99		
SPY'S DEISE	9.95	3.95	MANIC MINER	7.95	3.99		
	9.25	3.95	VACUUMANIA	7.95	3.99		

This is just a small section of games on offer. Send now for our seven page catalogue S.A.I. please. BFPO & Overseas order add £1 P&P per order

ALL PRICES INC VAT & P&P.

CHEQUES POSTAL ORDERS TO

NEW FUTURE SOFTWARE

FREEPOST (no stamp needed)

and send to: 4 Rowanburn, Canonbie, Dumfries, Scotland DG14 0RH
AUTOMATIC FREE MEMBERSHIP TO NEW FUTURE SOFTWARE CLUB WITH FIRST ORDER OR CATALOGUE
REQUEST... INCLUDES MONTHLY NEWS SHEET WITH LOTS OF SPECIAL OFFERS & DISCOUNTS
SOFTWARE PLEASE STATE 2ND CHOICE TO AVOID DISAPPOINTMENT

TELEPHONE ORDERS ON (05415) 536

16PD9

**This award winner now available for:
AMSTRAD, CBM 64 and SPECTRUM**

bubble bus software
87 High Street,
Tonbridge, Kent TN9 1RX
Tel: 0732 355962. Tx 95151



Games: Adventure Corner



Solo quest

Fof those who were intrigued by my mention of *Lentils of Thry*, by Peter Page, here is his address (and my apologies for having left it out!): 3 Larwood Square, Cricketers Way, Andover, Hants SP10 5DR.

Peter is hoping for a major company to take up the adventure, and it is certainly as good as many commercially available. He hasn't told me what sort of price tag he has put on it, or even, indeed, if he wants to sell the game by mail order – but you might feel it worthwhile to drop him a line.

From Matand Software (29 Moorland Road, Mickleover, Derby DE3 5FX) comes *The Doomsday Papers* at £2.95, a little steep when you consider superlative programs like *Spellbound* (anyone who can help me on this, give me some hints!). I think that it is really about time that adventure-writers started to think about their pricing policies: maybe I'm being a little harsh on Matand, as the price is not as inflated as others.

This adventure is *Quill'd and Illustrat'd*. In the year 3050, the human race appears to be extant only on the planet Alfa-Ren, now racked by nuclear devastation, instigated by the evil Professor Deemus. Where there's an evil scientist, there is a good one, and Professor Ferric has decided to go back in time and find *The Doomsday Papers*, written by the scientists forced by Deemus into building the nuclear weapons now threatening the existence of the human race. Your mission, as Professor Ferric's apprentice, is to find the *Doomsday Papers* and thus save the transplanted human race.

To start with, the game is rather easy

and linear. Nice graphics, with lots of technical detail, are let down a little by an un-touched character set and rather sloppy spelling and text layout. You have a few moves in which to collect the necessary objects for your quest, and then you're in a spaceship which, after a couple of "Wait"s, crashes, leaving you alone on a strange planet.

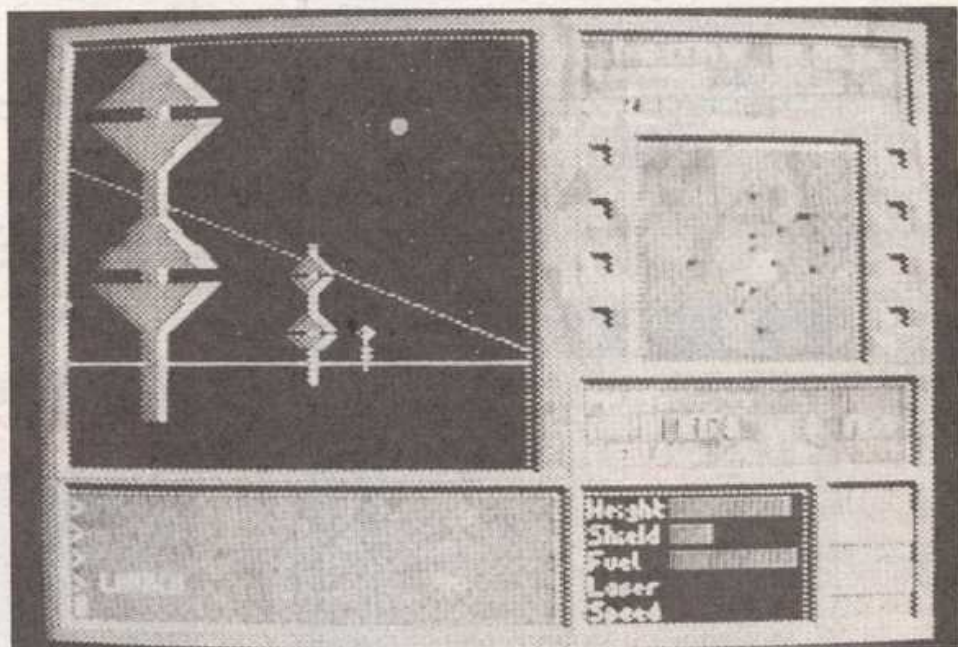
The opening problems are not brain-achingly difficult: Here is a spade, lying about on a sandy plain. Oh, my, let's dig – oh, wow, here's a pen! And here's a lump of meat just lying around the floor. Is it here for picturesque atmosphere? No way! Pick it up, and few locations later, you'll get to use it (and you're told exactly what to do with it).

Neither *Search* nor *Examine* seem to be implemented, but this may prove untrue, as other commands like *Dig* elicit no response until needed. But there is a strength to the program, and this lies in the

awful dross like *War of The Worlds* to the sublime state-of-the-art of *Tau Ceti*. Clement's Crew can be relied upon to keep us guessing. And with *Causes of Chaos*, they've given us adventurers a nice little number, I'm glad to report.

Written by one Michael Taylor and available for the Commodore 64, *Causes* is an unusual multi-player text adventure. That is, the player can elect to play solo, or with up to five like-minded companions. A very impressive loading screen leads on to a colorful screen: multi-coloured text against a bright white background might be too much for some tastes, but it is clean-looking and legible.

For the soloist, the adventure plays very differently from the multi-player version. In the latter case, each player starts at a different location, and a certain number of pre-determined moves (between one and nine) are allotted to each player, moves that can be used in the usual adventure



Tau Ceti: state-of-the-art

rather short but nevertheless atmospheric descriptions and some surprises. Like the "hissing" in early scenes, which turns out to be the innocuous (as long as you are wearing the space suit!) workings of the airlocks: later, you blithely and innocently walk into another location from which emanates more "hissing", only to find a lethal snake pit!

All the usual Patch features, including sound effects and Ramsave are included in *The Doomsday Papers*, and on the whole, the adventure would be an excellent buy at a pound less.

CRL is one of those software houses that always seem to come up with a surprise: from

pastimes of exploring, object-getting and puzzle-solving. It's possible, of course, for each player to aid the others in their quest, but human nature leads me to think that it will be a good old free-for-all all round!

Each player will find a dagger about their person, which can't be dropped, and it is this weapon, initially, that can be used for combat. This relies mostly on successive rounds of reflexive key-punching in an effort to whittle down your opponent's 50 combat points.

It's a nice attempt to bring a *Mud*-like environment to the micro of the modern-less adventurer. The game itself, though set in the standard fantasy scenario, is a nicely-tuned set of puzzles which is good enough to keep the solo player engrossed, while offering good entertainment to the group. I've always thought that adventures are better tackled 'en masse', and *Causes of Chaos* is a great combination of bash-about and puzzle-solving, which you'll find all the better in company.

Adventure Helpline

Going bananas? If you are stuck in an Adventure with nowhere to turn do not despair – help is at hand.

Fill in the coupon, explaining your problem, send it to us, and a fellow adventurer may be able to help.

Remember – the system only works if those adventurers who have solved the puzzles get in touch. Every week is Save An Adventurer Today (SAAT) week!

Adventure.....on.(Micro).....

Problem.....

Name.....

Address.....

Free hardware here



Welcome to the Word Grid where a sharp eye, intense concentration and sheer brain power can win great rewards. Specifically, a Commodore 128D with colour monitor, two Atari 520 STMs with disc drives, and 25 Mirrorsoft games. C64, Spectrum and Amstrad owners will receive *Spitfire 40*, while BBC owners will get *Strike Force Harrier*.

How to enter

This is the second part of the competition. In order to enter you'll need the first part

from last week's issue, as well as the third part to be published next week.

Each grid contains six words (of at least four letters) related to microcomputing. The words may be written forwards or backwards, up or down (but not diagonally).

Once you've found the 18 words, hang on to them - there will be a tricky bit in part four. You didn't think it was going to be that easy, did you? Experienced gridrunners will place a regular order with their news-agent now.

M	E	M	O	R	Y	O	F	W
O	R	Q	U	L	O	C	O	D
N	Q	C	T	O	C	T	A	L
E	C	A	F	R	E	T	N	I
T	O	T	F	M	D	Q	T	O
W	U	O	H	R	P	Q	Z	W
O	P	C	O	D	E	M	N	T
R	H	Y	C	H	B	I	B	E
K	D	E	W	U	T	R	O	N

ANCIENT & MODERN

Unit 111 (Rear), Washington Road, West Wilts Trading Estate, Westbury, Wilts

COM 16/PLUS 4		MERCENARY DISC		SPACE DOUBTS	
WINTER OLYMPICS	6.95	GOONIES DISC	14.95	ARC OF YESSOD	8.95
TOM THUMB	6.95	SMASH HITS 1, 2, 3 or 4	14.95	RAMBO	8.95
GHOST TOWN	6.95		9.95	HUNCHBACK II	7.95
KUNG FU KID	6.95	ELECTRON		KING STRIKES BACK	7.95
THAI BOXING	5.95	WATERLOO	9.95	REVS	14.95
XARGON WARS	6.95	STEVE DAVID SNOOKER	8.95	SUPERMAN	9.95
SWORD OF DESTINY	6.95	TWIN KINGDOM VALLEY	2.95	BACK TO THE FUTURE	9.95
CLASSICS 1 or 2	9.95	CITADEL	9.95	WILLIAM WOBBLER	9.95
SPIDERMAN	6.95	FLIGHT PATH 747	5.95	BOOLOW	9.95
THE HULK	6.95	FIVE A SIDE SOCCER	5.95	LASER BASIC	14.95
TWIN KINGDOM VALLEY	2.95	30 BOMB ALLEY	5.95	LASER COMPILER	19.95
SKYHAWK	2.95	PHANTOM COMBAT	9.95		
EXORCIST	5.99	REPTON 1 OR 2	9.95	SPECTRUM	
FIRE ANT	5.99	BEACH HEAD	7.95	OFF THE HOOK	6.99
MISSION MARS	2.99	FOOTBALL MANAGER	8.95	SAM FOX STRIP POKER	8.95
SUICIDE RUN	2.99	EXPLODING PIST	9.95	V	7.95
AIRWOLF	6.95	YIE AR KUNG FU	8.95	AMAZON WOMEN	7.95
CAVE FIGHTER	2.99		6.25	VECTRON	7.95
OLYMPIC SKIER	5.99	COMMODORE 64 disks		FOURMOST ADVENTURES	7.95
BERKS	5.95	GAME MAKER	19.95	2001 AD	7.95
BBC		THE HOBBIT	17.95	FORBIDDEN PLANET	7.95
EXPLODING PIST (disc)	14.95	DONALD DUCK	12.95	OF THE MASK	9.95
HYPERSPORTS (disc)	12.95	FRAX	12.95	BATTLE OF THE PLANETS	9.95
SCRABBLE	12.95	TIME TUNNEL	14.95	SABOTEUR	8.95
DAMBUSTERS (disc)	14.95	LORD OF THE RINGS	19.95	PASPUTIN	7.95
LORD OF THE RINGS	15.95	GONZO WORD RIDER	12.95	RUNESTONE	7.95
STEVE DAVID SNOOKER DISC	12.95	MICKY'S SPACE ADVENTURE	12.95	WATERLOO	9.95
AMSTRAD		FLIP & FLOP	12.95	YIE AR KUNG FU	7.95
MUSIC SYSTEM (disc)	19.95	ROCK 'N' WRESTLE	14.95	COSTA CAPERS	7.95
SPIN DIZZY	9.99	SUMMER GAMES II	14.95	GERRY THE GERM	7.95
NOMAD	8.95	BOULDERDASH	12.95	SAI COMBAT	6.95
BOUNTY BOB	9.95	COMMODORE 64		TIR NA NOG	9.95
TAU CETI	9.95	OFF THE HOOK	5.99	ALIEN 8	9.95
BATTLE OF THE PLANETS	9.95	GAME KILLER	14.95	SURF CHAMP	11.95
MELBOURNE DRAW	14.95	HARD BALL	9.95	BOUNTY BOB	7.95
DISCOVERY (disc)	11.99	TIME TUNNEL	9.95	PSYTRON	9.95
ATARI		URIDUM	8.95	ASTRO CLONE	7.95
WORM IN PARADISE	9.95	LORD OF THE RINGS	15.95	BOMB JACK	7.95
BALL BLAZER	9.99	FRIDAY THE 13th	8.95	GREEN BERET	7.95
POLE POSITION	9.95	ZORRO	9.95	PING PONG	7.95
SPY V SPY II	9.95	KERMIT STORYMAKER	9.95	MAX HEADROOM	9.95
BOULDERDASH II	9.95	KUNG FU MASTER	9.95	MOVIE	7.95
ELEKTRA GLIDE	9.95	FIGHTING WARRIOR	8.95	SECRET OF ST. BRIDES	6.95
MERCENARY	9.95	CAUSES OF CHAOS	8.95	ROBOT MESSIAH	7.95
STEVE DAVID SNOOKER DISC	12.95	PLAY YOUR CARDS RIGHT	7.95	STEVE DAVID SNOOKER	7.95
TIGERS IN THE SNOW DISC	14.95	LITTLE COMPUTER PEOPLE	9.99		
ZORRO DISC	14.95				

LOOK OUT

FOR
THE MOST
AMAZING ADVENTURE
GENERATING
PROGRAM EVER

THE GRAPHIC ADVENTURE CREATOR

COMING SOON ON THE
SPECTRUM, BBC B and COMMODORE 64

Incentive Software Ltd.
54 London Street, Reading RG1 4SQ. Tel. (0734) 591678

NEW
FOR PCW

AMSDOC

464/664/6128

SEVEN TOOLS TO UNLOCK THE LOGIC

- NOW** — the **EASY** way to understand new programs
— the **EASY** way to write better programs
— the **EASY** way to get good documentation without effort
- EXPLAIN** — a tool that builds an **INFORMATION** file about the variables and routines in your programs, and that incorporates your information in well-formatted program listings.
- ALTER** — a tool that regenerates your programs, letting you rename variables consistently and reliably.
- TRIM** — a tool that rewrites your programs, cutting out wasteful remarks, automatically regenerating variable names to be so short that you can save over 20% of memory space. It gives you a bigger machine.
- FLOW LIST** — the first **AUTOMATIC** program for a home micro which: **CHARTS THE FLOW** of programs to show the way they really run **CROSS-REFERENCES** all variable names and routine entries **FRAMEWORKS** your overall program structure. **DIAGRAMS** the levels of subroutine and the links between parts of your program **CHECKS** on unused sections of coding.
- COMPARE** — reports quickly and neatly on the differences between program versions.
- PRINT SUPPORT** gives you multiple and selective backup copies of **AMSDOC** reports for group discussion.
- WORKSHEET** helps you account for every variable you use.

Discsystem £14.95 Cassette system £12.95
Full documentation file

Session Developments Ltd., 12, Falmouth Rd.,
Congleton, CW12 3BH Tel: (0260) 279921

*NEW AMSDOC — PCW (CPC and PCW basics) £19.95.

SOON

BASDOC — BBC, BASDOC — RML

Trade enquiries welcome

3" 50,000 IN STOCK on the 4th May

ONLY £37.50 per 10 + VAT
SEND MONEY WITH ORDER
FOR EXPRESS DELIVERY

3 1/2" S.S. £22.25 per 10 + VAT
5 1/4" SONY DYLAN & FUJI DYLAN D.S. QD
£24.90 per 10 + VAT
DISKETTES AT UNBEATABLE
PRICES

Also FUJI D.S.H.D. £26.50 per 10 plus VAT

Please make cheques payable to Cash Terminal Supplies and send to Cash Terminal Supplies, 11 North Street, Cavell Court, Peterborough PE1 2RA. Tel No 0733 314 525. (Cash by registered post only please).

TRADE ENQUIRIES WELCOME

PD894

The 4th official

AMSTRAD COMPUTER SHOW

Champagne Suite
Novotel,
Hammersmith,
London W6

Organised by
Database
Exhibitions

Friday
13
June
10am-6pm

Saturday
14
June
10am-6pm

Sunday
15
June
10am-4pm

★ **TWICE as**
much to see!

★ **TWICE as**
much to try!

★ **TWICE as**
much to buy!

The summer Amstrad Computer Show is the biggest ever held, with many more exhibitors presenting all their latest products, including a large number on display for the first time.

HOME USERS! See the versatile Amstrad CPC range stretched to its very limit with the latest megagames, hardware add-ons, speech chips, graphics packages, languages, simulators, utilities.

BUSINESS USERS! See the new word processors, spreadsheets, databases, accounting and other financial programs plus communications packages that enable the CPC and PCW ranges to talk to the outside world.

EDUCATIONAL USERS! Find out why Amstrad computers are entering educational establishments in ever-increasing numbers, helped by their low cost, adaptability and networking facilities.

EXHIBITORS ALREADY BOOKED

Amstrad, Advanced Memory Systems, Ak Marketing, Alligata Software, Amor Ltd, Bernard Bébaut Publishing, Bourne Educational Software, Caxton Software, CDS Software, Compact Software, Computer Contact, Connect Systems, Croydon Effective Educ. Assoc., DK Tronics, Evesham Micro Centre, Fydlar Microprogramming, Garwood (Wholesale) Ltd, GEM Distribution, Gemini Marketing, Glaxfield Ltd, Grafsales, Gultronics, Interlock Services Ltd, John Wiley & Sons, KDS Electronics, LCL Educational software, Load & Run, Maltale Services Ltd, Mikro Gen, Minerva, Miniature Tool Company, Mirage Micro Computers, Mirrorsoft, Newstar, Northern Computers, Preston Software, Pride Utilities, Professional Data Services, Quest International, Sagesoft, Sandpiper Software Ltd, Saxon Computing, Screens Micros, Shekhana Computer Services, Siren Software, Software City, Software Plus, Sunshine Books, Taiman Software, The Electric Studio, Things, Transform, Vanguard Leisure.

Save £1
a head
— and
miss
queues!
— by
sending
for your
tickets
now!

Advance ticket order

Please supply:

☐ Adult tickets at £2 (save £1) £

☐ Under 16s tickets at £1 (save £1) £

TOTAL £

☐ Cheque enclosed made payable to Database Publications Ltd.

☐ Please debit my credit card account:

Access/ Visa

Admission at door:
£3 (adults), £2 (under 16s)



Champagne Suite & Exhibition
Centre, Novotel, Hammersmith, W6
June 13-15, 1986

Post to: Amstrad Show Tickets,
Europa House, 68 Chester Road,
Hazel Grove, Stockport SK7 5NY.

Name

Address

Signed

PHONE ORDERS: Ring Show Hotline: 061-456 8835

PRESTEL ORDERS: KEY *89, THEN 614568383

MICROLINK ORDERS: MAILBOX 72:MAG001

Please quote credit card number and full address - Ref. Pop1

Locoscript – all you ever need to know

Frustrated by the manual? Graham Taylor nibbles his way through the complete Locoscript menu

Locoscript, the wordprocessor supplied with the PCW 8256, and supposedly the reason most people have bought the machine in the first place, is exceptionally powerful. It is also fair to say that the manuals supplied with it are causing more confusion among more people than with almost any other word-processor ever.

In this guide, Graham Taylor, who has been battling with *Locoscript*, offers vital help to those who are about to join the fray – not a complete rewrite of the manual, but the solutions to most of the problems most people will discover.

Before we start

Certain things are vital in order to use *Locoscript* at all for your own writing:

1) Buy some more 3 inch discs and format them using Diskit.

Diskit is found on the second side of the CP/M disc – reset the machine by switching it off and on – or holding down *Extra* and then pressing *Shift* and *Exit* and then pressing *Shift* and *Exit* together. Then insert the disc so that side two points towards the screen. When you get the *A>* prompt, type *diskit*, or *DISCKIT*, then follow the on-screen instructions.

2) Having got a formatted disc you can now use *Diskit* again to make a copy of *Locoscript*, nb, think of a Read disc as the original you want to copy and Write as the copy you are making and follow the on-screen instructions.

Vital tips

● If something goes wrong and you seem to be lost in the jungle of menus press the *Call* key, which is just above and to the right of the *Return* key.

● Whenever you are making a selection from one of the menus:

Highlight the option you want. Pressing the *+* key next to the spacebar says 'yes' to an option, while the *-* key says 'no', ie, switches an option off. Leave menus by pressing *Enter* (not *Return*).

● Never use the Ram drive (drive M) to store your documents. Always use a or b (if you have b fitted).

Getting going: The main menu

A common problem here is moving around the screen. The key is this: to get to some of the groups on the top of the screen – the unused ones in particular – you need to use the cursor keys with *Shift*. Remember also the following:

1) You may have eight groups to a disc. Any you have not used will simply be shown as *Group 5* or whatever.

2) The columns showing the contents of each group may sometimes be 'offscreen'. Always check there is nothing 'off' to the left or right using the cursor keys.

3) A group that does not contain any documents yet will be shown in the bottom section of the screen as two parallel vertical lines when you place the cursor over it.

At the main menu stage these options are available:

● *F1 Disc Change*. Press this key after you have inserted your own data disc, ie, your own formatted disc containing your letters, documents, etc. This key tells *Locoscript* to read your disc and update the display information accordingly.

● *F2 Inspect*. You can set up information that is not part of a document you have created but which quickly summarises its contents. Pressing this key show this descriptive text for whatever document the cursor is currently over. To set up your own text press *F7*, whilst you are working on a document and then choose the *Edit Identity* option – now you can type in your descriptive text.

● *F3 Copy*. This is quite simple to use – place the cursor over the document you wish to copy, then press *F3*. Now move the cursor to the new group to hold the copy. Note that you can rename the document by typing its new name on the menu that appears if you wish.

There are various reasons you might want to make a copy of your document on disc: safety (having a backup on another disc), making a dummy file for re-use, ie, supposing you want to send a fairly similar letter with only a few differences between each one to a number of people. You could write the letter once save it then make a copy called something like *Dummy, Doc*.

This document could then be used again and again by using *Copy* to make a new

version, edited to include with the specific details of this version of your letter.

● *F4 Move*. Exactly the same as copy except that the original document is moved completely, ie, the end result is only one copy of the document, not two as with *F3*.

● *F5 Rename*. Press this key to change the name of a document or group. You will want to do this when you set up a new group of documents. Supposing you want to start a Group called *Complain.Ltr*. The first thing is to choose one of the unused groups (just called group four or group eight, etc, on the main menu) and then rename it. A document can be renamed in a similar way for various reasons (see *F3* above for an example).

NB. The 'recovery from limbo' option (see below for more on 'limbo') on *F5* is used when you wish to recover a document that you have accidentally erased but has not yet actually been lost, ie, its space overwritten with other files.

● *F6 Erase*. There are two levels of erase. Normally you place the cursor over the file you wish to remove. Then press *F6*, and check the details which *Locoscript* displays and if all is well press *Enter*.

A file erased in this way is not lost forever should you have made a mistake. It is stored as a 'limbo' file. This means that the space it takes up on the disc is now available for use if necessary, but whilst this space is not actually being used the file may be recovered. However, if you use *F8* to show *Limbo* files, so that their names appear on screen, and then you erase it 'as a limbo file' then it really is gone.

● *F7 Modes*. Doesn't do anything at the

Group 4/LOCOSCRF.ARI	Editing text.	Printer idle.	Using A:
Layout 1 +F112 +LS2 +LP6		Page	
f1=Show f2=Layout f3=Emphasis f4=Style f5=Lines f6=Pages f7=Mo			
<p>There are a lot of menus in locoscript but you need very few of them. Most commands can be accessed with around two button presses using the instant menus. Here's how with a quick guide to what does what.</p> <p>Basic text commands like underline, centre, bold, italics and so on can be accessed from two menus associated with the <i>+</i> and <i>-</i> keys. By pressing the <i>+</i> key and holding it down you will get the 'switch on' menu. You can get this menu even more quickly by pressing <i>+</i> and the checkered key in the middle of the cursor cluster.</p> <p>In order to switch off a command eg end a section of italics you need the minus menu got pressing the <i>-</i> key and the checkered key. You will see that some commands on the <i>+</i> menu are not found on the <i>-</i> menu this is because some commands only operate on a single word or letter and so need not be switched off. Below we show you what does what: (XLayout1)</p>			
<p>Bold</p> <p>Centre</p> <p>Double</p> <p>Italic</p> <p>Keep ??</p> <p>Layout ??</p> <p>Line Pitch ?</p> <p>Line Spacing ??</p> <p>Last Line</p> <p>Last Page Number</p> <p>Pitch ?? ?</p> <p>Page Number</p> <p>Reverse</p> <p>Right Justify</p> <p>Subscript</p> <p>Superscript</p> <p>Underline</p> <p>Word underline</p> <p>Unit</p> <p>- hard space</p> <p>- hard hyphen</p>			

Command

Bold
Centre
Double
Italic
Keep (no of lines, ABOVE to be kept together)
Layout (no)

What it does

Makes text following it darker
Centres text following it
Darkens printed text like *Bold*, above
Printed text is italicised
Lines specified above this point are not broken by a new page, eg, use if you want to make sure a paragraph is not divided over the page
Use the layout number specified from this point

Line Pitch (no)

Changes number of lines printed per inch – either six or eight

Line Spacing (no)

Gap between lines when printed

Last Line

Next line begins a new page

Last Page Number

Inserts number of last page

Pitch (no)

Changes width of characters, eg, 10,12,15,17, proportional

Page Number

Insert page number

ReVerse

Shows text as black characters on green background

Right Justify

Text to be justified right, ie, ends against right margin

SubScript

Text dropped below normal base line, eg, in writing a chemical formula

SuperScript

Text raised above normal base line, eg, squared sign in maths

Underline

Everything underlined including spaces

Word Underline

Only text underlined

Unit

Pressing *Unit* key moves to a marked in text placed using Unit code

– Hard Space

A space in text created after this will not be broken by a new line eg, a name will not be divided over two lines

– Hard Hyphen

As above except hyphen instead of space

Switch off?

Yes
No
Yes
Yes
No (Keep on the minus menu keeps lines BELOW together)
No (Pressing layout on minus menu returns to the original one)
No (press *Pitch* on minus menu to return to original)
No (press *Line Spacing* on minus to return to original)
No
No
No (press *Pitch* on minus menu to return to original)
No
Yes (returns to normal display)
No (only works on current line)
Yes
Yes
Yes
Yes
No
No (Using the minus menu sets a soft space, ie, a place a break may occur, but which will not otherwise be printed as a space)
No (sets soft hyphen, and works as above)

moment except repeat some of the basic options and make ASCII files (more on this later). It is designed for use with add-on packages which may become available.

● **F8 Options.** Used to show the names of *Limbo* files on screen (See *F6* and *F5* above). Hidden files are, like *F7*, associated with add-on software.

Working on the text

There are a lot of menus in *Locoscript* but you need very few of them. Most commands can be accessed with around two button presses using the instant menus. Here's how with a quick guide to what does what:

Basic text commands like underline, centre, bold, italics and so on, can be accessed from two menus associated with the + and – keys. By pressing the plus key and holding it down you will get the 'switch on' menu. You can get this menu even more quickly by pressing + together with the checkered key in the middle of the cursor cluster.

In order to switch off a command, eg, end a section of italics, you need the minus menu, which is revealed when you press the minus key (with the checkered key for speed). You will see that some commands on the plus menu are not found on the minus menu. This is because some commands only operate on a single word, line or letter and so need not be switched off. Above we show you what does what.

The base layout

This mysterious term is responsible for more confusion amongst *Locoscript* users than almost any of the others. For one thing it seems to throw menus up on screen you hadn't anticipated. What on earth does it mean?

There are two key elements to the base layout: in one respect it works just like a normal layout – you can set up tabs of various sorts, organise margins, change justification, etc. The difference is that this layout is treated as a standard – it is the one you get on first loading your document and thus becomes the 'standard' used unless you specify otherwise by setting up a new one.

It is also used to set up information to be printed in the header and footer zones – those areas not normally available to text at the beginning and end of each page. The sort of text you might want is a standard heading, eg, *Guide to Locoscript* and a final phrase eg, *more follows* together with a page number. It is a powerful feature usually associated with very expensive facilities. These include making *Locoscript* automatically place different headings on left and right pages (a common formality with books), and number each page. You can also tell *Locoscript* to put a special phrase at the end of the last page, eg, *ends*. Below we set out what commands you need to get where to do what, on headers and footers.

Press *F7* (modes) and select the first option offered – *Edit Header*.

On the screen will appear a layout which seems to demand you type something into it. Don't be daunted. Ignore it for the moment and press *F7* yet again.

You will see a new range of options, some of these are standard ones, like *Style*, others are not too important, like *Tab*s, but *F8* *Pagination* is the one you want.

Pagination

This option puts up a lengthy menu which allows you to indicate your chosen page structure. In a rare moment of total clarity the options on this page mean what they

Printer idle. Using A: M:

lks f7=Page size f8=Pagination

Pagination:

First page number	1
All pages same	✓
First page differs	
Last page differs	
Odd/even pages differ	
First page	
Header enabled	✓
Footer enabled	✓
Last page	
Header enabled	✓
Footer enabled	✓

say and don't require much further explanation.

Suffice only to add, that headers go in the space at the top of the page before the first line of your text and footers go at the end. As ever, move the bar to the combinations you want and press the plus key to select.

Paper

Obviously exactly how large the area set aside for headers and footers will be depends on how large the paper you are using is. Most *Locoscript* templates are set up on an assumption that you are using A4 single sheet paper, or the most standard form of continuous stationery. This is logical enough. Setting the parameters for your own obscure length of paper is probably best accomplished by trial and error. Here's what you do:

In *Edit Header* mode, press **F7**, then press **F7** and then press **F7** again (I'm sorry about this). The last **F7** should have been for page size. This is another fairly self-explanatory menu, provided you remember a few things:

Printer idle. Using A: M:

f6=Breaks f7=Page size f8=Pagination

.....

Page size:

Page length 82

Header zone position 9

1 page body 66

Footer zone position 7

Your text does not begin on line one as *Locoscript* thinks of the whole paper when counting lines. Thus the page length is not how much copy you can write on a page, but the length of copy plus your choice of space for header and footer. You need at least nine lines of space for the header for the practical reason that the printer uses a certain amount of space, merely to grab hold of it. Anything above that is a matter of what looks right on your document; the same is true of the footer.

To return to the *Page Size* menu: enter the number of lines that make up a whole page of your paper (if in doubt try about 75 for single sheet).

Move the bar to cursor zone and indicate how many lines you require for your header section (at least nine) and move to the line called *Position*. This is the place in the header that your heading or other comment will occur, eg, just before the text or just near to the top of the paper. The same process applies to the header and footer position. You will see *Locoscript* performing some stunning calculations as you do this: working out 75 - 9 - 5 or whatever. The end result is the page body, ie, what's left over.

Having done all this you can now decide what you want to actually put in the header and footer zones by way of text and

numbers. You can use all the usual *Locoscript* features to centre/italicise/em-bolden your text (switch them off in the usual way), but the chances are the thing you will definitely want is a ...

ATPCW14EMS/DOCUMENT1.042 Editing pagination. Printer idle. Using A: M:

-Layout -Pi12 -LS1 -LP6 Page --- line -- g

f1=Show f3=Emphasis f4=Style f5=Lines f6=Pages f7=Options f8=Blocks

(Centre) PC 9/10 Help

—end of header 1 : used for all pages—

(Centre) N/A

—end of footer 1 : used for all pages—

—end of header 2 : used for no pages at all—

—end of footer 2 : used for no pages at all—

Page layout:

end page here

Last line of page

Keep lines together

Above ??

Below ??

insert page number

this Page Number

Last Page Number

Page Number

You don't get a page number by typing in a number. What you want instead is a code, which indicates to *Locoscript* that here is a

Why use alternative word processors on the PCW machines?

Although the PCW can be used as a very versatile computer, there is one type of program that it appears not to need - a word processor. But even though both machines come supplied with *Locoscript* there are many people that have chosen to use a CP/M Plus alternative, almost invariably *Wordstar* or the cheaper and rather better *Wordstar*-lookalike, *Newword*. What are the advantages in making this, superficially unnecessary, purchase?

Newword, in particular, is more powerful than *Locoscript* when it comes to some specialised applications. Most importantly it comes supplied with a superb spelling checker program and also has a built-in mail-merge option which is the ability to read information such as names and addresses from data files and insert these in the correct places in a standard letter. These features and others (such as the ability to 'un-erase' deletions) are not supplied as standard with *Wordstar*, although you can find 'package deals'.

On a more mundane level, *Locoscript* has some irritating features, unimportant to most people but infuriating to some: early versions cannot save files as plain Ascii (free of hidden control codes and suitable for use in Basic or by other programs). To get to the end of a long document means scrolling past every page, and just try merging in some Ascii files (it would almost be quicker to retype them from scratch).

Another reason is personal preference - if you are doing lots of work it makes sense to use programs you like. *Locoscript* is a good attempt at producing a program that beginners can use, but it is laid out in a way that many experienced users, with their preconceptions of what a word processor should be able to do and how it should work, find windy, to say the least. More tangibly, although there are now courses on using *Locoscript* appearing,

you will still find that any general word processing course you may take will teach *Wordstar*/*Newword* because they are the most common programs around.

Wordstar/*Newword* have their greatest strength in the fact that the computer industry has standardised around them. A vast number of CP/M Plus programs, and programs that run on completely different computers use exactly the same layout of editing keys. Learn *Newword* and you may be very much in demand. It is also much easier to communicate between programs. Databases such as *Flexifile* can send data already configured for *newword* mailmerge. The *Cracker* spreadsheet can read *Newword* document files as well as Ascii. The list goes on and on.

On a more advanced level many printing and typesetting companies can work just from a *Newword* format disc file rather than from printed copy. You can decide the page breaks, etc, and be sure that there will be no errors from retyping.

It is also possible to upgrade to a 16-bit computer such as an IBM PC compatible and still run *Newword*, but with many extra features such as auto-indexing. You can even insert the required control codes for the advanced *Newword* into files created on the 8-bit machine. They will only come into operation on the larger computer. Its supplier, Newstar, will provide more details if you are interested.

Locoscript is a quality program, and as a freebie it's excellent, but one should be aware of the alternatives.

Newword is £69.00 from Newstar Software, 200 North Service Road, Brentwood, Essex. *Pocket Wordstar* is £49.95 (now including mail merge) from Quest International Computers Limited, School Lane, Chandlers Ford, Eastleigh, Hants and others. *Pocket Spellstar* is £39.95.

Tony Kendle

Special Feature

place where the current page number must go. Thus *Locoscript* automatically numbers pages for you.

The only thing that prevents this option from being a totally wonderfully, totally clear *Locoscript* command is that you need another set of commands to indicate how much space is to be allowed for the number. Here are the details:

When you are at the 'typing in headers and footers' stage, using the little on-screen layout press **F6 Pages**. At the bottom of this menu is a line saying, 'insert page number'. Put the cursor over this option, press **Enter** and behold a code for page number appears at the last cursor position. But it isn't as simple as that - you must now specify space for the number and must indicate by your choice of space code whether the number is to be to the left, right or centred in the space provided:

The Page Codes:

== means centre the number in the space provided and allow three spaces for the number (ie, 999).

<<<< means space for four numbers put as far over to the left as possible.

>> means space for two numbers as far over to the right as possible.

And so on.

The biggest problem with *Locoscript* is that it is impossible, as it stands, to use the files you create with it with any other CP/M program.

This unlike the situation with files produced by most other CP/M word-processors which can be used quite freely with other sorts of program - particularly mail merges (a program which lets you customise a basic letter to include names and addresses and other details taken from a database).

Mail merge means, for example, only one thank you letter at Christmas with the names of the appropriate auntie inserted in the right place and the relevant gift matched to each auntie.

Select mode submenu...

Printing documents

The Print menu (called up from the Disc Manager screen) will print out either a whole document or just a section.

The two choices are included in the Print menu as...

Grab your document from main menu

Drive A: 127k used 46k free 25 files

LETTERS 97k group 4 0k

SAMPLES 12k group 5 0k

CONT 1k group 6 0k

TEMPLATE 17k group 7 0k

Drive B: not fitted

0k used 0k free 0 files

Drive M: 12k used 89k free 4 files

LETTERS 0k PAYMENT 0k

SAMPLES 0k CONTENTS 0k

PCMI0EMS 1k CHART 0k

TEMPLATE 0k PCMI4EMS 1k

A:CONTENTS 5 files A:CONT 1 files A:TEMPLATE 12 files M:LETTERS 2 files

0 linbo files 0 linbo files 0 linbo files 0 linbo files

ADVERT.EG 1k TEMPLATE.STD 1k LET2PAGE.NDP 2k READ.ME 9k

Making ASCII file

Printer idle. Using M:

f1-Disc change f2-Inspect f3-Copy f4-Move f5-Rename f6-Erase f7-Modes f8-Options

Drive A: 133k used 40k free 29 files

LETTERS 95k PAYMENT 3k

SAMPLES 0k CONTENTS 2k

PCMI0EMS 1k CHART 1k

TEMPLATE 16k PCMI4EMS 14k

Make ASCII file

New Name: ?

Group: LETTERS

Drive: M

Old Name: TEMPLATE.STD

Group: LETTERS

Drive: M

✓ Simple text file

Page image file

Drive M: 3k used 99k free 3 files

LETTERS 13 PAYMENT 0k

SAMPLES 0k CONTENTS 0k

PCMI0EMS 1k CHART 0k

TEMPLATE 0k PCMI4EMS 1k

files M:LETTERS 1 files

0 linbo files

TEMPLATE.STD 1k

Locoscript files are chock full of all kinds of bizarre codes which makes them very non-standard and thus unusable with other packages. But there is one way out.

Ascii files

The more recent versions of *Locoscript* have a facility to create a special version of your *Locoscript* document in the form of an Ascii file - this is the format required by other CP/M packages. To see if you have this option, press **F6 Options**. If you have 'make Ascii file' as an option at the bottom then compatibility is possible - at a price.

When you select 'make Ascii file'; as an option you are then presented with two further choices, *Page Image*, or not. *Page Image* means that *Locoscript* will insert spaces to maintain the overall look of your document. For simplicity's sake, however, since you'll probably have to reformat the text anyway, I'd choose the other option and go for the simple text file.

Important: When you are asked to choose which destination group to create the Ascii version of your document in, always choose a group whose number is 0, ie, the first one in the list.

If you choose any other group you will suffer unbearable agonies wondering where your file has gone to when you *Dir* the disc.

The reason for this is that *Locoscript*

uses a feature of CP/M called User Numbers as part of the filing system. Essentially the Group number on *Locoscript* is the user number for the files under CP/M.

User Numbers

Ordinarily when you use *Dir* on a disc and are shown the files on disc, you are actually being shown only those files which have a User code of 0.

You're not missing out on much unless you filed something under a specific user number, since there probably won't be anything there.

User numbers (CP/M command in User = [number up to 16]) are simply a way of making discs easy to use - the idea was developed in the days when vast numbers of people were sharing a disc.

CP/M software packages usually work on the assumption that files they are to use will be filed under user 0 (ie, the ordinary one). Some will not allow you to copy a file from one user number to another. You can be left in the position of *knowing* your file is on the disc but having the software stubbornly refuse to admit its existence. That's why you should always put your Ascii file into Group (= User) 0.

Using the Ascii File

The new version of your document is now compatible with many other CP/M packages, for example, the excellent *Word* spelling checker. However, it has lost all the special formatting codes that *Locoscript* put in your document when you created your layout. It is just a stream of words and spaces and you will have to lay it out all over again.

Summary

It is not worth using the Ascii option on highly formatted documents (ie, those chock full of tables, lists, etc) but if you have a very 'plain' document - perhaps just text and paragraphs - it may be worth it. For example, you can write your novel, save it as an Ascii file, run that Ascii file through *The Word* and get the spelling mistakes corrected.

The corrected file cannot be loaded as a *Locoscript* document. It has to be loaded from within a document as a block. Select **F7** in the main document menu and choose *Insert Text*. Although any original formats are gone, it is at least easy to reformat the file, according to the basic template for the group of the document you have created.

new star

PCW8256
PCW8512

Tutorial Guide to LocoScript

£9.95
inc.



New ★ Star Software gives you the biggest range, supported by the most colourful catalogue and a selection of audio tutorials to help you make the most of popular CP/M software.

NewStar supplies and supports the best wordprocessing software, the best spreadsheets, the best databases, the best accounts software and the best communications software. All from one colourful catalogue. Call into to your dealer to collect one today, or contact us directly.

GRAPHICS	RRP inc
Polyplot Graphics	24.95
Polyprint with Polyword	29.95
Polyprint type fonts (2 sets available)	21.70
DR Draw	49.94
DR Graph	49.94

PLANNERS, ORGANISERS	
Brainstorm	49.94
Target Task	99.99
Statflow	212.75

TUTORIAL	
Iansyst Crash Typing	24.95
Iansyst Two Fingers	24.95
Touch 'n Go	24.95
LocoScript Tutorial	9.95
NewWord Tutorial	9.95
SuperCalc2 Tutorial	6.95
Introducing CPM & Basic	9.95

SPREADSHEETS	
Multiplan (inc free tutorial tape pack)	69.00
Cracker2	49.00
SuperCalc2	49.94
PlannerCalc	39.00
MasterPlanner	99.50
FastPlan	99.50
VP Planner (IBM PC & clones only)	99.00

COMMUNICATIONS	
BSTAM	172.50
HoneyComm	49.94
Comm+	69.00
Sage Chit-Chat	99.99
E-Mail chit-chat	69.00
Viewdata chit chat	69.00

Compact	
COMPACT Sales invoicing	69.99
COMPACT Stock Control	69.99
COMPACT Sales Ledger	69.99

WORDPROCESSING	
All NewWord packages include a free twin tape tutorial guide!	
NewWord for Amstrad	69.00
NewWord CPM80	99.99
NewWord 2 (16 bit)	99.99
NewWord 3 (16 bit)	199.99

ACCOUNTS SOFTWARE	
Camsoft Sales Invoicing	49.94
Camsoft Stock Control	49.94
Camsoft Sales Ledger	49.94
Camsoft Purchase Ledger	49.94
Camsoft Nominal Ledger	49.94
- Sales, Purchase, Nom	99.99
- Stock, Inv, Sales Ldg	99.99
- Stk, Sal, Purc, Nom, Inv	149.95
Payroll	49.94

COMPACT Purchase Ledger	69.99
COMPACT Nominal Ledger	69.99
COMPACT Payroll	99.99
- Stk, Sal, Purc, Nom, Inv	199.99

DATABASES	
Cambase	49.94
Flexifile	49.94
Cardbox	99.99
AtLast	49.94
TAS	99.99
Delta	99.99
dBase II	454.25

AMSOFT	
ABCS Inv, Stck, Sales	99.99
ABCS Nominal	32.99
ABCS Purchase	32.99
Amsoft Cashbook Acs	49.94
Sage Popular	99.99
Sage Payroll	69.99
Sage Combo	149.98
Sage Invoicing	69.99
Sage Super Combo	199.99

New ★ Star Software Ltd 200 North Service Road, Brentwood, Essex, CM14 4SG
TEL 0277 220573 TELEX 995143 NEWSTA G FAX 0277 232637



Run your own board without breaking the bank

David Wallin looks at a budget software package for would-be sysops.

This week, I'm going to talk about FBBS.

First, as you have probably guessed, FBBS is the name of a type of bulletin board software, as in TBBS, SBBS, NBBS, etc. It's the software which the host computer runs on, not your software.

It stands for Finchley Bulletin Board Software, and has not previously been very well known, compared to TBBS or, in particular, NBBS on the BBC, but in the past months, the number of boards running on it has more than doubled.

FBBS runs on the BBC B, with disc drives. There are quite a few BBs running the FBBS software now, including 'Marctel' run by Marcus Anselm. Marcus was responsible for writing FBBS and he offers a good after-sales service as well. If he makes improvements to the software then he lets FBBS sysops download them to their boards. In fact Marctel seems to be off-line most of the time while he makes these improvements!

Marctel, "The FBBS H.Q.": run by Marcus Anselm.

01-346 7150, 24 hours a day, 1200/75 and 300/300.

Torture Chamber, run by 'Gandalf Sorcerer'

021-455 1219, 24 hours a day, 1200/75 and 300/300.

Compost Heap, run by David Martin
0622 46036, 24 hours a day, 1200/75 and 300/300.

Dragon's Lair, run by 'Arthur Dent'
01-502 4543, 24 hours a day, 1200/75 and 300/300.

Musictel, run by James Eckhardt
01-458 0843, 24 hours a day, 1200/75 and 300/300.

I have found this to be off-line a few times an on ring-and-ask. This one has music programs for users to download. These are for the BBC and are of a high quality, many are produced using sound samplers and digitising devices.

Malcolm Systems run by Malcolm Carter and Danny Zargel

01-458 9704, 24 hours a day, 1200/75 and 300/300.

FBBS - Swansea, run by Tim Boorman
0792 203953, 24 hours a day, 300/300 baud only.

NB, FBBS - Jersey no longer exists.



Hardware support: FBBS supports these modems - (left) the Demon, £72; (bottom left) Le Modem, £100; (below) the WS200, £100; and the Nightingale, £135.



Why is FBBS selling fairly well? Well it's very cheap, only £10, so budding sysops can afford to buy it and if their board collapses then they have only lost £10 as opposed to about £50! FBBS also has lots of features, which include offering Mode 7 (BBC) colour for compatible micros, and full documentation provided, meaning that no knowledge of Basic or computers is needed to run it. Anyway, you can always log on to Marctel and ask Marcus what to do if you get stuck.

ADVENTURE

All required page editors are provided, while files, such as Bulletin Board lists and title pages can be prepared on *View* or *Wordwise* word processors, making editing and creation of these files very easy.

All of the usual BB features, sigs, messages, chat to sysop, upload/download software, etc. are on there. It also offers on-line adventure games, through these are SUDs, not MUDs (one player playing at one time only).

FBBS works with the Demon modem, Pace's Nightingale, Minor Miracles WS-2000 and Watford Electronics' Le Modem.

To run a FBBS board you will need at least 400K of disc storage. 200K will do but the BB won't be very good. The software can use any combination of drives 0, 1, 2, & 3 that hardware can provide.

So, if you're a budding BBC sysop, why not take a look at FBBS?

On Marctel, Marcus uses a BBC B, Acorn DFS 1.2, 800K of disc drive storage, a Pace Nightingale modem and FBBS software.

Remember though, running a BB means that your computer will be unavailable for your general use a lot of the time since you will have to leave the board on-line. Further details of FBBS software can be got from either going into chat mode or leaving a message to the sysop on the Marctel board.

New BBs appearing this week include A-Board International Bulletin Board, but it's quickly become known as just 'A-Board' to keep things simple. It's on-line 24 hours a day, but because it's new it may be off-line from time to time being de-bugged. The sysop is William Holmes, the number is 0843 590000 and it's 1200/75 and 300/300 baud.

Calling all new or soon-to-be sysops: If you are a sysop of a new BB then let me know. I'll publish it here and you may find you get some more users.

If you have any queries, tips or comments to make about any aspect of micro communications, David Wallin would love to hear from you.

Write to him at *Popular Computing Weekly* 12-13 Little Newport Street, London WC2H 7PP.

See what FBBS has to offer: BBS running Marcus Anselm's software.

C & F ASSOCIATES

OUR RRP PRICE	OUR RRP PRICE	OUR RRP PRICE	OUR RRP PRICE
BBC CASSETTES	BBC DISCS	ELECTRON	
Mini Office 2 14.95 12.45	Mini Office 2 16.95 14.95	Commando 9.95 7.50	
Commando 8.95 7.50	Speech 11.95 10.45	Geoff Capes 8.95 6.95	
Karate Combat 8.95 6.95	Steve Davis Snooker 12.95 10.95	Classic Arc. Games 5.95 4.95	
Speech 9.95 7.50	Olympic Decathlon 9.95 7.50	Yie Ar Kung Fu 8.95 6.95	
Southern Belle 7.95 6.50	Games Disk 1 9.95 7.50	Winter Olympics 7.95 6.50	
10 Computer Hits 2 9.95 7.50	Games Disk 2 8.95 7.50	Exploding Fist 9.95 7.50	
Winter Olympics 7.95 6.50	Exploding Fist 14.95 12.95	Frak 7.95 6.50	
Project Thesius 9.95 7.95	Project Thesius 11.95 10.45	Brian Jacks 7.95 6.50	
Caveman Capers 7.95 6.50	Enthar 7 16.95 14.95	10 Computer Hits 2 9.95 7.50	
Citadel 9.95 7.50	Hyper Sports 12.95 10.95	Karate Combat 8.95 6.95	
Exploding Fist 9.95 7.50	Benjas 11.95 10.45	Rick Hanson 9.95 7.95	
Moonraider 7.95 2.95	Yie Ar Kung Fu 12.95 10.95	Project Thesius 9.95 7.95	
Bullseye 8.95 6.95	Citadel 11.95 10.45	Thai Boxing 5.95 5.50	
Yie Ar Kung Fu 9.95 7.50	Scrabble 14.95 12.95	Combat Lynx 8.95 6.75	
Match Day 9.95 7.50	Rick Hanson 11.95 10.45	Citadel 9.95 7.50	
Ghoulie 7.95 2.50	Strike Force Harrier 12.95 10.95	Southern Belle 7.95 6.50	
Cybertron Mission 7.95 2.95	Exploding Fist 14.95 12.95	Steve Davis Snooker 8.95 6.95	
Classic Arc. Games 5.95 4.95	Commando 14.95 12.95	Football Manager 8.95 6.95	

ALL PRICES INCLUDE VAT AND POSTAGE & PACKING (Overseas Orders add £1.00 per item) CHEQUES/PO PAYABLE TO:- C & F ASSOCIATES AND SEND TO C & F ASSOCIATES (PCW) PO BOX 2, BIDEFORD EX39 3RE. Tel. (023 73) 619 16PD927

CUT PRICE SOFTWARE

OUR RRP PRICE	OUR RRP PRICE	OUR RRP PRICE	OUR RRP PRICE
SPECTRUM	COMMODORE	AMSTRAD	
Rock & Wrestle 8.95 6.00	Elite 14.95 10.00	Laser Basic 14.95 11.00	
Superbowl 8.95 6.95	Bombjack 9.95 7.25	Fairlight 9.95 7.25	
Way of the Tiger 9.95 7.25	Kung Fu Master 9.95 7.25	Tramact 29.95 5.99	
Elite 14.95 10.00	Superman 9.95 5.00	Ping Pong 8.95 5.50	
V 7.95 5.50	Zip Sizzlers 9.95 7.25	Involutat 29.95 5.99	
Bombjack 7.95 5.50	Eddolon 9.95 7.45	Cyrus II Chess (disk) 13.95 10.95	
Starstrike 7.95 5.50	Ping Pong 8.95 5.50	Sorcery II (Disk only) 14.95 10.95	
Crash Smashes 9.95 7.25	Zoids 8.95 6.00	Way of the Tiger 9.95 7.25	
Commando 7.95 5.00	Mugy's Revenge 8.95 6.50	Elite 14.95 11.00	
Rambo 7.95 5.50	Laser Basic 14.95 11.00	Battle of Planets 9.95 7.25	
Back to the Future 9.95 7.25	Fairlight 9.95 7.25	Hypersports 8.95 6.50	
Laser Basic 14.95 11.00	Freeze Frame 39.95 35.95	Mini Office II 16.95 12.95	
Yie Ar Kung Fu 7.95 4.95	Lord of Rings 15.95 11.00	Sold a Million 9.95 7.00	
Ping Pong 7.95 5.00	Enigma Force 9.95 6.50	Rambo 8.95 5.50	
Lord of the Rings 15.95 11.95	Elektraglide 8.95 6.50	Lord of the Rings 15.95 11.00	
Enigma Force 9.95 4.99	V 8.95 6.50	Skyfox 9.95 7.25	
Mugy's Revenge 7.95 5.25	Starquake 8.95 6.50	Spitfire 40 9.95 7.25	
Winter Games 7.95 5.50	Uridium 8.95 6.00	Mini Office II (D) 19.95 14.95	
Gun Fright 9.95 6.95	Rock & Wrestle 9.95 7.00	Cyrus II Chess 9.95 7.25	
Zoids 7.95 5.40	Hard Ball 9.95 7.25	Explod. Fighting Warrior (D) 24.95 14.95	
MOVIE 7.95 6.00	Superbowl 9.95 6.95	Sold a Million (Disk) 14.95 10.00	
Turbo Esprit 8.95 6.50	Game Maker 14.99 10.95	Spindizzy 9.95 7.25	
Cyberun 9.95 6.95	Game Maker(D) 19.99 14.95	Get Dexter 9.95 7.25	

Large selection of AMSTRAD disk's available at discount prices. AMSTRAD blank disks. £38.95 per box of 10. Large range of CBM64 disk available. This is just a small selection from our stocks. Please ring for more details

P&P Included. Overseas orders add 75p per tape. For Mail Order please send Cheques/PO payable to CPS Visa/Access Card orders by phone welcome, to:

**CUT PRICE SOFTWARE, 4 Slackbury Hatch,
Harlow, Essex CM19 4ET
Tel: (0279) 24433 (24hr ansaphone) 16PD473**



WANTED

HIGH QUALITY PROGRAMS WANTED FOR

**SINCLAIR SPECTRUM
AMSTRAD 464/664/6128
COMMODORE C16/C64/C128
ATARI XL/XE/ST
computers**

contact Philip Morris
NOW!
061-835 1356

All programs and samples of work are evaluated in strictest confidence. Call or write today.

ENGLISH SOFTWARE™

1 North Parade,
Parsonage Gardens,
Manchester M60 1BX.

We're waiting to hear from you!

REWARDING OPPORTUNITIES WITH MIKRO-GEN

Following Mikro-Gen's move to new premises we now require additional staff. If you believe your programming ability meets our high standard, please contact us by telephone or letter to the address below.

We also require finished programmes. Top payment or royalties given to software of suitable quality.

**Mikro-Gen, Unit 15, The Western Centre, Western Road,
Bracknell, Berks. RG12 1RW. Telephone number (0344) 427317**

TOOLBOX

by Paul Murray



In this second part of our Toolbox listing, we present renumbering and auto line numbering facilities for your Spectrum.

As we explained in the first part of the series, the programs are presented as a series of machine code bytes which need to be loaded into your Spectrum using the Basic loader program we printed last week.

Anyone who would like to have the benefits of the full Toolbox without having to type in the whole listings can buy a cassette of the program for just £3 by applying direct to Paul Murray (to whom cheques should be made payable) at 5 Hanham Mills, Hanham, Bristol B15 3NU.

Renumber

Improves the overall appearance and readability of the program. This is a fully implemented renumber - permitting the renumbering of either the full program or a block of code. Four parameters are required in order to use the program. These are:

ST=Start Line. First line of program to be renumbered.

FIN=Finish Line. Last line of program to be renumbered.

BV=Base Value. First line number in renumbered block.

INC=Increment. Increment between successive lines after renumbering.

These parameters are entered in Basic. For example, if `Let ST=105: Let FIN=260: Let BV=9000: Let INC=10: Randomise` `Usr 62704` is entered, then lines in the range 105 to 260 inclusive will be renumbered from 9000, going up in steps of 10. All `Gotos`, `Gosubs`, `Restores`, `Save`... `Lines` etc are altered accordingly.

When called, the program stores certain data on the screen, and it may appear that garbage has filled it. This is, however, normal, and indeed essential for the oper-

62704	24	84	33	56	245	63074	205	232	25	193	235
62709	205	27	245	237	67	63079	3	3	10	111	3
62714	224	244	33	59	245	63084	10	103	11	11	11
62719	205	27	245	237	67	63089	35	35	35	35	235
62724	226	244	33	63	245	63094	120	66	87	121	75
62729	205	27	245	237	67	63099	95	197	213	237	91
62734	228	244	33	66	245	63104	75	92	253	203	71
62739	205	27	245	237	67	63109	134	167	229	237	82
62744	230	244	201	34	93	63114	225	32	10	253	203
62749	92	205	178	40	218	63119	71	198	229	9	34
62754	46	28	205	43	245	63124	236	244	225	205	85
62759	205	162	45	201	17	63129	22	253	203	71	70
62764	146	92	1	5	0	63134	40	8	229	42	236
62769	35	237	176	239	224	63139	244	34	75	92	225
62774	56	201	66	86	255	63144	35	235	225	193	229
62779	73	78	67	255	83	63149	197	237	176	34	236
62784	84	255	70	73	78	63154	244	193	225	237	67
62789	255	205	242	244	33	63159	222	244	205	232	25
62794	0	64	17	1	64	63164	42	236	244	237	91
62799	1	255	23	54	0	63169	234	244	167	237	82
62804	237	176	42	228	244	63174	225	209	40	21	229
62809	205	110	25	34	232	63179	213	237	75	222	244
62814	244	42	230	244	205	63184	42	234	244	167	237
62819	110	25	34	234	244	63189	66	34	234	244	209
62824	32	10	35	35	94	63194	225	25	195	74	246
62829	35	86	35	25	34	63199	42	232	244	35	34
62834	234	244	42	232	244	63204	83	92	17	64	1
62839	237	91	234	244	167	63209	213	253	203	71	142
62844	237	82	200	42	232	63214	70	35	78	43	197
62849	244	1	0	64	126	63219	229	35	35	78	35
62854	2	35	3	126	2	63224	70	43	43	43	237
62859	35	3	205	197	248	63229	67	222	244	167	205
62864	56	243	96	105	43	63234	136	25	56	68	34
62869	1	0	64	167	237	63239	93	92	231	254	237
62874	66	203	61	203	60	63244	40	76	254	236	40
62879	48	2	203	253	237	63249	72	253	203	71	206
62884	91	226	244	205	169	63254	254	247	40	64	254
62889	48	237	91	224	244	63259	229	40	60	254	225
62894	25	17	16	39	167	63264	40	56	254	240	40
62899	237	82	56	2	207	63269	52	254	248	32	15
62904	10	42	224	244	17	63274	231	254	13	40	10
62909	16	39	167	237	82	63279	254	58	40	6	254
62914	56	2	207	25	42	63284	202	32	243	24	33
62919	234	244	237	91	232	63289	225	193	209	229	237
62924	244	167	235	237	82	63294	75	222	244	35	35
62929	210	236	27	42	226	63299	113	35	112	225	20
62934	244	124	181	32	2	63304	24	159	35	237	91
62939	207	25	42	83	92	63309	75	92	229	167	237
62944	229	42	232	244	35	63314	82	225	193	193	193
62949	35	78	35	70	3	63319	32	141	201	35	126
62954	3	3	3	43	43	63324	205	182	24	40	36
62959	43	229	197	42	83	63329	253	203	71	78	40
62964	92	43	205	85	22	63334	4	254	13	40	206
62969	235	19	193	225	9	63339	254	33	56	235	254
62974	229	197	237	176	193	63344	45	40	231	254	46
62979	225	229	205	232	25	63349	40	227	254	43	40
62984	225	237	91	234	244	63354	223	254	48	56	186
62989	229	167	237	82	225	63359	254	58	48	182	24
62994	32	208	225	43	34	63364	213	43	34	176	92
62999	232	244	42	83	92	63369	35	126	254	58	40
63004	43	34	234	244	237	63374	10	254	13	40	6
63009	75	232	244	237	91	63379	254	33	48	162	24
63014	226	244	42	224	244	63384	240	42	176	92	43
63019	124	2	3	125	2	63389	43	43	43	229	17
63024	25	3	229	213	96	63394	146	92	1	5	0
63029	105	205	197	248	68	63399	237	176	239	224	39
63034	77	209	225	56	236	63404	49	55	0	3	2
63039	237	75	232	244	237	63409	164	56	205	162	45
63044	91	226	244	42	224	63414	42	228	244	43	167
63049	244	213	229	237	75	63419	237	66	48	8	42
63054	232	244	197	205	110	63424	230	244	167	237	66
63059	25	32	15	35	35	63429	48	4	193	195	57
63064	78	35	70	43	43	63434	247	237	67	236	244
63069	43	3	3	3	3	63439	225	43	126	254	201

Name	Start Address	Parameters
Renumber	62704	BV = Base value INC = Increment ST = Start line FIN = Finish line
Auto	63718	BV = Base value INC = Increment

ation of the program. For very long programs, renumbering may take more than a minute.

The program is fully error trapped, and there are various error messages that may be generated.

In cases where this occurs, no renumbering will have taken place. Common error messages include:

Variable Not Found - One or more of the parameters was unspecified.

Integer Out of Range - Renumbering using the specified parameters would lead to the generation of a line number of 10000 or

more.

Parameter Error - Any of a variety of mistakes (eg, *Increment* was zero, *Fin* was less than *St* etc).

Care should be taken when renumbering, since if a line number which already exists in the program is generated upon renumbering, then the original line will be deleted.

This does not apply to lines within the block to the renumbered.

Also, it is important to ensure that the value of the parameter 'ST' is *never* set to zero before calling the renumber routine,

since giving the parameter this value will cause the routine to fail to renumber *Gotos*, *Gosubs* etc.

In order to renumber an entire program, it is recommended that the values ST=1 and FIN=9999 are used, as under normal circumstances these will encompass all line numbers used in a program.

Auto

Provides automatic generation of line numbers when entering a program. Two parameters are required, these are:

BV=Base Value. First line number to be generated.

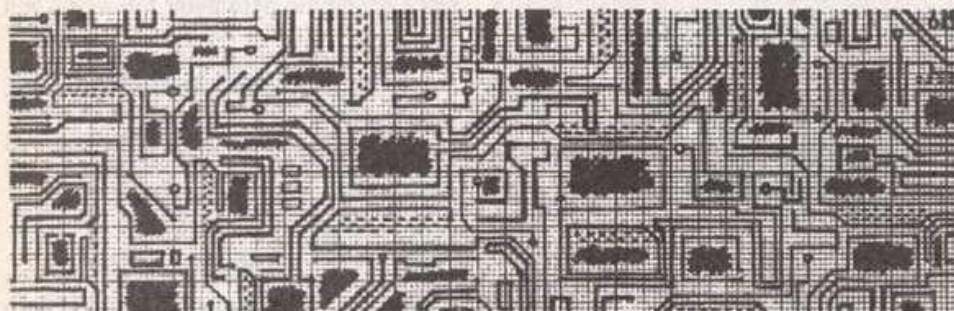
INC=Increment. Step between successive line numbers.

These are entered in Basic. Eg, entering: *Let BV=100: Let INC=10: Randomise Usr 63718* would lead to the generation of line numbers from 100 going up in steps of 10. In order to stop line number generation, simply delete the line number which was last generated.

63444	56	250	35	235	42	63718	33	25	249	205	252
63449	176	92	35	213	205	63723	248	237	67	226	248
63454	221	25	235	229	42	63728	33	28	249	205	252
63459	222	244	167	237	66	63733	248	237	67	228	248
63464	34	222	244	225	205	63738	24	36	34	93	92
63469	229	25	237	75	236	63743	205	178	40	218	46
63474	244	33	0	64	237	63748	28	205	12	249	205
63479	91	224	244	229	42	63753	162	45	201	17	146
63484	226	244	235	167	237	63758	92	1	5	0	35
63489	82	235	225	229	42	63763	237	176	239	224	56
63494	226	244	25	235	225	63768	201	66	86	255	73
63499	126	184	40	19	48	63773	78	67	255	42	226
63504	25	35	35	126	167	63778	248	237	75	228	248
63509	32	237	35	126	43	63783	167	237	66	34	226
63514	167	32	231	1	16	63788	248	42	61	92	54
63519	39	24	10	35	126	63793	127	35	54	249	253
63524	43	185	40	2	56	63798	54	49	2	253	203
63529	231	66	75	197	205	63803	1	190	205	149	23
63534	43	45	253	203	71	63808	205	176	22	42	226
63539	134	239	192	2	56	63813	248	237	75	228	248
63544	225	17	16	39	167	63818	9	34	226	248	93
63549	237	82	56	21	235	63823	84	1	16	39	167
63554	225	229	213	205	214	63828	237	66	48	68	42
63559	248	205	82	22	209	63833	91	92	62	201	50
63564	225	54	49	253	203	63838	123	248	253	203	71
63569	71	198	35	24	4	63843	134	205	90	248	62
63574	25	84	93	225	1	63848	1	50	123	248	34
63579	24	252	205	155	248	63853	91	92	175	205	1
63584	1	156	255	205	155	63858	22	205	44	15	205
63589	248	1	246	255	205	63863	23	27	253	203	0
63594	155	248	123	198	48	63868	126	32	16	42	89
63599	229	245	205	214	248	63873	92	237	123	61	92
63604	205	82	22	241	225	63878	205	167	17	253	54
63609	119	35	1	6	0	63883	0	255	24	224	42
63614	229	229	42	222	244	63888	89	92	34	93	92
63619	9	34	222	244	225	63893	205	251	25	120	177
63624	205	85	22	225	54	63898	32	10	42	61	92
63629	14	35	17	146	92	63903	54	3	35	54	19
63634	235	1	5	0	237	63908	207	255	237	67	73
63639	176	195	57	247	175	63913	92	42	93	92	235
63644	229	98	107	9	60	63918	33	85	21	229	42
63649	56	252	237	66	61	63923	97	92	55	237	82
63654	84	93	225	32	5	63928	229	96	105	205	110
63659	253	203	71	70	200	63933	25	32	6	205	184
63664	253	203	71	198	198	63938	25	205	232	25	193
63669	48	245	213	229	205	63943	121	61	176	40	40
63674	214	248	205	82	22	63948	197	3	3	3	3
63679	225	209	241	119	35	63953	43	237	91	83	92
63684	201	126	95	35	86	63958	213	205	85	22	225
63689	19	25	237	91	234	63963	34	83	92	193	197
63694	244	229	27	167	237	63968	19	42	97	92	43
63699	82	225	201	229	42	63973	43	237	184	42	73
63704	222	244	35	34	222	63978	92	235	193	112	43
63709	244	225	201	0	0	63983	113	43	115	43	114
						63988	241	195	53	249	3

CHECKSUM=134223

CHECKSUM=32812



CAPSCLOCK

by David Witheroe

Capsclock is a working program designed especially for use with *Quill*; I use it every day, and wouldn't be without it.

Capslock not only adds a clock to *Quill* in precisely that place on the screen where it will cause least inconvenience; it also provides that most desperately needed of QL addenda: a Caps Lock indicator.

Run this program alongside *Quill*, and not only will you have eternity ticking away on the bottom line of the status area as you write, but you will see 'CAPS:' added to the line above; and, while Caps Lock is engaged, a double-arrow sign will appear beside 'CAPS:'.

Both clock and Caps Lock indicator look for all the world as if they were an integral part of *Quill* (at least if you've entered *Quill* using F1; if you use F2 you'll have to modify Capslock slightly).

Of course, Capslock isn't part of *Quill*; and wherever you add anything to such a crowded screen there are bound to be occasional clashes. If you have three typeface attributes engaged at once – say 'Bold, Underline, High Script' – the third will be overwritten by the clock. I can't honestly say I've found this to be much of a problem. More seriously, error reports appearing in the status area tend to be partly overwritten; but not badly enough to obscure their meaning, so I regard this as

acceptable.

The Basic loader program printed this week will create a Capslock EXECable file. It needs to grab a chunk of the resident procedure space, so it will only work if you have no other programs running. When you run the loader program, you'll first be offered the choice of ignoring the checksums at the end of each Data statement: you'll see why next week. If you include the checksums, the program will print the line numbers of all lines in which it finds errors, then it will stop so that you can edit any such lines. After editing, re-run the program; it will slice off another part of the resident procedure area, but you will have to make a lot of mistakes before you run out of memory. If you leave out the checksums, or if all the Data lines are correct, you'll then be prompted for a name for the EXEC file the program is about to create. The name you enter should include the name of device that you want the file to be saved on: for example, *mdv1_filename*.

Before you run the EXEC file created by the Basic loader, make sure you've saved a copy of the loader program. End-of-line checksums are not foolproof; in particular they won't notice if you've transposed two numbers on the same line. EXECable files, however, do not take the same cavalier attitude towards the order of their bytes;

they can do nasty things if they're not exactly right. So save a copy of the loader program, and use a Microdrive cartridge with no important files on it when you EXEC *mdv1_capslock* for the first time.

To run Capslock with *Quill*, once you've created an EXEC file, use the following procedure. (If you have discs, just amend the device name to suit unless you rely on 'flip use mdv' to run unmodified software).

Copy the EXEC file onto the *Quill* cartridge. You must also modify the *Quill* 'boot' program so that it runs Capslock every time you load *Quill*. Save a copy of the original 'boot' program first.

Change line 8 of 'boot' to read: 8 EXEC *mdv1_capslock:EXEC_W mdv1_quill*. Be careful to place 'EXEC mdv1_capslock' first. You must use EXEC rather than EXEC_W 'for mdv1q_capslock', and you must continue to use EXEC_W for 'mdv1_quill'. Now delete the old version of 'boot' and save the modified program as the new 'boot' file.

Of course, there's no point in adding a clock to *Quill* if it doesn't tell the correct time – and next week we'll come to the program that does this for you.

Meanwhile, if you're impatient then a copy of both programs can be obtained on microdrive from David Witherow, 19 Glen Lyon, St Leonards, East Kilbride, G74 2JJ, for £4, including P&P.

```

10000 CLEAR: start = RESPR(240): REMark CAPSCLOCK loader program
10010 MODE 0: WINDOW 512,256,0,0: REMark Copyright D.G.
      Witherow, 1986
10020 PAPER 2: INK 7: CSIZE 1,0: CLS
10030 AT 7,14: PRINT 'to leave out checksums press SPACE;'
10040 AT 9,11: PRINT 'press any other key to include checksums'
10050 check_flag = 1
10060 a$ = INKEY$(-1): IF a$ = ' ': check_flag = 0
10070 CLS: WINDOW 272,200,120,40
10080 error_flag = 0: byte = 0
10090 FOR line_number = 20010 TO 20300 STEP 10
10100   line_sum = 0
10110   FOR lpos = 1 TO 8
10120     READ number
10130     line_sum = line_sum + number
10140     POKE start + byte, number
10150     byte = byte + 1
10160   END FOR lpos
10170   READ checksum
10180   IF check_flag = 1 THEN
10190     IF checksum <> line_sum THEN
10200       error_flag = 1
10210       PRINT 'ERROR in line: ',line_number
10220     END IF
10240   END FOR line_number
10250 IF error_flag = 0 THEN
10260   PRINT 'Name under which file to be saved?'
10270   PRINT '(e.g. mdv1_capslock): '
10280   INPUT file$
10290   SEXEC file$, start, 240,100
10300 END IF

20010 DATA 96, 18, 0, 0, 0, 0, 74, 251, 439
20020 DATA 0, 9, 67, 97, 112, 115, 99, 108, 607
20030 DATA 111, 99, 107, 0, 112, 11, 114, 255, 809
20040 DATA 116, 1, 78, 65, 112, 8, 114, 255, 749
20050 DATA 54, 60, 1, 194, 147, 201, 78, 65, 800
20060 DATA 52, 120, 0, 200, 67, 250, 0, 138, 827
20070 DATA 78, 146, 42, 72, 52, 120, 0, 200, 710
20080 DATA 67, 250, 0, 138, 78, 146, 40, 72, 791
20090 DATA 157, 206, 32, 76, 112, 17, 114, 0, 714
20100 DATA 118, 255, 78, 67, 112, 7, 116, 6, 759
20110 DATA 118, 255, 67, 250, 0, 146, 78, 67, 981
20120 DATA 114, 0, 178, 57, 0, 2, 128, 136, 615
20130 DATA 103, 30, 112, 41, 114, 7, 118, 255, 780
20140 DATA 78, 67, 112, 7, 116, 2, 118, 255, 755
20150 DATA 67, 250, 0, 122, 78, 67, 112, 41, 737
20160 DATA 114, 4, 118, 255, 78, 67, 96, 12, 744
20170 DATA 112, 7, 116, 2, 118, 255, 67, 250, 927
20180 DATA 0, 102, 78, 67, 112, 19, 78, 65, 521
20190 DATA 52, 120, 0, 236, 67, 250, 0, 80, 805
20200 DATA 78, 146, 32, 77, 112, 7, 52, 25, 529
20210 DATA 118, 255, 78, 67, 112, 17, 114, 0, 761
20220 DATA 118, 255, 78, 67, 112, 8, 114, 255, 1007
20230 DATA 118, 5, 147, 201, 78, 65, 96, 138, 848
20240 DATA 0, 0, 0, 7, 0, 120, 0, 10, 137
20250 DATA 0, 162, 0, 246, 0, 0, 0, 4, 412
20260 DATA 0, 54, 0, 10, 0, 114, 0, 236, 414
20270 DATA 0, 0, 0, 0, 0, 0, 0, 0, 0
20280 DATA 0, 0, 0, 0, 0, 0, 0, 0, 0
20290 DATA 0, 0, 0, 0, 0, 0, 67, 65, 132
20300 DATA 80, 83, 58, 32, 190, 190, 32, 32, 697

```




Compatibility with CP/M

Dominique Centeno, of Lausanne, Switzerland, writes:

Q I have read that Enterprise has said that its disc controller is fully compatible with CP/M, but I recently heard that its system was able to read MS/DOS files.

Can you tell me if the system is still CP/M compatible?

Furthermore, I would like to know if the Atari and Amiga 3½ inch disc drives are Sony or Shugart type.

A The Enterprise disc controller can in fact do both –

run CP/M and read MS/DOS files.

However, the CP/M is, in fact, an emulation; when you buy the disc controller Enterprise gives you an option to obtain the IS-DOS CP/M emulator, which runs the majority of CP/M programs.

The Atari and Amiga discs are Sony style.

Whole screen printing

Callum Gibson, of Blairgowrie, Perthshire, writes:

Q With reference to the letter from M Payne of Coventry published in issue 49 of *Popular Computing Weekly*, the solution you gave to full screen copying on the Spectrum, does not solve the entire problem to print lines 23 and 24 in the screen dumps. Unfortunately the Basic Copy command only prints the first 22 lines. The program below will provide a full screen dump on the ZX printer.

10 Restore : Input "start address",start

20 For I = start to start + 5
30 Read a : Poke f,a
40 Next I
50 Load "" Screen
60 Randomise U\$tr start
70 Data 243,6,192,195,175,14

This program can also be used to copy the top few lines only. To do this change the 192 in line 70 to eight times the number of lines required.

A Thank you, Callum, you seem to have caught me out.

Which Drive

Eric Larocque of Romford, Essex, writes:

Q I have a BBC B and have been considering buying a disc drive. I have considered the 5¼ inch Cumana CS400 80 track double-sided drive as it is switchable to 40 track mode and most software is on 5¼ inch.

But I have heard that 3½ inch drives are becoming more standard but with not much software yet.

Should I opt for the 3½ inch drive in the hope that software will appear or stick with the 5¼ inch drive?

A I suggest the Cumana 5¼ inch drive. The chances of a sudden rush of software for the BBC on 3½ inch drives is not very likely.

Printing parts

Dave Wood, of Grimsby, South Humberside, writes:

Q I own a Sinclair printer. After much use the print faded so I decided to clear it. I removed the stylus from the rubber band and put them in cleaning fluid but they were thrown away! Can you print the name and address of a company (if there is one) which, sell them?

A Examine the classified pages for Sinclair parts dealer.

Also try Mancomp Ltd, at Printworks Lane, Manchester M19 3JP. It may be able to repair it.

THE NEXT STEP

After the games and the trivia begin to pall, unlock the power of your Amstrad with **AMSTRAD ADVANCED PROGRAMMING TECHNIQUES** by David Lawrence.

This book is intended to show you how to develop serious applications programs for use on your Amstrad CPC 464 and 664.

The book begins with a look at the advantages of modular programming, which makes subsequent checking and debugging on your routines much easier. There follow chapters of debugging, proper methods of inputting information, string handling techniques, error trapping, storage and retrieval, data structures, sorting and searching.

At each stage there are handy hints and tips which suggest new ways of tackling problems.



**To Theresa Lacy, Sunshine Books
12/13 Little Newport Street
London WC2H 7PP**

Please send me _____ copies of
Amstrad Advanced Programming
Techniques ISBN 0 946408 90 4 at
£6.95 (plus 90p p + p)

I enclose a cheque/postal order for £ _____ payable to Sunshine Books.

Alternatively please debit my Visa ☐ Access ☐
American Express ☐

Account Number _____ Expiry Date _____

Signed _____

Name (capitals please) _____

Address _____

by B Andrews-Howe

If you want an *Input* without the "?" try using an *Inkey\$* sub-routine to read the keyboard and assemble the result in a variable. And if you are writing in Basic and you want to keep your program secret, when you save it, end your command with a "P" and your program cannot be listed.

```

      ";FNbs;FNbs;FNbs;"
70 PRINT FNats(3,1," ");"
      ";FNbs;" ";FNbs;" ";FNbs;"
80 PRINT FNats(4,1," ");"
      ";FNbs;" ";FNbs;" ";FNbs;FNbs" ";FNbs
;FNbs;FNbs;FNbs;FNbs;"
90 PRINT FNats(5,1," ");"
      ";FNbs;" ";FNbs;" ";FNbsFNbs;FNbs;"
;FNbs;FNbs;FNbs;"
100 PRINT FNats(6,1," ");"
      ";FNbs;FNbs;" ";FNbs;" ";FNbs;FNbs
;FNbs;FNbs;FNbs;"
110 PRINT FNats(7,1," ");"
      ";FNbs;FNbs;" ";FNbs;" ";FNbs;FNbs;
FNbs;FNbs;FNbs;FNbs;" ";FNbs;FNbs;FNbs
120 PRINT FNats(8,1," ");"
      ";FNbs;F
Nbs;FNbs;FNbs;" ";FNbs;FNbs;FNbs;FNbs;F
Nbs;FNbs;FNbs;" ";FNbs;FNbs;FNbs;" ";FNb
s;"
      ";FNbs;FNbs

```


DS Enterprises

01-671 0209

Disks

5.25"	DS DD
Diskexpress (Recommended)	£12.50
3.5"	DS DD
Fuji	£28.50
Maxell	£29.50

All disks are guaranteed and come packed in plastic flip and file type boxes.

Drives

QL, Spectrum or BBC Compatible	Single 80 Track	Dual 80 Track
3.5"	£110.00	£199.95

QL Software

Lattice C	£85.00
Pascal (Full ISO)	£79.00
Super Charger (Basic Compiler)	£48.50
Ram Disc (Ram Disk & Utilities)	£14.95
Tasprint	£17.50
QLpoint	£21.95
Toolkit II (Eprom version)	£32.95
Ice & Choice	£34.95
Sign Designer (Designs Screens & Signs)	£16.95
Touch Typist	£11.50

Add Ons

512k Expanderam (Miracle Systems)	£120.00
Including Ram Disk	£127.50
Dual 3.5" Drive & Interface	£265.00
Citizen 120D Printer	£225.00
Centronics GLP	£159.95
Saga 3 Keyboard	£64.95

DS ENTERPRISES, 25 Trinity Rise, London SW2 2QP

All prices include VAT and Post & Packing

PD925



Once Bytten

31 BOWNESS ROAD
LONDON SE6 2DG

Phone Orders: 01-698 2911
(Callers by Appointment Only)

DISC-ERNIBLE DISC-OUNTS ON DISCS! BLANK DISKS - OUR OWN BRAND - LIFETIME GUARANTEE

IN TENS : IN PLASTIC LIBRARY CASES

5 1/4" SS/DD 96TPI	£9.95
5 1/4" DS/DD 96TPI	£10.95
3 1/2" SS/DD	£19.95
3 1/2" DS/DD	£25.95

BULK DISCS	25's	100's
5 1/4" SS/DD 96TPI	£16.95	£59.00
5 1/4" DS/DD 96TPIII (including envelopes)	£18.95	£69.00
3 1/2" SS/DD with 5 1/4" s	£43.00	£162.00
3 1/2" DS/DD	£59.95	£199.00

All disc prices inclusive and post free (in U.K. only).

Export enquiries welcomed.

DISC ACCESSORIES

(post free if ordered with discs, otherwise £1 p&p)

5 1/4" 10 disc box	£1.50p
5 1/4" Label sets (for 10 discs)	£0.35p
5 1/4" Disc envelopes (10)	£0.95p
5 1/4" 100 locking disc box/special price	£11.95p
3 1/2" disc box	£1.50p
3 1/2" labels (10)	£0.25p

PLUS VERY SPECIAL EXTRA DISCOUNTS AVAILABLE

To purchasers of larger quantities. Trade Industrial Government & Educational enquiries welcomed.



WANTED!!

Your Computers/Printers/Disk Drive etc.
Wanted urgently for CASH!



We have got the "Wonder Wallet Filler" waiting to exchange for your home or business micro system. Phone Keith McGovern on 01-698 2911 (after 7.00pm Mon-Fri) for our TOP, TOP OFFER, or Part Exchange your gear for an even better deal. We can supply almost any computer equipment at discount prices, and give you a Sooper part exchange deal as well.

Cheques or Postal Orders payable to AMTEN LIMITED please. Cash should only be sent by REGISTERED MAIL. You may pay by VISA or ACCESS card by mail or phone.

13PD1

Evesham Micros

PRINTER OFFERS

Look at these deals on centronics printers we believe that these prices offer the best value in the country. All prices include receipted delivery, despatch is within 48 hrs of receipt of order provided goods are in stock. A printer lead is supplied to suit your micro free of charge, (please specify Amstrad, BBC, Oric, Dragon, Einstein, CBM64 or Memotech) for Spectrum or QL owners we will supply with an appropriate interface for an additional £20.00.

TATUNG TP100

Bulk purchase allows us to offer this highly popular, high specification printer at an unheard of price. It is from the same manufacturer and of very similar specification to the Mammesman Tally MT80+ and Shinwa CPA80. This style of printer reputed to be the most popular in its class boasts many superb features. It uses square pins which avoids that "dotty" look and gives a nicely formed up "near letter quality" print at 100cps. Friction and tractor feed are standard. It has full graphics ability. Take a look at these unretouched, actual size print samples.

Standard PICA text (100cps)

PICA text emphasised

True descenders on jpg etc.

ELITE mode gives 96 columns

CONDENSED mode gives 142 columns

ENLARGED mode

SUBSCRIPTS and SUPERSUBSCRIPTS

underlines nicely

Italics available in all modes

We are convinced that this printer offers the best performance and value in its class and at our unheard of price is a BARGAIN.

ONLY £179.95

Price includes Centronics lead to suit your micro.

Or to suit Spectrum with Kempston "E" Interface £199.95

TAXAN KAGA KP810

Recently introduced into our range due to public demand this popular printer is essentially the same as the CANON PW1080A. It includes a very high specification and superb print quality. Features include 140cps draft mode, 65cps correspondence quality (emphasised) and 27cps in its superb NLO mode. It has a 3K buffer, three graphic modes, friction and tractor feed and is EPSON compatible. Take a look at the actual size, unretouched, print samples.

Near letter quality at 27cps

Correspondance quality at 65cps

Draft mode at 140cps

subscripts & superscripts

ENLARGED mode

ELITE mode gives 96 columns

Condensed mode lets you squeeze a lot into a line

Good underlining

Plus many, many more features

Normal selling price for these printers is around the £300 mark. At our price they represent superb value for money.

ONLY £219.95

Prices include centronics lead to suit your micro.

Or to suit Spectrum with Kempston "E" Interface £239.95.

MICRO P. MP165

This printer is a very high specification at an unbelievable price. It boasts 165 cps in draft mode and 70 cps in near letter quality mode, which is switch or software selectable. It is friction and tractor feed as standard has a 2K buffer and is EPSON compatible (it even uses an EPSON ribbon). It can print in standard PICA 80 column mode or a variety of others from enlarged 40 column mode to condensed at 132 column. Italics are available in all modes. Normally this printer would be expected to sell at £300 plus we are offering it at our ultra keen price inclusive of printer lead to suit BBC, Amstrad, CBM 64, Oric, Dragon, Einstein or Memotech.

ONLY £249.00

Price includes Centronics lead to suit your micro.

Or to suit Spectrum with Kempston "E" Interface £269.00

COMMODORE OFFERS

COMMODORE 128D NOW IN STOCK, RING FOR PRICES

CBM 1541 DISK DRIVE	ONLY £149.95
CBM MPS803 PRINTER	ONLY £149.95
CBM 128 in stock now!	ONLY £229.95
CBM 128 with 1570 Disk Drive	ONLY £399.95
CBM 1701/2 Monitor	ONLY £199.95
CBM 1901 Monitor (for 128)	ONLY £299.95
CBM 1570 DISK DRIVE in stock now	ONLY £189.95
CBM Compatible DATA RECORDER	ONLY £29.95

STAR SG10C

A superb new 120 cps Commodore ready printer that offers many features including friction and tractor feed, CBM graphics, near letter quality mode etc. Packaged ready to use at the special introductory price of

ONLY £249.00

All offers subject to availability

14PC891

All prices include P&P and VAT. Send cheque, Postal Order or Credit Card No. Credit Card order accepted by phone. Callers welcome. Wide range of goods stocked. Trade enquiries welcome. European orders sent price as advertised. Outside Europe £2.00 for airmail. Mail order to Evesham Shop please.

EVEHAM MICROS
BRIDGE STREET, EVEHAM,
WORCS., WR11 4RY.

Tel: 0386 41989

MICRO CENTRE
1756 PERSHORE ROAD,
COTTERIDGE, BIRMINGHAM.

Tel: 021-458 4564



Tag on QL by C Harvey

After experiencing first hand and reading of others frustrations with the syntax when accessing microdrives, it seems to me that something simple that meets the following requirements is essential when using Superbasic.

- a) Simplifies the use of *Dir*, *Load*, *Save*, and *Delete*.
- b) Allows easy back-up of programs.
- c) Gives automatic check that *Save* or *Delete* has been successful.
- d) Is available at all times whilst using Superbasic and microdrives.

Commands

ca(Enter) gives a *Dir* of each drive, displayed side by side.

sa(Enter) Prog name (Enter) *Saves* program to each drive and displays *Dir*.

de(Enter) Prog name (Enter) *Deletes* from each drive and displays *Dir*.

lo (Enter) Prog name (Enter) *Loads* prog from Drive.

```
32000 REM TAG: REM the idea is to "TAG" it to each basic program.
32001 REM Copyright C.M.Harvey
32002 REM
32003 BAUD 2400 REM Set to baud for own printer.
32004 DEF PROC ca: REM displays directory of each microdrive.
32005 CLS:CLS#0:OPEN#6,scr_212x216x40x0:PAPER#6,7:CLS#6:INK#6,0
32006 OPEN#7,scr_212x216x260x0:PAPER#7,7:CLS#7:INK#7,0
32007 DIR#6,mdv1_:DIR#7,mdv2_:CLOSE#6:CLOSE#7
32008 END DEF
32009 DEF PROC sa: REM saves program to each microdrive then
shows directory.
32010 INPUT#0,"Program name",zzz$
32011 FOR zzz=1 TO 2:SAVE "mdv"+zzz$+"_"+"zzz$
32012 ca
32013 END DEF
32014 DEF PROC de: REM deletes program from each microdrive then
shows directory.
32015 INPUT#0,"Program name",zzz$
32016 FOR zzz=1 TO 2:DELETE "mdv"+zzz$+"_"+"zzz$
32017 ca
32018 END DEF
32019 DEF PROC lo: REM loads named program from microdrive 1.
32020 INPUT#0,"Program name",zzz$
32021 LOAD "mdv1_"+"zzz$
32022 END DEF
```

Function Drawer on Commodore 64 by John McCaskie

This program is very useful when a rough graph of a function is needed in algebra. The program draws the X and Y axes in green and the function in black. The function is put in Line 180 along with its name. Any function can be used but the scale in lines 100-120 may need to be altered.

Line No Program Notes

- 30 - Open channels to printer.
- 50-80 - Draw axes.
- 100-130 - Draw function.
- 140 - Name function.
- 180 - Define function and name.

```
10 REM FUNCTION DRAWER
COMMODEORE 64 + PRINTER PLOTTER
20 REM BY JOHN MCCASKIE
30 OPEN4,6:OPEN1,6,1:OPEN3,6,3:OPEN2,6,2
40 REM DRAW AXES
50 PRINT#2,2:PRINT#3,0
60 PRINT#1,"M",0,-300:PRINT#1,"I"
70 PRINT#1,"J",479,0
80 PRINT#1,"R",240,300:PRINT#1,"J",240,-
300
90 GOSUB160
100 PRINT#1,"R",180,FNAC(-6):FORT=-6T06
110 PRINT#2,0
120 PRINT#1,"J",240+(T*10),FNAC(T)
130 NEXT
140 PRINT#4,A$
150 END
160 REM*****
170 REM***PLACE FUNCTION BELOW HERE***
*****
180 DEFFNAC(X)=X+3:A$=" Y=X+3"
190 RETURN
```

Seeker on Spectrum by R Luxton

Seeker is a short program for the Spectrum, to seek out the lines in which tokens are used. The seven-line program should be Merged at the end of the Basic program, after which enter "Run 9993".

The program will then ask you to enter the token you seek. Sinclair Basic does not allow a token to be entered directly in this mode, but if it is preceded by "Then", the token can then be entered by the usual single keystroke.

Thus, if you want to know on which lines in the Basic program the keyword "Print" is used, enter "Then Print" using just two keystrokes, backspace to the point between *Then* and *Print* and press the *Delete* key.

```
9993 GO SUB 9999: CLS : INPUT "Token sought ? ";a$: LET q=CODE a$
9994 IF FN c()=9993 THEN STOP
9995 FOR j=FN a() TO FN b(): IF PEEK j<1
65 THEN GO TO 9997
9996 IF PEEK j=q THEN GO TO 9998
9997 NEXT j: LET s=FN b()+1: GO TO 9994
9998 BEEP .25,30: PRINT STR$ FN c();TAB
5; PAPER 6;CHR$ PEEK j: GO TO 9997
9999 LET s=23755: DEF FN a()=s+4: DEF FN
b()=s+3+PEEK (s+2)+256*PEEK (s+3): DEF
FN c()=256*PEEK s+PEEK (s+1): RETURN : R
EM *Seeker* R.G.Luxton.
```


THE CAMPAIGN AGAINST WORLD POVERTY

WAR ON WANT GAMES

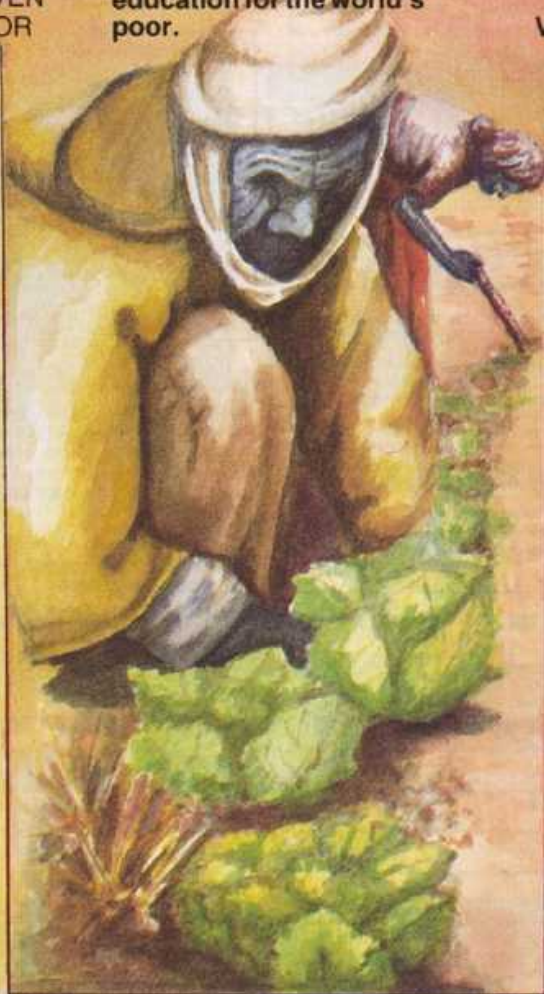
ALL PROCEEDS TO WAR ON WANT

14 FABULOUS TITLES FOR ANY 48K SPECTRUM FOR ONLY £9.95!

ARTIC — SPECTRUM CHESS II
AUDIOGENIC — BUG EYES
BEAU-JOLLY — PEDRO
CDS — WINGED WARLORD
FIREBIRD — MR FREEZE
LLAMASOFT — HEADBANGER'S HEAVEN
MASTERTRONIC — WIZARD'S WARRIOR

War on Want supports long-term development projects in over 30 countries to provide self-sufficiency in food production, better health care and improved education for the world's poor.

MELBOURNE HOUSE — HELLFIRE
OCEAN — HUNCHBACK II
PSION — HORACE & THE SPIDERS
PSS — XAVIOR
QUICKSILVA — RUPERT & THE ICE CASTLE
STAR DREAMS — CYBERTANKS
VIRGIN — DR FRANKY & THE MONSTER



Please send me _____ copy(s) of WOW games
I enclose a cheque/PO made out to WOW (trading)
Ltd for £.....

Name.....

Address.....

Town..... Postcode.....

Send form (with payments) to: WOW Games,
Room 62A, 1, London Bridge St, London SE1 9SG
or order by Access or Visa: Phone 01 402 2266

CLASSIFIED

Semi-display — £7 per single cc (+ VAT)
Lineage — 30p per word (+ VAT)

CALL JON BEALES on 01-437 4343 FOR SEMI/DISPLAY ADVERTISING

SOFTWARE

48K SPECTRUM

20 CHARACTER SETS to enhance your own programs
SOUND EDITOR to create your own sound effects
POOL — full version of the classic game
9-HOLE GOLF

£1.99 EACH OR ANY TWO FOR £2.99

Supplied on cassette

Please send cheque/PO to:

GALILEO 7

76 Brighton Road, Worthing, West Sussex BN11 2EN

ARCADE - POKES! For over 60 top
Spectrum games on tape, only £2.50.
Sigmoidsoft, 8 Pine Dale, Rainford,
Merseyside WA11 8DP.

HINTS - POKES - MAPS

Monthly Handbooks packed with hundreds of Tips,
Pokes, Maps, Competitions and Software
Offers

C16/Plus 4 Handbook	£1.00
Amstrad Handbook	£1.00
BBC Handbook	£1.00
Commodore Arcade Handbook	£1.00
Commodore Games Review Handbook	75p
Spectrum Arcade Handbook	£1.00
Spectrum Games Review Handbook	75p
The Adventures Handbook (CBM/Spec)	£1.00

SEND CHEQUE OR PO TO:
H & D SERVICES (PCW)
1338 ASHTON OLD ROAD
HIGHER OPENSHAW
MANCHESTER M11 1JG

PL10

HOME ACCOUNTS Put your house in
order! Comprehensive coverage of
bank accounts, credit cards, HP, etc.
Inbuilt accuracy check. Projects cash
flow for any period. Available for Com-
modore, Amstrad and Spectrum £8.45.
Free details from: Discus Software,
Freeport, Beach Approach, Brixham
TQ5 8BR. Tel: 08045 55532.

TWENTY new character sets for Spec-
trum 48K on tape, only £2.50. Sigmoidsoft,
8 Pine Dale, Rainford, Merseyside WA11
8DP.

SCREENMASTER is a family of advanced graphics programs that give full access to the code, so you
can adapt them for your own special needs. Use them individually or together (eg on disc).

SM1 — Powerful character generator. Create single character blocks, 2x2 character blocks
(sprites) and 8 x 8 blocks (pixels). Novel scrolling window design grid. Cartoon animate sprites.
Paint coloured pixels. Pick up blocks from a screen file.

SM2 — Creative art & drawing. Rubber-banded line, circle, ellipse, polygon & arc drawing.
Freehand draw & erase. User defined brushes & fill patterns. Multi-size text. Character, sprite &
pixel handling. Alter, move, copy & paint areas of screen. Kill incorrect commands.

SM3 — Advanced graphics compiler. Store pictures in highly compressed form. Run-time routines
to reconstruct pictures can be included in user programs. Edit & redraw at any time (we find this
incredibly useful). Rubber-banded drawing as in SM2. Create macro commands. Available April.

Spectrum (48K & Plus) tape £4.50 each. **SPECIAL OFFER** 2 for £7.95 or 3 for £9.95

DOCUMENTATION PACKAGES — detailed info, including expanded, commented listing. £1.95 per
program.

CAR CURE — EXPERT SOFTWARE to help diagnose faults on your car. Covers 300 symptoms & 900
faults. Spectrum (48K & +) and Amstrad CPC464 tape £9.95. BBC disc £11.95. Amstrad 464/664/6128
disc £13.95.

Please send S.A.E. for information pack. Add £1.50 for
airmail outside Europe.

4 Clarence Drive, East Grinstead, W. Sussex RH19 4RZ.
tel: 0342 28188. pl10c

SIMTRON

FOR SALE

YOUR PERSONAL CENTRONICS PRINTER

£99 plus vat
plus £8 p+p



- DRAFT MATRIX PRINT
- NEAR LETTER QUALITY
- SUBSCRIPT SUPERScript
- CONDENSE EMPHASIZE
- 96 CHAR+48 EURO+16 MATHS
- GRAPHICS
- OPTIONAL TRACTOR

126 Station Rd
Glenfield
Leicester
LE3 8BR

ROCK HALL

TEL: (0533) 313531

AMSTRAD CPC464 (colour) + over 70
top games including Ping Pong, Daleys
Supertest, Southern Belle etc., + light
pen £249 ono. To N. A. Blow, 47
Oakwood Road, Bricket Wood, St. Al-
bans, Herts AL2 3PZ.

INSTANT LOADING OF BBC PROGRAMS

Load and run your favourite Basic game or utility directly from
sideways ROM simply by typing (name or program). Any
number of programs up to 8 or 16k bytes (32k for B+) totally
may be encoded on a single ROM; more program may be added
to suit ROMs at a later date if required.

Programming 8k (inc. Epsom)	£3.85
Programming 16k (inc. Epsom)	£3.45
Programming 32k (inc. Epsom)	£3.75
Adding programs to your Epsom	£2.30
Erasing & re-programming your Epsom — deduct £2.35 from above prices.	

All inclusive of postage & packing.
Send cheque/PO and your program(s) on cassette
or 40/60K disc (which will be returned) to:
Coburn Langham Services, 7 Old Park View, Enfield, Middx.
EN2 7EG or send SAE for details of these and other services.
No copyrighted material please
Tel: 01-363 9166 PL11B

DRAGON 64, disk drive, Seikosha print-
er, cassette deck, disks, basic 9, soft-
ware includes utility's educational busi-
ness, games, joysticks, books and
magazines, total cost over £1,200, sell
for £550 ono. Tel. 061-0663 46255.

ACORN Z80 second processor, supplied
with free Acorn S/W, as new, will accept
£120. Tel: (0344) 886178.

MAKE SPECTRUM CENCE

Simple Computer Control for Machinery and Mod-
els using your Sinclair Spectrum.
A little black box which plugs into the expansion
socket of any Spectrum and enables you to drive
two small to medium stopper motors (up to 2 AMPs
per phase) or up to 8 DC motors, relays, lamps or
any other DC device.

Simple to program and built by an engineering firm
for its own use. You can use it for CNC turning,
milling or co-ordinate drilling.
Reliable. Prototype still running after three years
use.

We provide interface, instructions, software, hints
and examples.
Price: £94.50 inc carriage and VAT.
Power supplies and Stepper Motors available. We
will be pleased to quote for larger units. PLB55

P. R. PRODUCTS PARK MILL, HOBSON STREET,
MACCLESFIELD, CHESHIRE SK11 8BE. Tel: (0625) 22800

BBC B Basic II + view + speech chip +
Seikosha GP100A printer + games for
only £300. J. Blatch, The Mile Oak Inn,
Totnes Road, Newton Abbot, Devon.

3" DISKS

£39 FOR 10
INCLUSIVE OF VAT & DELIVERY

3 1/2" DISKS

DS135TPI	£35 for 10
SS135TPI	£25 for 10

INCLUSIVE OF VAT & DELIVERY

CHEQUES/PO's to:
MICRO RESOURCES LTD
Southfield House,
11 Liverpool Gardens,
Worthing, Sussex BN11 1RY
ACCESS/VISA WELCOME
TEL: (0903) 213174 PL06

CLASSIFIED ADVERTISING RATES:

Line by line: 30p per word,
minimum 20 words.

Semi-display: £7 per single column
centimetre, minimum length 2 cm.
(Please supply A/W as PMT. Or
supply rough setting instructions.)

These rates do not include VAT.

Conditions: All copy for Classified
section must be pre-paid. Copy
date 7 days before publication.

If you wish to discuss your ad,
PLEASE RING Jon Beales 01-437
4343.

Here's my classified ad.

(Please write your copy in capital letters on the lines below.)

Please continue on a separate sheet of paper

I make this words, at per word so I owe you £

Name

Address

Telephone

Please cut out and send this form to: Classified Department, *Popular Computing Weekly*,
12-13 Little Newport Street, London WC2H 7PP.

HA16

FOR SALE

IMPORTANT ANNOUNCEMENT

TERIVIROS ANTI-STATIC FLUID

will keep your computer screens hygienically clean, free from static and making them a pleasure to use.

TERIVIROS TREATMENT

is approved by BRITISH TELECOM and leading computer manufacturers.

Computers are expensive, use *TERIVIROS* and protect your investment.

***TERIVIROS* ANTI-STATIC CLEANING FLUID** £3.50 plus 50p P&P cheques and P.O. to Telecommunications Services UK.

Address to:

The Marketing Division, Telecommunication Services UK, 48 Queen Street, Exeter EX4 3SR.

Trade inquiries welcome.

TERIVIROS trade name.

PL902A

EARN A FORTUNE!

Make Money From Used Micros is an incredible new manual which shows how you can earn a fortune from buying and selling used home computers, accessories and software for amazing profits. You can make hundreds a week from this vastly under-exploited market with the hard-earned facts and figures contained in this information-packed 25,000 word guide.

Even if you do not own a computer this report will give you all the necessary facts. Contents include how to get stock, what to pay, what to charge, what to sell – and what to avoid, sales techniques, testing, profitable sidelines, computers, software, printers, modems, disk drives, monitors and much more.

Whether home-based, mail order, or in a shop, **Make Money From Micro** will show you exactly how to run a part-time business or make a full-time living from this highly lucrative market. This must be the biggest money spinner yet so don't waste a second. Order a copy right now and start earning real cash.

Make Money From Used Micros – £8.95 inc. p&p or SAE details. Trade Enquiries Welcome

USED SOFTWARE

Used Spectrum, CBM64 and Amstrad software at half price – even current chart toppers! Cash paid for recent releases. We also wholesale used software!

USED COMPUTERS

We specialise in modern used computers and accessories. All equipment tested and covered by warranty. Cash paid for popular equipment and job lots.

COMPUTAMART (Dept. CS), 195/197 Seabourne Road, Southbourne, Bournemouth, Dorset.
Tel: (0202) 433759.

PL12

ATARI Basic utility, full renumbering program alters Goto's Traps etc. Plus block, delete, £7, Byrne, 15 Churchill Avenue, Newmarket, Suffolk.

AMSTAT = Amstrad Statistics Package (CPC 484/664/6128)

Amstat1 – means, s.d., t-tests, 1-way-ADV, 2-way-ADV, correlations, regressions, histograms, scattergrams, transformations, file storage and retrieval, manual. £14.99 cass, £19.50 disc.

"A genuinely useful bargain buy" – Tony Kendle, Popular Computing Weekly, Nov 14-20, 1985. **Amstat2** – a "Complete Siegel". 27 nonparametric tests – £39.95. **AMSTAT1/AMSTAT2** together £49.95.

Checkups/POs to:-
S. C. Coleman, 33 Leicester Road, Ashby-de-la-Zouch, Leics LE6 5DA. Telephone: 0530 415919. Technical Enquiries after 6.00pm or Weekends.

13PL1

UTILITIES

BONZO MEDDLER AMSTRAD CPC Series

A FANTASTIC NEW UTILITY devoted to TAPE to DISC transfer. TRANSFERS ALL standard BASIC, BINARY, and even ASCII files. Can cope with some HEADERLESS and some FLASHLOADER. FULL status display during transfer.

"HANDS OFF" operation. Offers EXTENDED CATALOGUE. RENAMES to suit AMIGOS. AUTOMATICALLY RELOCATES BINARY as required.

CUTEDISC also included on tape, transfers itself to disc.

By return of post, just... £5.00 inclusive from

NEMESIS (PCW)

10 Carlow Road, Ringsfield, Kettering, Northants NN14 4DW

13PL5

IDLE MEDDLER 1985 available at £4.50 inc.

AT LAST, THE LONG AWAITED 1541 UTILITY DISK V 1.4

A MUST FOR ALL CBM AND 1541 DISK DRIVE OWNERS

As promised, it features:

- *More Driven Disk Commands – 12 useful commands
- *File Doubler – Copies files up to 196 blocks long
- *Disk Doubler – Copies whole disks with one disk drive
- *Start Address – Locates start address of programs
- *Boot Generator – Allows you to auto run off disk or tape
- *High Quality Documentation and Packing. Easy to use.

Simply send a Cheque/PO, payable to 'AURASOFT' for only £9.95 (including 1st class post) to:

AURASOFT, DEPT. M1, 4 ASH GROVE TERRACE, NELSON, MID GLAM CF46 6LR

16PL2 16PL1

PROFESSIONAL DUPLICATION

FAST reliable service of DATA DUPLICATION for most computers. Comprehensive facilities include: erasure/re-recording; blank disks/cassettes; blank or printed labels/inserts. COMPETITIVE PRICE LIST from:-



PL395

SERVICES

Computer Repair Centre

Have you got problems with your computer? Then call us for:

Commodore, BBC, Spectrum, Dragon

Mail order or call in

Enfield Communications

135 High Street, Ponders End, Middx
Tel: 01-805 7772

PL143

COMMODORE Repairs by Commodore approved engineers. Vic 20 Modulators £6.50. Vic 20 from £14.50, CBM64 etc. for more details write or tel: G. C. Bunce & Son, 36 Burlington Road, Burnham, Bucks SL1 7BQ. Tel: 06286 61696.

LONDON COMPUTER REPAIR CENTRE

★ Spectrum, Commodore, BBC, Atari, Amstrad etc.

★ Low cost repairs from £12.00

★ Collection & delivery optional

★ Used Micro's bought, sold, exchanged.

Call NIGEL: 01-863 7166

MICRO SUPPORT

Unit 3, 15 Springfield Road, Harrow, Middx, HA4 1QF.

13PL3

COMPUTER REPAIRS

We are the experts, having serviced Sinclair computers since the introduction of the ZX80.

Don't waste money on estimates – we repair Sinclair computers at price quoted (inclusive parts, labour, postage, VAT, irrespective of fault. No hidden charges. Repairs guaranteed for 3 months.

Spectrum	£18.75 inc parts
ZX81	£11.50 inc parts
16 KRam	£9.95 inc parts
Microdrive	£15.95 inc parts
Interface 1-11	£18.75 inc parts

BBC	also	£22.00 + parts
Electron		£19.95 + parts
XX Memory Expansion Kit		£15.95

Computer Retailers please phone for Special Trade Price.

Call or send with cheque or P.O.

T.V. Services of Cambridge Ltd.

French's Road, Cambridge, CB4 3NP

Tel: 0223 311371

CHILTERN COMPUTER SERVICE

FOR FAST RELIABLE REPAIR SERVICE

SPECTRUM £18.00

WE ALSO REPAIR CBM 64 & BBC, VIC 20, ORIC, AMSTRAD, PRINTERS & DISC DRIVES

We give 3 months warranty on replaced parts

Send computer with details of fault and cheque made out to:

CHILTERN COMPUTER CENTRE

98/100 HAT TOWN ROAD, LUTON, BEDS

TEL: 0582 455684

Overseas enquiries welcome

PL261

COMPUTER REPAIRS NOW IT'S YOUR CHOICE

	Fixed Price	Quotation
SPECTRUM	£19.95	£9.95 + parts
DRAGON	£29.95	£11.95 + parts
BBC	£34.95	£15.95 + parts
COMMODORE	£34.95	£15.95 + parts

- Guarantee: Six Months
- Extras: None – Post, VAT & Insurance inc.
- Quote: Mail Computer & Daytime Contact Phone No.
- Fixed Price: Mail Cheque + Computer
- Range: We also repair IBM, Apple, Osborne, Sirius, Apricot + wide range of Peripherals

Call (0423) 501679 Anytime

OMNICON LTD,

16 Haywa St.

Harrogate HG1 5BJ

PL999

DUE TO EXPANSION, SCOTLANDS NO 1 IN HOME AND PERSONAL COMPUTER REPAIRS HAVE MOVED TO NEW AND BIGGER PREMISES

- ★ An officially approved Acorn service centre for BBC, Electron, Atom
- ★ Free estimates and three months warranty on all computers
- ★ Every computer is programmed and run on test by one of qualified engineers

ESPECIALLY FAST SPECTRUM SERVICE

- ★ Same day for most faults
- ★ One hour if brought personally
- ★ Upgrades, membranes and P.S.U.
- ★ Other machines E.G. QL, C64, Oric and peripherals usually repaired within 7-10 days.
- ★ Generous discounts for schools and clubs

WHY GO ANYWHERE ELSE, CALL THE EXPERTS:

MICRO-SERV
95 Deerdynes View
Westfield Industrial Estate
Cumbernauld
Cumbernauld 02367 37110

16PL22

The 1st choice EXPRESS SPECTRUM, BBC and COMMODORE REPAIRS!

**SOFTWARE
RRP £24.00 FREE WITH
EVERY REPAIR***

**WHY PAY HIGH
'FIXED'
PRICES**

Spectrum
repairs between
£9 and £20.

BBC repairs
between
£14 and £45.

Commodore
repairs between
£14 and £35.

*Spectrum only

(We do not charge you for our
fancy premises by charging
high 'fixed' prices!)

Reputations take time to build,
we have been repairing ZX81's,
Spectrum, QL's, Apples and
BBC's professionally, for 2 1/2
years - who is coming second?

In all U.K. with While-u-Wait repair
with INTERNATIONAL repair service!

to charge LOW PRICES for the smaller
repairs (e.g. £9 for keyboard faults)

LOW PRICES - "My computer
blew recently, I took it to MANCOMP,
who fixed it in 8 minutes and for less
than £10! They are local, 'clued up'
and blindingly efficient!" 4 HEATONS
DIGEST.

FOR PROFESSIONALISM - "Of all the
repair companies 'Sinclair User' spoke
to, MANCOMP seemed the MOST
PROFESSIONAL when it came to advice
and a helpful attitude" AUG 85.

FOR HONESTY - We let you watch
your computer being repaired and if
there is nothing wrong with it, we will
tell you!

FOR REPUTATION & HELPFULNESS -
"I have come across a firm that will be
more than willing to advise you as to
how to remedy your problems. They
are called MANCOMP and as well as
repairing faulty computers, are also
quite willing to discuss your problems
with you and offer reasonably cheap
and more importantly CORRECT
CURES" Phil Rogers POPULAR
COMPUTING WEEKLY JAN 85.

FOR SPEED - "One firm at least can
effect any necessary repairs over the
counter in 45 minutes. Based in
Manchester, MANCOMP can offer
what is arguably the FASTEST
turnaround in the business to personal
callers" CRASH Magazine JUNE 1985.

THIS IS WHY Spectrum users from
London, Cornwall, Scotland,
Birmingham, Liverpool, Coventry,
Leicester, Cricciop, I.O.M., etc.
AUSTRALIA, AUSTRIA, BELGIUM,
EGYPT, EIRE, GERMANY, HOLLAND,
KUWAIT, NORWAY, PAKISTAN, PAPUA

NEW GUINEA, SAUDI ARABIA,
SWEDEN, SWITZERLAND and
ZIMBABWE - send their Spectrums to
MANCOMP for repair!
24 HR. TURNAROUND - NO QUIBBLE
GUARANTEE - NO HIDDEN COSTS.

Because we repair hundreds of
computers every week, we are
able to pass on our 'component-
buying discount' to YOU in
lower prices... Z80A cpu
£1.50, 4116 50p, Upgrade
fitted £18.95

- we bring down the prices for
repairs and components!
(We may refuse to revive
computers suffering from
attempted D.I.Y. repairs!)

Every parcel sent by
Royal Mail Registered Post and insured
for return journey!
(For next day delivery include £1.50
extra).

(Securicor by prior arrangement).
On-site maintenance for Apples,
I.B.M.'s and most makes of printers
also available.

Guaranteed 4hr response!
WHY DELAY - OUR ESTIMATES ARE
FREE AND WITHOUT OBLIGATION, IF

YOU DO NOT LIKE OUR ESTIMATE
WE WILL RETURN THE COMPUTER
AND REFUND THE POSTAGE INCURRED

MANCOMP LTD
(Dept. PCW16)

Printworks Lane, Levenshulme,
Manchester M19 3JP
Phone 061-224 1888.

OR 061-224 9888.

OPEN MON - SAT 9am to 7pm



What we do today...
others do tomorrow!

NOTE OUR PRICES AND WATCH OTHERS FOLLOW THE LEADER

COMPUTER HIRE

TO HIRE A COMPUTER AND/OR PERIPHERALS BY
THE WEEK OR MONTH RING 01-607 0157
or 01-997 6457

WE SPECIALISE IN BBC AND ALSO HAVE A
RANGE OF AMSTRAD COMPUTERS FOR HIRE.
COMPUTER HIRE SERVICES, 294A CALEDONIAN
RD, LONDON N1 1BA.

BBC SPECTRUM REPAIRS

* Spectrum repairs £18.50 inc. parts in-
surance and p.p.
* BBC B repairs £18.50 + parts, insur-
ance and p.p.
Send your computer with cheque or P.O.
for £18.50 and description of fault to:

SUREDATA (PCW)

Computer Service

45 Wychwood Avenue, Edgeware,
Middx.

Tel: 01-951 0124

COMPUTER REPAIRS

ALL MACHINES DESPATCHED
WITHIN 72 HOURS OF RECEIPT

For example:

Spectrum Plus £17.00
16-48 RAM Upgrade £25.00
ZX81 £12.50
Interface I £18.00
ZX Microdrive £16.50
BBC B £25.00

(All prices include: parts, VAT, labour,
return postage insured, and full
warranty)

For a fast and reliable service send
machine, brief description of fault and
cheque or PO for relevant amount to
the experts:

CAPITAL COMPUTER SERVICES

Dept P

Unit K2, Cardiff Workshops

Lewis Road, East Moors

Cardiff CF1 5EG

Tel: Cardiff (0222) 461801

We also service Acorn, Dragon, Commodore, Lynx
and Dric systems. Please telephone for a quote.

SPECTRUM — AMSTRAD — COMMODORE

NOBLES COMPUTER REPAIRS

* Repairs carried out by our own engineers on site.

* All repairs carry a 4 MONTH GUARANTEE

For estimates phone or send your computer to NOBLES.

Spectrum Plus £16.95 inc parts

post and pack

Commodore 64/VIC 20 from £9.95 plus

parts

BBC from £18.95 plus

parts

Also repair specialists for Amstrad and MSX computers

NO HIDDEN CHARGES

★ SPECIAL OFFER

5 FREE GAMES WORTH £25

with each Spectrum repair Trade/School and Club dis-
counts arranged.

*For free, no obligation estimates phone or send your
computer to NOBLES for the fastest, cheapest repairs in
ESSEX.

NOBLES

14-17 Eastern Esplanade

Southend-on-Sea

Essex

0702 63377/8

63336/7/8/9

7 days a week, 24-hour Answering Service

SPECTRUM — AMSTRAD — COMMODORE

Access

Book
your
Classified
or
Semi-display
advert by
Credit
Card



Call
Jon
Beales
on
01-437 4343



AMSTRAD IN MANCHESTER

**NOW IN
STOCK**

**CPC 6128
CPC 464
THE NEW PCW 8256!!**

LUS..PLUS..PLUS..PLUS..PLUS..PLUS..PLUS..PLU

- JOYSTICKS ● SPEECH SYNTHESISERS
 - MP2 COLOUR MODULATORS
 - "SUPER POWER" EXPANSION KITS
 - ARNOR-MAXAM, UTOPIA AND PROTEXT
- AVAILABLE ON DISK AND CASSETTE —

LUS..PLUS..PLUS..PLUS..PLUS..PLUS..PLUS..PLU

**A WIDE RANGE OF SOFTWARE FROM
WORD PROCESSORS TO GAMES
ALL GAMES AT BUDGET PRICES:
*AT LEAST 50p OFF!!***

NOW IS THE TIME TO CALL IN AT:



**BUDGET
SOFTWARE
CENTRE**
51 FENNEL STREET
MANCHESTER M4 3DY

OR TEL: 061-834 2808

★ FREE SOFTWARE ★ FREE 15 MONTHS MEMBERSHIP ★

A great new home computer club now under way!! Savings on software and books from 25% & upto 40% off R.R.P, originals only. Your never committed to any makes for software or books nor are you committed to buy. Every two months you get a software update, free software and game playing tips. Savings on hardware from 15% and up to 30% off R.R.P. not just joysticks but a wide range of peripherals for your computer. Normally membership is £15 for 12 months but for a limited period only membership is FREE for 15 months when you buy just one of the programs listed below, choose one of the emphasized programs as your free bi-monthly software. Our club is designed for all Amstrad CPC range, ZX Spectrum 48K & +, Commodore 64 & 128.

AMSTRAD				SPECTRUM			
A.C.E.	£10.95	ROCK & WRESTLE	£ 9.95	LORD OF THE RINGS	£15.95	THE GOONIES	£ 8.95
ELITE (D)	£14.95	SPITFIRE 40 (D)	£ 9.95	THEY SOLD A MILLION (D)	£ 9.95	TOMAHAWK	£ 9.95
SKYFOX	£ 9.95	BOMB JACK (D)	£ 8.95	THE FOURTH PROTOCOL	£12.95	WINTER GAMES	£ 7.95
MAX HEADROOM	£ 9.95	YIE AR KUNG FU	£ 8.95	HUNCHBANK THE		ENIGMA FORCE	£ 9.95
STRANGELOOP	£ 9.95	UNDERWURDLE	£ 9.95	ADVENTURE!	£ 8.95	ARC OF YESOD	£ 8.95
WINTER GAMES	£ 9.95	FIGHTING WARRIOR	£ 8.95	THE WAY OF THE EXPLODING		IMPOSSIBLE MISSION	£ 9.95
FAIRLIGHT	£ 9.95	IMPOSSIBLE MISSION	£ 9.95	FIST	£ 9.95	SURF CHAMP	£11.95
SUPERBOWL	£ 9.95	WORM IN PARADISE	£ 9.95	RESCUE ON FRACALUS	£ 9.99	DESERTS RATS	£ 9.95
DAMBUSTERS	£ 9.95	MONY ON THE RUN	£ 9.95	FRANK BRUNO'S BOXING	£ 8.95	DESERT FOX	£ 7.95
POLE POSITION	£ 9.95	BACK TO THE FUTURE	£ 9.95	FIGHTER PILOT (D)	£ 8.95	SPITFIRE 40	£ 9.95
		STRIKE FORCE HARRIER (D)	£ 9.95	BORED OF THE RINGS	£ 9.95	THEIR FINEST HOUR	£ 9.95
						GLADIATOR	£ 8.95

One of these Mastertronic games if **FREE** when you buy one of the above programs:

* FINDERS KEEPERS * CAVES OF DOOM *
* SOUL OF A ROBOT * FORMULA ONE SIMULATOR *

One of these Mastertronic games if **FREE** when you buy one of the above programs:

* DEVILS CROWN * CAVES OF DOOM *
* ONE MAN & HIS DROID * FORMULA ONE SIMULATOR * SOUL OF A ROBOT *

AMX MOUSE DESIGNER	£ 54.45	AMSTRAD DMP 2000 PRINTER	£134.00	AMX MOUSE DESIGNER	£ 54.45	OPUS DISCOVERY 1	£169.95
BROTHER HRS PRINTER	£ 84.95	AMSTRAD FD-1 DISK DRIVE	£ 84.95	BROTHER HRS PRINTER	£ 84.95	OPUS DISCOVERY 2	£279.95
EPSON RX 80 PRINTER	£212.50	AMSTRAD DD-1 DISK DRIVE	£134.95	EPSON RX 80 PRINTER	£212.50	SAGA ELITE KEYBOARD	£ 59.45
JUKI 6100 PRINTER	£339.95	AMSTRAD RS 232 INTERFACE	£ 39.95	JUKI 6100 PRINTER	£339.95	SAGA 2 + KEYBOARD	£ 44.95
MICROVITEC CUB 1451	£250.00	DK TROMICS 64K EXPANSION	£ 39.95	MICROVITEC CUB 1451	£250.00	SINCLAIR EXPANSION PACK	£ 84.95

COMMODORE 64 & 128

ELITE (D)	£14.95	TIME TUNNELL(D).....	£ 9.95	LORD OF THE RINGS(D).....	£15.95
A.C.E.	£10.95	ARC OF YESOD.....	£ 8.95	FRANK BRUNO'S B.(D).....	£ 8.95
SKYFOX (D).....	£ 9.95	ENIGMA FORCE(D).....	£ 9.95	ROCK & WRESTLE(D).....	£ 9.95
HARD BALL (D).....	£ 9.95	BACK TO THE FUTURE.....	£ 9.95	THE EIDOLON(D)	£ 9.99
REVS (D).....	£14.95	PARADROID.....	£ 7.95	B. McGUIGAN'S WCB(D)	£ 9.99
URIDIUM (D).....	£ 8.95	QUAKE MINUS 1	£ 9.95	WINTER GAMES(D).....	£ 9.95
NIGHTSHADE.....	£ 9.95	DEATHWAKE.....	£ 7.95	KUNG FU MASTER(D).....	£ 9.95
SPITFIRE (D).....	£ 9.95	NODES OF YESOD.....	£ 9.95	THE WOF EXP'ING F.(D).....	£ 9.95
BOUNCERS.....	£ 9.95	MAX HEADROOM.....	£ 9.95	FIGHTER PILOT(D).....	£ 9.95
MERCENDARY(D).....	£ 9.95	YIE AR KUNG FU.....	£ 8.95	CRITICAL MASS.....	£ 8.95

One of these Mastertronic games is **FREE** when you buy one of the above programs:

*KANE * LAST V8*
*ONE MAN & HIS DROID * ACTION BIKER * KIK START*

Who said anything about you don't have a choice in software?
*BUSINESS * UTILITIES * EDUCATION * ARCADE*
*ADVENTURE * ARCADE ADVENTURE * SIMULATION * STRATEGY*
These are just a few hardware prices which are exclusive to our club members:

COMMODORE DPS 1101.....	£169.95	COMMODORE 1541 + SEIKO WATCH.....	£169.95
COMMODORE 1570	£169.25	COMMODORE MPS 801 + SEIKO WATCH	£169.95
COMMODORE 1900C	£254.95	COMMODORE MPS 1000 PRINTER	£212.50
COMMODORE 1900M	£ 84.95	STAG SG 10C PRINTER	£214.95
COMMODORE 1701	£169.95	BROTHER HRS PRINTER	£ 84.95

Are complete price list is much bigger than this, for any inquiries that you may have **please ring 0473 218229 MON-FRI 9am-4pm**, (it's much quicker than writing).

Please make cheques/postal orders payable to **T. L. DAVIS**.

All priced items include postage & packing accept hardware items below £100, also are correct when going to press. (D) means the program is also available on disk.

Post to: THE T.L. DAVIES HOME COMPUTER CLUB,
286 WOODBRIDGE ROAD,
IPSWICH,
SUFFOLK, IP4 2QU

COMPUTER SWAP

SPECTRUM 16K + some games in good condition £30 ono. Tel: Hadleigh (0473) 823927 (Suffolk)

48K SPECTRUM and VTX 5000 modem and 150 pounds of games and quickshot 2 joystick. All worth £310 sell for £200 ono. Tel: Grays Thurrock 381527 Mr Walters 6pm.

BBC/B OS1.2, DFS.9, 100k disk, books and mags for sale. Details phone Stevenage (0438) 813732.

IDS wanted please, please, any information on the Interactive Data Systems 'OSCARS' CP/M based computer. G. M. Horst, 63 Nicholls Lane, Winterbourne, Bristol, BS17 1NF. Tel: Winterbourne (0454) 773665.

48K ZX Spectrum + LO profile keyboard, joystick interface + ribbon cable. £80 original software + books £100 ono. Tel: (0325) 321202.

BBCB with 1.2 operating system, software worth £320+, books, magazines, computer desk, dust cover, leads. £280 the lot. Phone (01) 579 0531.

SINCLAIR QL JS vers plus disc interface and disc drive. 12 programs, complete manual worth £500. Will sell for £250. Phone 0243 69 2482 after 7pm weekdays and ask for Antony.

SPECTRUM 128 penpals wanted to swap hints, tips, etc. Please write to I. Bristow East Side, Brinkworth, Chippenham, Wilts SN15 5DX.

SPECTRUM, Interface 1, micro drive, brother M1009 printer, tape recorder, quickshot joystick, turbo interface, 80+ software tapes including Quill Hobbit, Eureka. Propan light pen, Currah micro speech cost £900+. £450 ono 01-593 3539 (day) 01-686 5297 (evenings).

SPECTRUM by Cheetah for Spectrum, as new unwanted gift only £18. Also lightpen with software cost £30, sell for £12. Tel: 0276 685151 evenings.

ATARI software dozens of bargains, cassette, cartridges, disk from £2. Antic, Analog magazines Sae lists, light pen £9. Atari 800XL, joystick, data recorder, £80. Watson, 38 Hummersknott Avenue, Darlington DL3 8LG.

ATARI 1050 disk drive, virtually brand new, only one month old, plus ten blank disks, and over £50 of disk programs in original packaging, £110. Tel: Horley 771878 after 5pm.

SPECTRUM Plus, interface One, microdrive, Brother HR5 printer, cassette recorder, all leads, manuals, software including Hobbit, Valhalla, Timegate, Ant Attack, Devpac, Pascal, books £200 ono. 01-693 8378.

WANTED Atari 850 interface, also Atari books. Tel: (0628) 28408.

COLOUR monitor (Microvitec Cub), 10 months old, £200. Spectrum 48K and manuals £70. Phone Arthington (0532) 842905 (West Yorkshire).

MEMOTECH penpal wanted to swap ideas and software. Write to Gordon Clay, 3 Netherton Avenue, North Shields, Tyne & Wear NE29 8JG.

ATARI ST penpal required. I am an ST owner and would like to hear from others to exchange ideas hints etc. P. Jennings, 15 Birchfield Road, Coundon, Coventry CV6 2BB.

ATARI 800XL and 1010 data recorder, with joystick and paddle controllers, plus software on cartridge and cassettes, virtually brand new, only one month old, in original packaging £70. Horley 771878.

MICRODRIVE transfer of all your tape based software. Send £1.50 per program with tape and cartridge/s. TTX, 201, Malden Way, New Malden, Surrey KT3 5QW. Or see for details. Quote PCW.

COMMODORE 128 for sale, 3 months old in original box £200. Ring Uxbridge (0895) 57582.

SPECTRUM 48K computer £50, Alphacom 32 printer £15, interface one with two microdrives £95, five programming manuals m/c and basic plus full input programming course in binders £40. Tel: 051 423381.

T199/4A Computer 12 modules speech synthesiser, cassette software books, mags. £110 ono will swap for centronics printer or Amstrad software of other computer system ie TRS80 plus 4.

AMSTRAD software from £1 to £3 for titles phone 599 8849.

BBC (B) OS1.2 Demon modem + 22 ROM + tape rec. Over £200 of SW. Inc. wordwise 2 years of Acron U. Joystick inf. speech syn. + books only £320. Phone 529-4 6. Ask for Mark after 4 o'clock.

48K Spectrum, Quickshot 2s joystick interface, VTX5000 modem and many games for sale. Open to offers. Phone 01-540 7761 after 8pm and ask for Richard.

SPECIAL Spectrum DK, Tronics keyboard, twin microdrives, modem, printer, softrom, joystick and interfaces, Currah Speech, plus other accessories and tons of software and information. Swap BBC or £310. Tel: 0843 68522.

SPECTRUM 48K, complete with Fuller keyboard, Alphacom 32 printer, built in sound add on, instruction manuals, accept £100. phone: D. M. Tremble 0702 after 6pm can deliver.

ELECTRON games to sell or swap. Prices ranging from £1.50 to £7 the 12vgames include gyroscope and Beach Head. Offers considered, would be interested to have Frak or Flit.

ZX Printer plus paper and infra-red joystick for Sinclair logo package Tel: Lynn on 0873 811612 after 6.00 p.m.

FOR Sale: Spectrum expansion system £55, light pen £10, Interface 11, £10. All in good condition, hardly used Tel: Milton Keynes (0908) 511210 after 6.00 p.m. and ask for Chris.

520ST Assembler (Kuma Seka) £25 ono. Phone Denis Field on St Albans 60432 (evenings) or (0895) 51133 X3450 (days). QL software originals, Supercharge (version 1.16 = latest), Qspell, Cartridge Doctor, Chess, Matchpoint, EVA. £69.95 the lot if collected. Phone Don 01-748 3437 (mid-day). Will consider swaps.

TOSHIBA MSX 4k, brand new, unwanted present with two cartridges £80 ono. Tel: (Westwarrthing) 022029 830.

Popular Computing Weekly Vol 1 No1 (23/4/82) - Vol 4 No 18 (2/5/85) 2 missing 1 damaged, offers. Buyer collects. Tel 01-449 3204.

FOR Sale 48K Spectrum and tape recorder. Boxed as new £55 ono. Tel: Peterlee 866980.

MEMOTECH MTX512 64K, + 22 items software games utilities including Forth, Spreadsheet, etc. 3 books, dust cover, magazines £85.00. Tel: 0383 412549 evenings.

SPECTRUM 48K with printer, Sanyo Data Recorder, Kempston Joystick and Interface light pen, £170 of software, mags and books. All worth over £550. Bargain at only £149. Tel: (Soton) 733407.

AMSTRAD Software, Minder, View To Kill, Millionaire, Big League Soccer, Cassette 50, CYLU. £18 the lot or £4 each. Tel: 01-594 4825.

ATMOS 48K + M.C.P. p/p + 20" RGB + four books of programs + 12 games + address file complete £140.00 ono. Phone: John after 6pm Hull 0482 857345.

SPECTRUM 48K, Interface 1, two microdrives, tape recorder, Alphacom printer, amplifier, games, languages software, books. £170. Brother HR15 serial printer £300. Phone: 01-699 2724.

ATARI IN MANCHESTER

THE BEST SELECTION OF SOFTWARE IN THE MANCHESTER AREA! WE SPECIALISE ONLY IN ATARI IN INCLUDING 2600 (VCS) VIDEO GAMES. MAIL ORDER WITH PLEASURE; SAE FOR LISTS (STATE INTERESTS)

CASSETTE ● DISK ● ROM ● JOYSTICKS ● BOOKS ● MAGS ● ETC

APRIL-MAY RELEASES INCLUDE:-

SPY v SPY ●

BOULDERDASH II ● SCREAMING WINGS ●

WINTER OLYMPICS ● LAST V8 ●

PANIC EXPRESS ● TECHNICOLOR DREAM ●

TAIL OF BETA LYRE ●

NOTE NEW TELEPHONE NUMBER 061-834 4941



ATARI WORLD

15 FENNEL STREET
MANCHESTER M4 3DU

Tel: 061-834 4941

OPEN MON-FRI 10am-5pm.

SAT 10am-5.30pm

MAGAZINES



DRAGON USER

To make the most of your Dragon you need **Dragon User** — the independent magazine for Dragon owners. To make sure that you receive a copy of Dragon User regularly subscribe direct to us. A year's subscription costs £14 for 12 issues (overseas rates available on application). Send a cheque or postal order made payable to Dragon User, and accompanied by your name and address, to Dragon User, Subscription Department, Oakfield House, Perrymount Road, Haywards Heath, Sussex RH16 3DH.

PL32

FOR HIRE

AMSTRAD and BBC software for hire, low prices; extensive lists more details. M. Ryall 1569 Stratford Road, Hall Green, Birmingham B28 9JA.

EDUCATIONAL SOFTWARE

DON'T play games forever. We have a range of educational and business software for the Amstrad, MZ700, CBM64, Electron, BBC, MSX. Send a SAE for details to: Roger Computer Software, 2 Riverway Gardens, The Meadows, Nottingham NG2 3LL.

WANTED

CASH FOR BASIC GAMES

Can you write games programs in Basic (or possibly machine code), for the Amstrad, or Spectrum? If so then we would like to hear from you. We will pay outright cash for your games programs. Send in samples (on cassette) for immediate evaluation.

Send to: Software Editor, Magnum Computing, 3 Wensley Close, Harpenden, Herts AL5 1R2.

PL15

ARE YOU AT SCHOOL?

Are you dead keen on computer games?

Do you want to make some money?

If you say yes to all three, write to us with a stamped addressed envelope and we'll fill you in.

CRL GROUP plc
DREAMSELLERS

CRL House
9 Kings Yard
Carpenters Rd
London E15

14PL2

UNREPEATABLE COMPUTER BARGAINS

AMSTRAD DMP 2000	£129
COMMODORE 803 printer	£99.99
DPS 1101 Daisywheel printer	£176
COMMODORE green screen monitor	£89.00
1570 DISC DRIVE	£169
COMMODORE 128 computer + 1570 disk drive	£389
COMMODORE 128 computer	£220
COMMODORE 128D	£480
AMSTRAD PCW8256 Personal computer & word processing system	£429

(ALL PRICES INC VAT AND DELIVERY)

Add £5 for Securicor delivery

*8256 DISCOUNT SOFTWARE, RING FOR SPECIAL PRICES
cheques payable to*

Matrix Trading

Tempo House, 15 Falcon Road, London SW11

Telephone 01-223 7662 (office only) 10am-12.30pm, 2.30pm-5.00pm 12PL2

COMPLETE PIECE OF MIND FOR ONLY *3p PER DAY

VERNSOFT MICRO COMPUTER PRODUCTS LTD WILL INSURE YOUR HOME COMPUTER AGAINST BREAKDOWN FROM ONLY £10.95 PER YEAR.

YES, THAT'S RIGHT! SHOULD YOUR COMPUTER NEED REPAIRING YOUR INSURANCE WITH VERNSOFT WILL COVER ALL POSTAGE, LABOUR AND PARTS.

TOO GOOD TO BE TRUE? JUST FILL IN THE FORM BELOW AND WE WILL SEND YOU FURTHER DETAILS FOR YOUR PERUSAL OR FOR INSTANT COVER JUST PHONE IN YOUR DETAILS OR SEND THE COMPLETED FORM FREEPOST (NO STAMP NEEDED) AND WE WILL SEND YOUR COVERKIT BY RETURN!

MOST MAKES AND MACHINES CAN BE COVERED INSTANTLY.

PLEASE USE THE FORM BELOW FOR A QUOTATION ON YOUR COMPUTER

Telephone your computer
and credit and details
for INSTANT cover.

0388 777103

Spectrum 48k	£10.95
Commodore 64	£21.95
Commodore 128	£27.95
Amstrad 464	£23.95
BBC B 32k	£36.95

PL 1P

VERNSOFT MICRO COMPUTER PRODUCTS LTD FREEPOST SHILDON DL4 1BS

Please tick

— Further Information

— Quotation

— Immediate cover required

Name

Computer

Address

Serial No:

Signature

Access/Visa NO: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

NO STAMP REQUIRED



FAST COMPUTER REPAIRS

VIDEO VAULT INTERNATIONAL 10★ REPAIR SERVICE



ACCESS
WELCOME

THE NO. 1
REPAIR CENTRE
IN THE U.K.
OTHERS
FOLLOW

24 HOUR
TURNAROUND

WHILE YOU
WAIT SERVICE
CALL FOR APPOINTMENT



KEYBOARD
FAULTS
SPECTRUM
ONLY £8.95

SPECTRUMS REPAIRED for only £19.95 including PARTS · INSURANCE and P & P. NO HIDDEN EXTRAS

We don't give you a between price and let you guess the bill, we give you a 100% fixed price NO extras. We don't need to boast about our service, we have 1000's of customers from all over the world highly delighted with our service and help. Only 20 minutes from Manchester Centre. Commodore 16s, Commodore 64, Vic 20, also repaired call us for details. Please note we never charge between prices. Don't wait weeks for your repair, we turn around all computers in 24 hrs. All repairs carry a full 3 month guarantee, plus on every Spectrum we repair, we send you 4 free games worth £25.80 for your enjoyment and pleasure.

- While you wait service by Professional Computer Engineers
- 3 month written guarantee on all repairs
- International Repair Company. We repair computers from all over the world.
- All computers sent by Mail Order turned around in 24 hrs.

- Most Spectrums repaired within 45 minutes.
- All Micros insured for return journey.
- Keyboard faults only £8.95
- School repairs undertaken - discount available.
- Free software with each Spectrum repaired.
- Over 8 years experience working with computers. All computers fully tested.

HOW TO SEND YOUR COMPUTER

Just parcel your computer in suitable wrapping enclosing £19.95 for Spectrum repairs, please do not send power supplies. Commodore computers, just send £1.75 (U.K. Eire, I.O.M. C.I.) or £6.50 (Europe/Scandinavia) with your address or phone number and we will contact you same day by phone or letter with quote, if you prefer, please call us and we will give you a quote over the phone, we aim to please. That's what made us the most reliable and No. 1 Service Centre in the U.K.

(SPARES AVAILABLE THROUGH OUR D.I.Y. SECTION.)

BEST SERVICE — BEST PRICES!

COMMODORES

* NOW REPAIRED *

Commodore 64, C16's, Vic 20,
1541 Disk Drives. Same Day Service.
Call us for details or purchase
the I.C's from our D.I.Y. section

NEW
VIDEOVAULTS 80K UPGRADE KIT
WATCH THIS SPACE FOR DETAILS
AVAILABLE SHORTLY

THE
LOGICAL
CHOICE

THERE'S
NOBODY QUICKER
IN THE BUSINESS AT PRICES
THAT CANNOT BE
BEATEN

* SPECIAL KEYBOARD UPGRADE



Why not
upgrade your
Spectrum into
a new keyboard,
we can upgrade your
old Spectrum into a new
D.K. Tronics keyboard

for only £31.50 which includes
fitting + return
P & P and V.A.T.

Normal retail price £49.95 without fitting

ORDER
NOW!

SPECIAL OFFER!

YOU CAN'T REFUSE

16K to 48K Upgrade

Upgrade your 16K Spectrum to 48K Spectrum
for only £19.95 fitted including V.A.T. and P & P.
(Issue 2 - 3 only)

(Retained by Public demand.)

To order the Upgrade Kit,
(only £17.95.)



STOP
PRESS

MANCHESTER BRANCH
opening SHORTLY in the
City Centre. Sorry for
delay to all our Manchester
customers.

7 OPEN
DAYS
A WEEK

SERVICE
ENGINEERS
REQUIRED
ONLY 1st CLASS
ENGINEERS
NEED APPLY
FOR OUR
MANCHESTER
BRANCH
OPENING SHORTLY

VideoVault D.I.Y. CORNER

We regret we cannot
show all the components
available. Just give us a
call and we can quote you
over the phone, delivery
by 1st class post.

Spectrum Parts

280B CPU	3.50
4116 Rams	1.0
ZTX650	0.60
Transistor ZTX 213	0.60
Transistor ZTX313	0.50
Power Supply Units	9.95
Feet (Each)	0.25
16K to 48K Upgrade Kit	17.95
Sockets 16-40 Pin	14.50p
Cassette Leads	3.50
T.V. Lead	3.50
Keyboard Membranes	5.00

Commodore 64 Chips

6526	23.00
6510	23.00
6581	23.00
901227-05	23.00
901226-01	23.00
901225-01	23.00
6569	23.00
4164 Rams	3.00
Power Supply Units	29.00

All prices + P & P. £1.50
But include V.A.T.

TRADE
ORDERS
WELCOME

VIDEOVAULT HEALTH WARNING!!!

Sending your computer to any other Repair Centre can seriously Damage its Health

VideoVault Ltd.

Telephone: Glossop (STD 04574) 66555/67761
140 High St. West, Glossop, Derbyshire, England

© Copyright Videovault Ltd. No. 151085

SPECIAL
OFFER

4 FREE GAMES
NORMAL
RETAIL PRICE
YOURS FREE WITH EVERY
SPECTRUM REPAIR
£25.80

There's a Dealer near you . . .

BIRMINGHAM

D.G. MICROTEK ELECTRONICS
1908 DUDLEY ROAD
WINSON GREEN
BIRMINGHAM
Tel: (021) 454 4697

PL544

ESSEX

ESTUARY
PERSONAL COMPUTERS

318 CHARTWELL NORTH
VICTORIA CIRCUS SHOPPING CENTRE
SOUTHEND ON SEA
Tel: (0702) 614131

PL484

CAREY ELECTRONICS
FOR
THE BBC MICROCOMPUTER
SYSTEM
COMPUTERS AND SOFTWARE,
PERIPHERALS.
7 CHURCH ROAD
WALTON-ON-NAZE, ESSEX
FRINTON-ON-SEA (02556) 6993
9am-9pm

PL544A

H REYNOLDS
79 ORSETT ROAD
GRAYS, ESSEX
Tel: (0375) 375948

PL501

MIKES COMPUTER STORE
292 LONDON ROAD
WESTCLIFF-ON-SEA
ESSEX
Tel: (0702) 332554

PL905



520 STM
£399

COMMUNICATION PLUS
5 HONEYWOOD ROAD
(of Cranes Farm Rd)
BASILDON
Tel: (0268) 21818

PL802

COMMUNICATION PLUS
c/o KEDDIES
(second floor)
HIGH STREET
SOUTHEND
Tel: (0702) 62426

PL802

NOBLES
14-17 EASTERN
ESPLANADE
SOUTHEND-ON-SEA,
ESSEX
Tel: (0702) 63377/8

PL908

GLASGOW

THE COMPUTER DEPOT
205 BUCHANAN STREET
GLASGOW G1 2JZ
Tel: (041) 332 3944

PL705

HEREFORDSHIRE

HONEYSETT COMPUTERS
17 UNION STREET
HEREFORD HR1 2BT
Tel: (0432) 279404
ASK ABOUT
CLUNKER SALE

PL524

HUMBERSIDE

THE COMPUTER CENTRE
(HUMBERSIDE)
26 ANLABY ROAD
HULL
NORTH HUMBERSIDE
0482 26297

PL493

KENT

ANIROG COMPUTERS
29 West Hill
Dartford
Kent
Tel: (0322) 91649

PL494

dgh software centre
10 NORTH STREET,
ASHFORD, KENT
Tel: (0233) 32597

PL508

MICROWAY COMPUTERS
39 HIGH STREET
RAINHAM, KENT
Tel: (0634) 376702

PL512

MIDDLESEX

INNOVATIONS
COMPUTER & VIDEO
9 HARMONDSWORTH ROAD
WEST DRAYTON
MIDDLESEX UB7 9JS
Tel: (0895) 420457

PL510

LEEDS

(MICROPOWER)
NORTHWOOD HOUSE
NORTH STREET
LEEDS LS7 2AA
Tel: (0532) 458800

PL563

LEICESTERSHIRE

DIMENSION COMPUTERS LTD
27-29 HIGH STREET
LEICESTER
Tel: (0533) 57479

PL540

LONDON

LOGIC SALES
19 THE BROADWAY
THE BOURNE, SOUTHGATE
LONDON N14
Tel: 01-882 4942

PL506

VIC ODDENS
6 LONDON BRIDGE WALK
LONDON SE1
Tel: 01-403 1988

PL486

SOFTWARE STORE LTD
35 LONDON ROAD
LONDON SW17
Tel: 01-685 1476

PL580

GAMES WORLD
129 KING STREET
HAMMERSMITH
LONDON W6
Tel: 01-741 4467

PL516

LIVERPOOL

BLUE CHIP

BLUE CHIP
77 ALLERTON ROAD
LIVERPOOL L18 2DA
Tel: (051) 722 3037

PL485

SUSSEX

GATWICK COMPUTERS
62 THE BOULEVARD
CRAWLEY, SUSSEX
Tel: (0923) 26240/37842

PL512

SUFFOLK

**FOR MSX, SPECTRUM,
COMMODORE, AMSTRAD**

PL901B



Sudbury Micro Systems
Computer Retail & Consultancy

**64 NORTH STREET
SUDBURY
TEL: SUDBURY 311839**

S. WALES

**MAPPLE MICRO ASSOCIATES
FREEPOST
PO BOX 17
CWMBRAN
GWENT NP44 3YT**

PL948

**MICRO BYTE SOFTWARE SHOP
19A LOWER WARREN CENTRE
LEEDS**

Tel: (0924) 376656

**FULL RANGE OF
TOP QUALITY SOFTWARE
PHONE FOR PRICES**

PL914

WARWICKSHIRE

**FAST FORWARD COMPUTER STORE
29 SMITH STREET
WARWICK
Tel: (0926) 492004**

PL945

YORKSHIRE

**MICRO BYTE SOFTWARE SHOP
36 COUNTY ARCADE
LEEDS
FULL RANGE OF TOP
QUALITY SOFTWARE,
PHONE FOR PRICES
Tel: (0532) 450 529**

PL913

NORFOLK

**THETFORD MICROS
SPECIALISTS -
COMPUTER REPAIRS
21 GUILDHALL STREET
THETFORD
NORFOLK
(0842) 61645**

PL912A

STAFFORDSHIRE

**MICROTRONICS
27a MARKET STREET
TAMWORTH, STAFFS
Tel: (0827) 51480**

PL911

**HOME SOFT COMPUTING
1st FLOOR
81A BOLEBRIDGE ST
TAMWORTH
STAFFS
(0827) 63549**

PL911A

**YORK COMPUTER CENTRE
7 STONEGATE ARCADE
YORK
Tel: (0904) 641862**

PL918

**FOR
POWERFUL
DEALER
ADVERTISING
CALL JON
BEALES
on 01-437 4343**

HA17A

**TELEX YOUR
CLASSIFIED
COPY TO:
296275
SUNRGY**

HAS

Software | PLUS

**The largest independent retailer of software
and accessories in the South East**

BASILDON

**Liberty Shopping Hall
Telephone Basildon 27922**

IPSWICH

**22 St. Matthews Street
Telephone Ipswich 54774**

ROMFORD

**72 North Street
Telephone Romford 65271**

SOUTHEND

**336 Chartwell Square
Telephone Southend 610784**

NEW

New Releases

Graham Taylor looks through this week's new arrivals



Amstrad

Program Alien Highway Type Arcade **Machine** Amstrad **Price** £8.95 **Supplier** Vortex Software, 24 Kansas Avenue, Salford

Program Domsday Blues Type Arcade **Machine** Amstrad **Price** £9.95 **Supplier** PSS, 452 Stoney Stanton Road, Coventry

Program Get Dexter Type Arcade **Machine** Amstrad **Price** £9.95 **Supplier** PSS, as above

Program Into Oblivion Type Arcade **Machine** Amstrad **Price** £1.99 **Supplier** Mastertronic, 6-10 Paul Street, London EC2

Program Zoids Type Arcade **Machine** Amstrad **Price** £8.95 **Supplier** Martech, Bay Terrace, Pevensey Bay, E Sussex.

Program Samantha Fox Strip Poker Type Utility! **Machine** Amstrad **Price** £8.95 **Supplier** Martech, as above.

Program Vegas Jackpot Type Strategy **Machine** Amstrad **Price** £1.99 **Supplier** Mastertronic, as above.

Atari

Program Crusade in Europe Type Strategy **Machine** Atari **Price** £14.95 **Supplier** US Gold, Unit 10, Parkway Industrial Estate, Heneage Street, Birmingham

Program Quest Probe Type Arcade **Machine** Atari **Price** £9.95 **Supplier** US Gold, as above

Program Vegas Jackpot Type Strategy **Machine** Atari **Price** £1.99 **Supplier** Mastertronic, as above.

BBC

Program Bruce Lee Type Arcade **Machine** BBC **Price** £9.95 **Supplier** US Gold, as above

Program Bug Eyes 2 Type Arcade **Machine** BBC **Price** £7.95 **Supplier** Audiogenic, 12 Chiltern Enterprise Centre, Station Road, Theale, Berks RG7 4AA

Program Quill Type Utility **Machine** BBC **Price** £16.95 **Supplier** Gilsoft, 2 Park Crescent, Barry, S. Glamorgan CF6 8HD

Commodore

Program Art Ease Type Utility **Machine** Commodore 64 **Price** £9.95 **Supplier** Gilsoft as above

Program Crusade in Europe Type Strategy **Machine** Commodore 64 **Price** £14.95 **Supplier** US Gold as above

Program Quest Probe Type Arcade **Machine** Commodore 64 **Price** £9.95 **Supplier** US Gold as above

Program Sci Fi Trader Type Strategy **Machine** Commodore 64 **Price** £9.95 **Supplier** US Gold as above

Program RSM Titanic Type Strategy **Machine** Commodore 64 **Price** £9.95 **Supplier** Electric Dreams Software, 31 Carlton Crescent, Southampton, Hampshire SO1 2EW.

Electric Dreams has an erratic record on software - *Back to the Future* was pretty awful - *RMS Titanic* is a stunner.

The object of the game is to undo the work of an iceberg and raise the Titanic from its grave beneath the Atlantic. Play takes place in two locations: on-board your support vessel, and in the ghostly remains of the Titanic itself.

The game itself is an engrossing combination of adventure and strategy. You need to keep your financial backers happy by securing good publicity, as well as getting results on the ocean floor.

But the main action takes place within the Titanic as you explore in a miniature submarine. Many locations are open to you but there are plenty of locked doors in the way. The end result of these puzzles will be to locate six flotation bags.

RMS Titanic will appeal to adventurers, strategists and puzzle freaks alike, and should be an enormous hit.

Plus 4

Program Grandmaster Chess Type Strategy **Machine** Plus 4 **Price** £8.95 **Supplier** Audiogenic as above

QL

Program Baron Rouge Type Ar-

Starstrike II

Program Starstrike II Type Arcade **Price** £7.95 **Micro** Spectrum **Supplier** Realtime Software, Prospect House, 32 Sovereign Street, Leeds LS1 4BJ.

Starstrike II is in some ways the most impressive 3D space game ever seen on the Spectrum. Certainly in terms of pure graphic impressiveness it is difficult to see how much more could possibly be achieved on Amstrad's latest acquisition.

The difference between *Starstrike II* and other 3D shoot-em ups is simply this - all the graphics are solid, given different kinds of shaded fill to provide a convincing illusion of real substance. The effect is quite stunning.

If *Starstrike II* beats *Elite* hands down on graphics, its plot is perhaps a little weaker. Essentially the game comes down to blasting and docking. Your simple objective is to clear Federation (*Star Trek* has so much to answer for) space by knocking out all enemy bases.

Bases are defended to various levels depending on their status - military, industrial, agricultural. To destroy a base you must, a) get hyperspace travelling gear by docking with a support module, b) select the system and planet for attack, c) squeeze through a small opening in a giant space grid blasting at countless aliens as you go, d) blast away and destroy all the defences of the planet, e) fly over the planet surface blasting at more defences, f)



fly down the ventilation duct (shades of *Star Wars* again) and, finally g) blast either a reactor system, battle computer or agricultural control centre and escape.

There are a few other things - some neat-looking giant space wheels you can destroy by (here we go again), a) blasting away defence pods, b) successfully docking or, c) blast the internal control units. You may also find fuel pods floating around after you have destroyed an enemy ship - these can be picked up.

It's good blasting fun and technically and visually excellent.

I'm not sure that there is really much to the game beyond the several types of blasting, but perhaps that doesn't matter. There is enough here to make a good many space cadets go gaga. Good also to see Realtime maintaining the middle pricing ground.

cade Machine QL Price £17.00 **Supplier** Labochrome 173, rue de Fragnée, B-4000 Liege, Belgium

Program Gwendoline Type Arcade **Machine** QL **Price** £18.00 **Supplier** Labochrome as above

Program QL Ram/Utilities Type Utility **Machine** QL **Price** £14.95 **Supplier** DS Enterprises, 25 Trinity Rise, London SW2 2QP

Program Sign Designer Type Utility **Machine** QL **Price** £18.95

Supplier DS Enterprises as above

Spectrum

Program Alien Highway Type Arcade **Machine** Spectrum **Price** £7.95 **Supplier** Vortex as above

Program Challenge Type Strategy **Machine** Spectrum **Price** £5.95 **Supplier** Azed Software, 3 Victoria Gardens, Henstridge, Templecombe, Somerset BA8 0RE

Program Cyberun Type Arcade
Price £9.95 **Micro** Spectrum
Supplier US Gold, as above.

Cyperun is the first new Spectrum title from Ultimate to be issued under the new deal with US Gold.

Much has been expected from it – what could Ultimate do once the business of marketing and promotion was removed from its concerns and it could be left to do what it undoubtedly does best – developing new software?

Cyperun returns to the style of graphics – large detailed sprites – associated with ancient Ultimate titles like *Jet-Pac*. In fact, much of *Cyperun* reminds me of *Jet-Pac* and *Lunar Jetman*. Big, faintly comic aliens, collecting the parts of your vehicle (in this case a whizzo spaceship) and blasting things. Just like *Jet-Pac*, you collect things by crashing into them (basically) and from time to time must refuel.

Your task is to mine the planets of the Zebarema system for cybertron, which is a really useful substance. There are, inevitably, countless alien hordes who must be blasted to bits or at least avoided, quite apart from negotiating a series of caverns beneath the planet's surface, in a sort of *Caverns of Mars* section to the game.

As a space blasting game – *Cyperun* is not bad but it looks positively dated – I could easily believe it was written two years ago and was recently discovered underneath a pile of dust in some corner of Ultimate's laboratory. Innovative it isn't, fun to play, maybe, in a nostalgic sort of way, but really a disappointment. What on earth is Ultimate doing?

Program Green Beret Type Arcade
Price £7.95 **Micro** Spectrum
Supplier Imagine, 6 Cen-

tral Street, Manchester M2 5NS.

Green Beret is another one of those games, like *Commando*, in which a lone American psychopath rescues the world from



the Communist threat by killing a vast number of people with a variety of weapons. It's a good game, though.

It's based closely on the arcade game of the same name and is stab, shoot, blast and dodge in the classic tradition. In fact the game reminds me a little of *Hunchback*. It is divided into various segments – the missile base, harbour, bridge and prison camp. As your hero runs left and right, a suitably military-looking background scrolls behind him. Waves of assorted Eastern Bloc types come rushing in, stabbing, shooting and leaping (Cosacks, obviously) their little red hearts out.

Dealing with the assorted enemy soldiers is a matter of climbing ladders to higher platforms, jumping over them and, of course, stabbing them (a stabbed baddy first turns to a skeleton before kicking the Samovar – a tasteful touch). If you manage to kill the commandant in an attack wave you suddenly get a weapons system which can wipe out several baddies in one blast – it runs out after three blasts, however.

It's very fast, very brutal and very addictive. A classic case of the 'just-one-more-goes' was had by all in the office who tried it. At £7.95 for the Spectrum version it isn't too expensive either.

Program Bounces Type Arcade
Price £7.95 **Micro** Spectrum
Supplier Gremlin Graphics, Alpha House, 10 Carver Street, Sheffield S1 4FS.

Program Henry's Hoard Type Arcade
Price £1.99 **Micro** Spectrum
Supplier Alternative Software, Balleygate Industrial Estate, Pontefract, W. Yorks.

Program Ticket to Ride Type Arcade
Price £1.99 **Micro** Spectrum
Supplier Mastertronic, as above.

Program Phonenix Type Arcade
Price £1.99 **Micro** Spectrum
Supplier Alternative Software, as above.

Program Sky Ranger Type Arcade
Price £1.99 **Micro** Spectrum
Supplier Mastertronic, as above.

Program Knight Tyme Type Arcade
Price £1.99 **Micro** Spectrum
Supplier Mastertronic, as above.

Program Quazatron Type Arcade
Price £8.95 **Micro** Spectrum
Supplier Hewson, Milton Industrial Estate, Milton, Abingdon, Oxon.



Program Rebel Type Arcade
Machine Spectrum
Price £9.95
Supplier US Gold as above

Program V Price £9.95 **Type** Arcade
Micro Spectrum
Supplier Ocean, 6 Central Street, Manchester M2 5NS.

V, the mini series was incredibly successful, but that was a while ago. *V* the TV series is not very successful (but a lot funnier) and crops up at obscure hours on regional TV. Doesn't this represent a smart marketing move by Ocean?

V the game is not bad. It is far more related to *Impossible Mission* from Epyx than to the details of the TV show and that, perhaps, is a good thing. The



objective of the game is to plant explosives at key points on the visitors' mother ship. This involves dodging various kinds of robot whose blast can (eventually) kill you and getting through a series of security doors to reach the key areas. Access is achieved by discovering secret door codes and using a hand-held computer to enter them into the system. This section of the game is essentially a sort of logic puzzle as you try to match a pattern of shapes.

A side plot involves discovering the parts of a formula (hidden in various laboratories around the ship) for red dust and then releasing the dust into the air purification plant – this topples aliens like nine pins.

There are two control modes, left, right and fire when Donovan is searching the ships endless corridors. There's also an icon-like arrow cursor system which selects various options from Donovan's hand-held computer – used, for example, when discovering security codes.

Graphically the game is detailed and avoids most of the colour-res problems usually associated with detailed sprites moving over a detailed background. However, things are curiously indistinct; sometimes Donovan seems to get lost in the background. In addition, there is a decided lack of variation – those endless corridors all look pretty much the same. Perhaps that's the point though.

V is a reasonable effort and is certainly worth a look.

Program Wordsearch Type Strategy
Machine Spectrum
Price £5.95 **Supplier** Azed Software as above





Sinclair: the dust settles

Amstrad's sudden announcement that it was buying Sir Clive Sinclair's computer business took so many people by surprise that it was a while before the implications of the deal became apparent. Alan Sugar and Sir Clive Sinclair make very unlikely partners; Sir Clive may have admired Amstrad's marketing prowess, but he didn't think much of its technical innovation, and Alan Sugar has been wont to refer to Spectrums as "pregnant calculators".

The questions taxing most people by the next morning were: Why has Amstrad done this, what will it do with Sinclair's products, and what does this mean for the UK computer market?

Alan Sugar answered these questions rather off-handedly at the press briefing, as though he had not really thought his plans through. This has got to be nonsense. £5 million may not be a vast sum of money to Amstrad at the moment, but you can be sure Alan Sugar isn't going to take on Sinclair's computers without being 100% certain what he plans to do with them.

Amstrad has ostensibly done this because "Sinclair has dominated the entertainments market in Europe for years", because "an on-going entertainments market is viable". Sugar saw the potential of a purely games machine on a recent visit to Japan, where Nintendo has recently notched up nine million sales of its games console. Amstrad's own nearest competitor to the Spectrum, the CC464 has not been manufactured for sale in this country some time, so it looks as though the new souped-up Amstrad-Spectrum will become Amstrad's sole games-orientated machine.

But the deal gives Amstrad an all-embracing

catalogue of machines, from the Spectrum, through the CPC6128 and the PCWs, up to the forthcoming PCs. Somehow, the ill-fated QL does not quite fit into this set-up, but if Amstrad does decide it can see no future in it, it would be nice to see it survive through a consortium (see News Desk).

As for what Amstrad will "do" with the Spectrum, it seems certain to reappear as a no-compromise games console, with either a tape deck or disc drive built-in. One only hopes Amstrad will also do something with the keyboard, and of course, a games console is not a games console without a joystick port. Look out for this one at the *Personal Computer World* show in September.

Its option on future Sinclair products is even more interesting. From what we know of the Pandora it doesn't sound quite like an Amstrad product. True, its CP/M facilities which Sir Clive mentioned at the Spectrum 128 launch would fit in nicely, but Smart cards...?

As for the implications for the home computer market, they are staggering. Amstrad has effectively bought it, lock, stock and barrel. None of cash troubled Commodore's investment is going down into the (purely) entertainments sector, after the failure of the C16, the aging of the 64, and Commodore's emphasis on the C128s as more serious upgrades.

Atari's plans for its 8-bit range mainly concern adding word processor packages, although it is hoping for a revival in the VCS field; but Atari would get most upset if anyone said its STs were entertainment micros, Acorn, as we all know, removed itself from the home market some time ago.

And that's only in the UK, Amstrad has a very strong presence in Europe, particularly France, Germany (where the machines are badged Schneider) and Scandinavia. The Spectrum is strong in Spain, and according to market research company IDC, Sinclair was the second highest shipper (to Commodore) in Europe in 1984, with 29% of total deliveries. Its new signing thus gives Amstrad an even stronger European base - and more than half of Amstrad's turnover is now coming from overseas.

Any deal for Sinclair now is good news: This one has secured the future of Spectrum for at least a year. The QL looks likely to survive in one form or another, and Sir Clive has got some initial financial backing for his own projects.

I wouldn't worry too much about Sir Clive, either - he'll be back. I don't know what kind of product will signal his return to the forefront of innovative technology, but I don't mind betting it will be very small, and very black.

Christina Erskine

Puzzle No 204

I carried out the following interesting experiment the other day: I took a hundred cards, each numbered in sequence from one to 100 (the top card being one and the bottom, 100). I cut the pack of cards and remade the pack. This operation I repeated several times. Note that this will not disturb the order of the cards, just the position of the values relative to the pack. Starting with the top card (which was 32), I turned up each card in sequence and adding each value in turn to a running total. After I had added the values on all one hundred cards, I was surprised to find that at no time had the running total included a prime number.

This led me to wondering which value card should be on the top of the pack at the start in order to arrive at the most primes.

Can you work it out?

Solution to Puzzle 199

The cost of each gift set was £1.95, making the total for from 2 to 9 sets equal to: £3.90, £5.85, £7.80, £9.75, £11.70, £13.65, £15.60, £17.55.

```
10 FOR N=1 TO 999
20 LET N$=STR$(N)
30 FOR F=2 TO 9
40 LET F$=STR$(F*N)
50 LET N$=N$+F$
60 NEXT F
70 LET T=0
80 FOR D=1 TO LEN(N$)
90 IF MID$(N$,D,1)="2" THEN LET T=T+1
100 NEXT D
110 IF T=0 THEN PRINT N
120 NEXT N
```

We need a number, the product of which will not contain '2' when multiplied by integers from 1 to 9. In the program a starting value is set up in the *For/Next* loop at Line 10. This is the price, in pence of a single item. The value is converted into a string variable (*Ns*). Variable *N* is then multiplied in turn by factors of 2 to 9, each product converted to a string and 'added' to string *Ns*. The resulting string is scanned for the digit '2' in lines 70 to 100.

An upper limit of £9.99 is set as the problem states each item is under this amount.

Winner of Puzzle No 199

The winner is Mr L E Davies of Wilson Rd, Derby, who will be receiving £10.

Rules

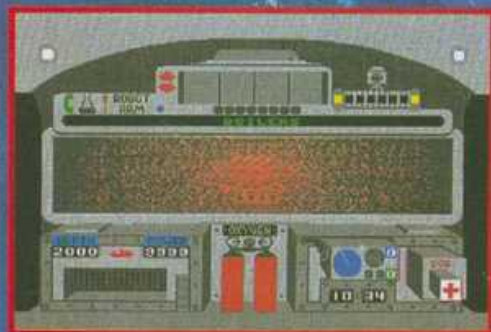
The closing date for puzzle 204 is May 13.

The Hackers



R·M·S

TITANIC



Explore the world's most famous wreck almost two miles beneath the waves. Search for the massive wealth of treasure that lies inside her and devise a plan to raise the entire ship.

A fast-action icon-driven graphic adventure in which you explore the five levels of the wreck, with more than 240 rooms, and over 170 objects, the majority of which will be found on the actual ship.

Finance your expedition.
Attend press conferences.
Map the wreck.
Raise the Titanic!

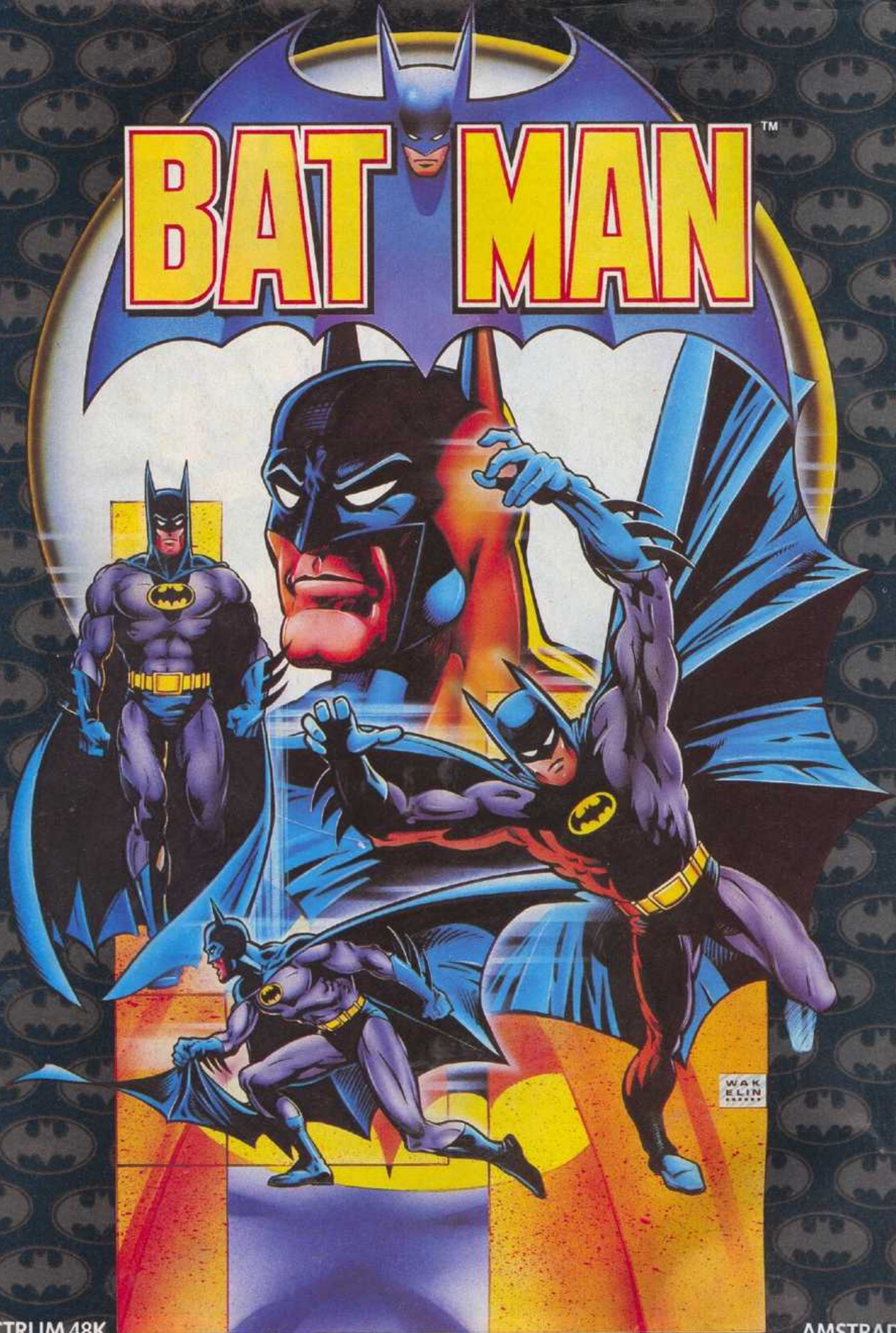
*Electric
Dreams*

SOFTWARE

Available on the Commodore 64, Amstrad and 48k Spectrum from:
Electric Dreams Software, 31 Carlton Crescent, Southampton. Tel: 0703 229694

DIR

BATMAN™



WAK
ELIN
ARTIST

SPECTRUM 48K

7.95

Ocean Software Limited,
6 Central Street, Manchester M2 5NS

ocean

Telephone: 061 832 6633
Telex: 669977 Oceans G

AMSTRAD

8.95