

Your COMPUTER

► JANUARY 1987 VOL. 7 NO. 1

BRITAIN'S BIGGEST-SELLING HOME COMPUTER MAGAZINE

HOME PUBLISHING

IS YOURS A PUBLISHING HOUSE?

THE CLASS OF '86 —
THE YOUR
COMPUTER
AWARDS

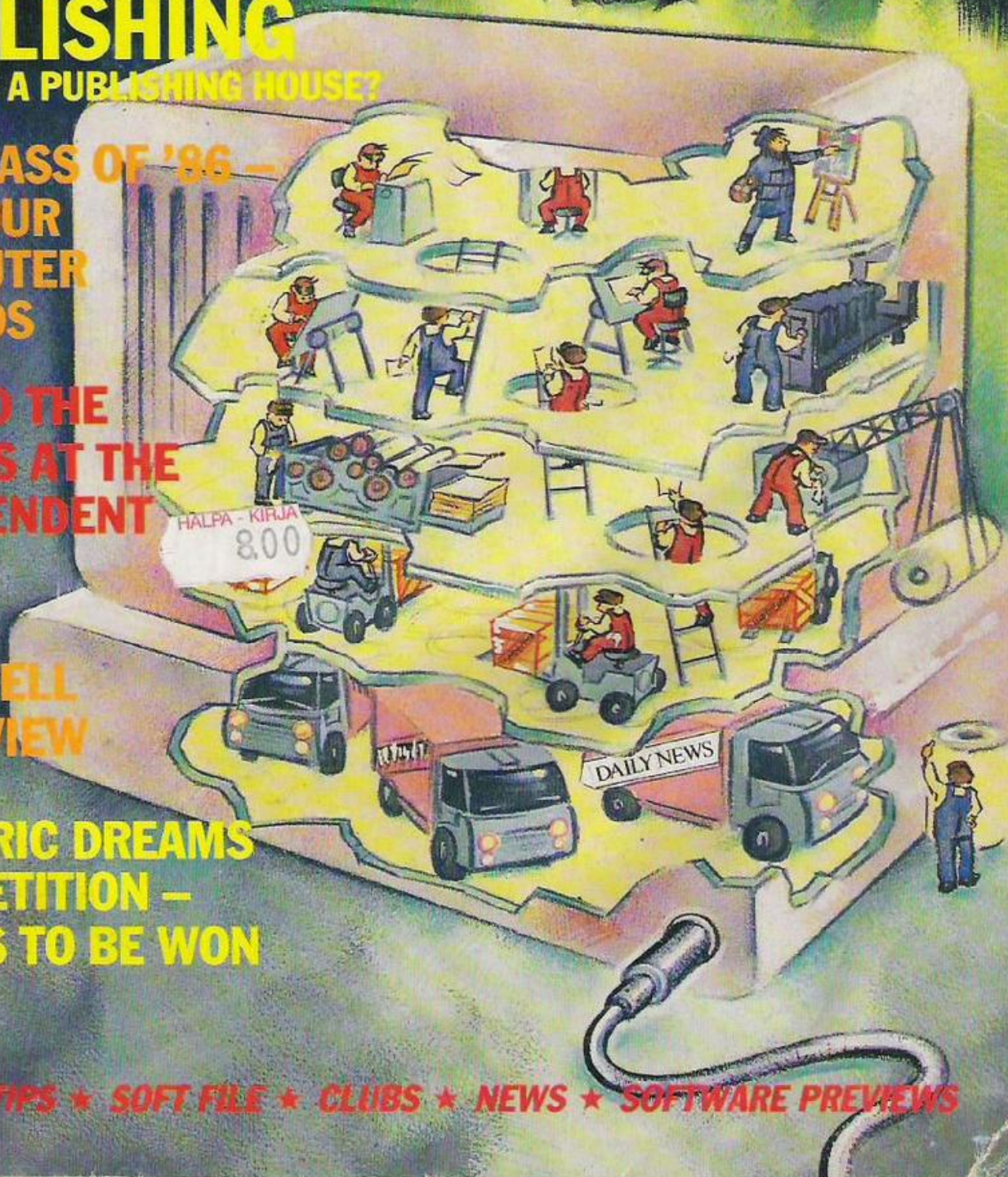
BEHIND THE
SCENES AT THE
INDEPENDENT

NOLAN
BUSHNELL
INTERVIEW

ELECTRIC DREAMS
COMPETITION —
ALIENS TO BE WON

£1

Denmark	Dkr.	36.00
France	Fr.	52.50
Germany	DM.	8.50
Greece	Dra.	360.00
Netherlands	DFI	8.90
Italy	L.	4300
New Zealand	NZ\$	3.70
Spain	Pts.	425.00



HINTS & TIPS ★ SOFT FILE ★ CLUBS ★ NEWS ★ SOFTWARE PREVIEWS

With monitor, data £100 of software you (Until mummy cate



With the Amstrad 464 home computer the fun starts as soon as you get it home.

Because unlike many other home computers the 464 comes complete with its own green screen or full colour monitor.

It also comes with a convenient built-in datacorder.

And you get £100 worth of software with games like Harrier Attack and Sultan's Maze. Not to mention Oh Mummy.

64K of RAM



means you have plenty of memory to play with. And there are over 200 Amstrad games you can play, many exclusive to Amstrad.

But games are only half the fun on the 464.

The kids can learn spelling and arithmetic with software like Wordhang and Happy Numbers.

Whilst adults will love the way that it helps around the house with budgeting and accounts.



order and
u can't lose.
hes you.)



To help you make the most of your 464, you can join the Amstrad User Club.

And there are lots of books and magazines devoted to it as well.

What's more you can buy joysticks, printers, disc drives, speech synthesisers and light pens to make it even more fun.

But perhaps the most pleasurable thing about the 464 is the price.

The complete home computer costs just £199 with green screen or £299 with colour monitor.

Not much to pay for a chance to get away from mummy.

Please send me more information.

Name _____

Address _____

464YC4

The Amstrad 464.
The complete home computer.

Amstrad P.O. Box 462, Brentwood, Essex CM14 4EF.

Editor

Gary Evans

Deputy Editor

Francis Jago

Staff Writer

John Barnes

Sub Editor

Harold Mayes MBE

Production Editor

Jim McClure

Production Assistant

Nick Fry

Editorial Secretary

Sheila Baker

Designer

Chris Winch

Design Assistant

Neil Tooke

Head of Advertising Sales

Dory Mackay

Advertisement Manager

David Lake

Advertisement Executive

Tim Seymour

Classified

Paul Monaf

Publisher

Paul Coster

Financial Director

Brendan McGrath

Managing Director

Richard Hease

Your Computer,
79-80 Petty France,
LONDON SW1H 9ED
TELEPHONE: 01-222 9090
FAX: 01-222 0461
TELEX: 9419564 FOCUSG

ISSN 0263 0885

© 1987 Focus Magazines Limited
Printed by The Riverside Press, England
Typeset by Time Graphics Ltd, Northampton

ABC

Distributed by Quadrant Publishing Services,
Quadrant House, Surrey, SM2 5AS. Telephone:
01-661 3239.

Reasonable care is taken to avoid errors in this magazine but no liability is accepted for any errors which may occur. No material in this publication may be reproduced in any way without the written consent of the publishers. The publishers will not accept responsibility for the return of unsolicited manuscripts, listings, data tapes or discs.

We will assume permission to publish all unsolicited material unless otherwise stated. We cannot be held responsible for the safe return of any material submitted for publication. Please keep a copy of all your work and do not send us original artwork.

Unfortunately we are unable to answer lengthy enquiries by telephone. Any written query requiring a personal answer MUST be accompanied by a stamped, self-addressed envelope, please allow up to 28 days for a reply.

Subscriptions: U.K. £15 for 12 issues, Overseas (surface mail) £25—airmail rates on request. Please make cheques/postal orders payable to Focus Magazines (allow 5 weeks from receipt of order to delivery of first subscription copy). Send orders to Your Computer Subscriptions, Oakfield House, Peirymount Road, Haywards Heath, RH16 3DH. Telephone (0444) 459188.

Back issues of the magazine from January 1986 onwards are available for £1.50 (U.K.), \$3 (Overseas) from the Back Issues Department, 79-80 Petty France, London, SW1H 9ED.

CONTENTS

YEAR'S BEST
Awards to the software
such a memorable

22

READERS' LETTERS

Some controversial views on the computer world, and a prize for the letter of the month.



24

COMPUTERS IN ACTION

The Independent relies heavily on computer technology; we show how and why.

27

ADVENTURE SECTION

Our monthly guide to the world of games for adventurers.



34

DESK-TOP PUBLISHING

No longer only a dream for business users, DTP will soon be a way of life.

36

FLEET STREET EDITOR

Another cracker from Mirrorsoft, this time for PC compatibles.



BEST, 1986

software and hardware that made 1986 a memorable year. See page 42.



56

NOLAN BUSHNELL – THE BEAR FACTS

This man has come a long way since inventing the first-ever computer game. We talk to him and his entourage.



62

SPECTRUM TO AMSTRAD TRANSFER

These two machines are similar enough for data to be transferred – but it is still not a simple task. Our experts guide you through the process in part one of this series.



78

PROFILE – ELECTRIC DREAMS

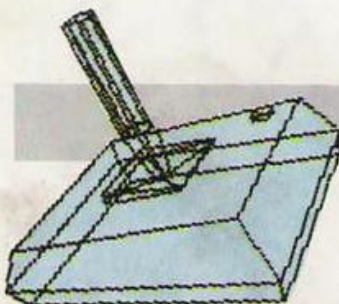
With Aliens on the way, and Big Trouble approaching, this company has bold plans for the future.



82

MODEL UNIVERSE

Animation on the Amstrad made simple with this package from Amnor.



Your COMPUTER

NEWS

8 Five pages of information on the latest developments in computing.

CHARTS

16 A surprisingly volatile chart for the new year.

SOFTWARE PREVIEWS

17 Previews of all the latest games, and some exciting news.

COMMUNICATIONS NEWS

21 Updates from the world of Comms.

GAMES FEATURE

39 The new Sega Games machine, in full.

SOFTWARE REVIEW

40 More Mirrorsoft packages for the ST.

SOFTWARE SHORTLIST

49 The boys with the joystick return to conquer the latest games.

BOOK REVIEWS

58 We examine the latest books, and report.

SOFTWARE EXCHANGE

60 A round-up from the last year, your chance to get the best.

PROGRAM FILE

64 A plethora of programs for you to type.

COMPETITION

81 Win an Alien game, plus poster and sweatshirts.

NEXT MONTH

90 Includes details of the exciting February issue.



MONSTER MEMO

GET YOUR HANDS ON THE NEW SINCLAIR 128K +2. BEFORE EVERYBODY ELSE DOES.



The new 128K ZX Spectrum +2 is more than just a monster memory. It's the ultimate family computer. With a built-in datacorder for easier loading, superb graphics capability, two joystick ports, a proper typewriter keyboard and more games available than you can shake a joystick at (well over 1000 software titles, in fact). Better get your hands on the new 128K ZX Spectrum +2 soon. Before they do.

£149

MEMORY • MONSTER VALUE

Available from: Alders, Boots, Clydesdale, Comet, Connect, Co-op, Currys, Dixons, Electric Supreme, Laskys, John Lewis, John Menzies, Power City, Rumbelows, Ultimate, WH Smith, Wigfalls, and good independent stores.

We recommend Sinclair Quality Control Software.

To: Sinclair, P.O. Box 462, Brentwood, Essex C14 4ES.
Please send me more information about the Sinclair 128K ZX Spectrum +2.
Name _____
Address _____

YC4

sinclair

With this issue *Your Computer* moves into its seventh year of publication. At the time it was launched hardware technological innovation was represented by the 1K ZX-81. Leading-edge software was represented by a Space Invaders game which would keep the games player of today amused for all of five minutes.

Through the years, *Your Computer* has developed with the maturing hardware and software industries, keeping readers up-to-date with the latest developments in the two complementary sectors which comprise the home computer industry. In that time we have reflected the many moods of the market since the earliest days.

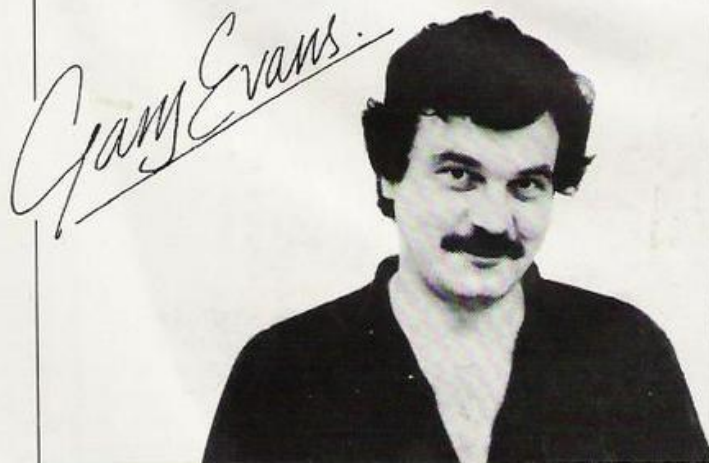
The initial euphoria which surrounded every new launch of 1983 and 1984 was, during the dark days of

COMMENT

1985, replaced by a mood of gloom and doom. While reflecting those views from the industry, *Your Computer* has always adopted a detached approach to its reporting of the market, refusing to be influenced by the emotional ups and downs of others.

That philosophy will be maintained as we enter the 1987 publishing year, though even the most detached of observers would conclude that the prospects for the year look far better than many would have thought a year ago. In 1986 Amstrad showed that the home computer boom is definitely not over. With the launch of its PC, it has opened a new and exciting market for the home micro user.

We wish all our readers a prosperous 1987, one in which they will continue to enjoy computing as a hobby. There should be plenty of exciting new hardware and software products to make sure that they continue to do so.



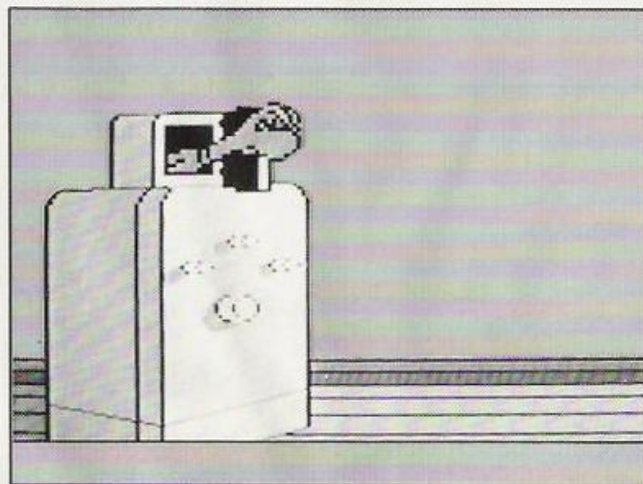
New Gadget

Inspector Gadget, that zany French detective, has finally become the subject of a new game for the Commodore 64 from Melbourne House. The storyline centres on the inspector hotly-pursuing MAD agents round a circus. In the circus the dastardly creatures have planted bombs and the inspector has to defuse them before they detonate.

All round the circus there are dangers intended to foil the progress of Inspector Gadget. There are fragile glass panes,

boulders, snakes, bouncing balls and small lakes but the inspector is adequately-equipped with familiar items from the television program such as gadget skates, gadget legs, the gadget hammer and the infamous Gadget 'copter.

The game is fast and exciting, with plenty of action to keep the most dedicated gamers happy. *Inspector Gadget and the Circus of Fear* will be released this month and will cost £9.95 for cassette and £14.95 for disc.



U.S. Gold Competition

The competition in the October issue of *Your Computer* in conjunction with U.S. Gold presented a problem to some on question two. The major motor racing event which had taken place for the first time in Birmingham was Halfords Formula 3000 Super Prix. The following 10 winners were the first to be picked with the correct answers:

David Grierson, Cudham, Kent; Chris Holland, Camberley, Surrey; Malcolm Sims, Canterbury, Kent; Mark Watson, Comerton, Cambridgeshire; C. Williams, Liverpool; John Brooks, Cookham, Berkshire; Tracy Mallen, Quarry Bank, West Midlands; Ellery Phillips, Bury St. Edmunds, Suffolk; John Rees, Amman-

ford, Dyfed, South Wales; E. Walsh, Crowthorne, Berkshire. The lucky ones receive a T-shirt plus a copy of the popular game *Gauntlet*.

The 10 runners-up who will each receive a copy of the game are P. Chener, London N8; K. E. Hankin, Aldridge, West Midlands; Paul Wall, Willenhall, West Midlands; Kevin Young, Tolworth, Surbiton, Surrey; A. Chaplin, Kilcregan, Dunbartonshire, Scotland; Jan Andrzejewski, Wigston Fields, Leicester; Dominic Bourn, Wolverhampton, West Midlands; James Winter, Wallingford, Oxon; Matthew Wood, Wolverhampton, West Midlands; James Turner, Baslow, Derbyshire.

Casio launches lap-top

Hand-held computers are without doubt the gadgets to own at the moment. In response to the huge demand for the products,

it seems likely that Casio is to extend its range of personal basic pocket computers.

The new Casio model still in

the pipeline is intended to have sufficient power to compete in the lap-top league and is said to have features such as touch-screen technology, built-in assembler monitor, auto-boot on power-up and a real-time clock and calendar which can initiate power-up.

There will be a number of options, including a cassette interface which has RS232 and Centronics ports. In addition, there is a battery-powered 3.5in. disc drive option, providing 320K of storage.

The machine will probably be called the PB1000 and the possible starting-price with 8K of RAM is in the region of £140 including VAT.

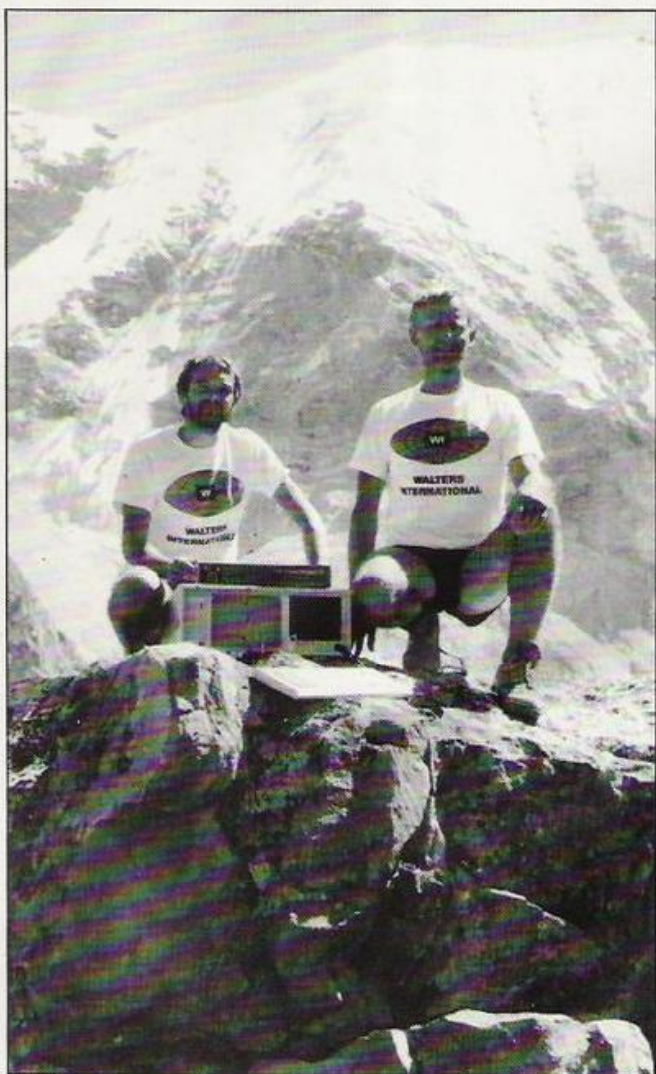


High-tech

A recent expedition to the Himalayas used a Walters PC/XT portable computer to collect information. The expedition, organised by the Metropolitan Police, conducted useful research into the beneficial effects of anti-hypoxia drugs which are used to combat the effect of small amounts of oxygen being delivered to the bloodstream. For mountain-climbers the effect of low amounts of oxygen result in fatigue and poor performance.

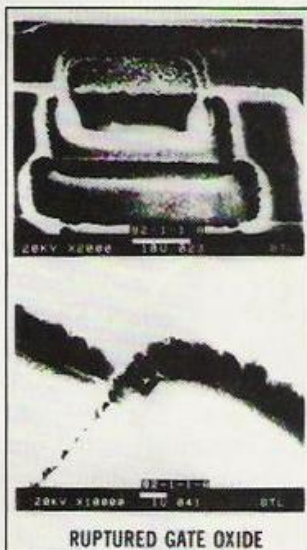
The computer, which was powered by specially-made power wedges which were recharged using solar panels, was used to store data and to conduct tests measuring cognitive and motor abilities.

The Walters portable was located at a height of 15,400ft. and the research was conducted by two non-police members of the team. It is believed to be the first time a micro with floppy drives and a standard VDU has been used at such a height to carry-out original scientific research.



Static attack

Most computer breakdowns occur between October and April. In the service business the period is called "the season" and it is attributed to the



increase in breakdowns due to turning-on central heating systems in the winter months.

Static Buster is a new product which claims to help reduce the likelihood of breakdown during the 'season.' At £49.95 the device offers a permanent answer to the problem of static electricity.

Manufactured by IS Ltd of Rochdale, the Static Buster is intended to reduce the vast sums some companies spend on computer systems. While most people will spend a large sum on installation, not so many give much thought to the prevention of computer malfunction.

Repair bills in the U.S. last year were estimated at \$823 million. Many could be attributed to static damage. As David Haworth of IS comments:

"The only people who are really profiting from the effects of static are those in the computer servicing and repair industry." With the promise IS offers, £49.95 would be well-spent on this useful device.



THALAMUS



CBM 64/128

CASSETTE £9.95 DISK £14.95

By
**STAVROS
FASOULAS**

THALAMUS LIMITED
Front Office
1st Floor Advance Works
44 Wallace Road, London N1 1PQ

Distributed by **US GOLD LIMITED**, Unit 2/3 Holford Way, Holford, Birmingham B6 7AX Tel: 021-356 3388

Independent update

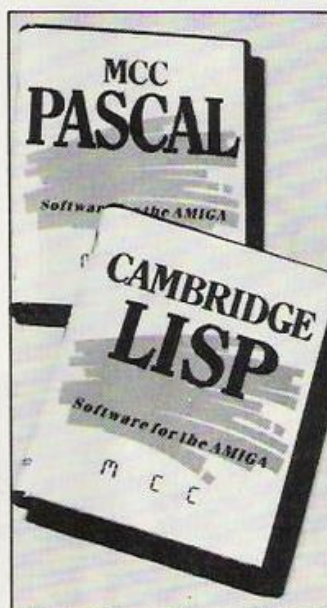
The 1512 Independent User Group has made a busy start, dispute the comparatively small number of Amstrad PCs so far in use.

The group's helpline service has been offering advice and answering members' queries by telephone and letter and the public domain software library can now offer more than 500 discs, including a free British Accounts package and two discs containing a selection of

the best DOS utilities. In addition, the group has just produced its first newsletter.

One of the original promises made to members of the group was special offer prices on hardware and software. The first offer is the NewStar New-Word 3 word processing package at half-price. The software is offered to members at £149.

Readers interested in joining the group should contact 0959 24955 or 0959 22585.



Sure of Shell

Metacomco has launched the *Metacomco Shell*, an improved version of the standard Amiga command line interpreter which integrates fully with the entire Amiga DOS environment.

Features offered by the package include shell facilities such as command line editor, command line history, variables and push the pop directories.

The Shell is accompanied by a software diskette, manual and customer support information and is available at £49.95 including VAT.

Versatile portability

Epson, the company well-known for its printers and PC compatibles, is to have a range of EHT series of hand-held terminals available from February. Measuring 93 x 213 x 37.5mm. and weighing only 600 grammes, they offer extremely versatile configurations, with memory available from 64KB to 256KB of RAM and a system ROM of 128KB.

Featuring a large liquid crystal touch panel displaying 12 x 14 characters, the machine permits easy display of text or graphics. Also included is an RS232C-compatible port to allow connection to modems, printers and disc drives.

For further details of the machine or its potential applications, contact Epson on 01-902 8892.

MAGAZINE REPRINTS

Would your company like a reprint of one of the features which appear in this magazine? We can offer reprints of any article of any length, printed attractively and, if required, bound with a cover to your specification.

If your company would like to take advantage of this service, please contact Jim McClure, who would be happy to discuss your requirements.

**Jim McClure, Production Manager,
Focus Magazines,
79-80 Petty France, London SW1H 9ED.
Telephone: 01-222 9090.**





Gem of a desk-top

A new software package for the Amstrad CPC range has been released by Advanced Memory Systems of Warrington. The package, *Max*, provides a graphic extension to the disc filing system, offering a front-end WIMP environment with a wide range of disc management operations.

Capable of operation with keyboard, joystick and AMX mouse, disc cataloguing into a window of up to two disc drives is possible, with the catalogue presented in icon form and sorted by name, file type or length. It is also possible to execute files in Basic and machine code. Selection of on-screen colours is also possible and the screen can also be dumped to Epson-compatible printers.

The package is available on disc with a manual and reference guide at a cost of £19.95.

Relatively cheap package

The latest product on offer from Tatung (U.K.) Ltd is a package which includes an Einstein computer and a 14in. colour portable television set at £349 including VAT.

The Einstein has 80K of RAM, a 3in. disc drive, a Centronics RS232 interface, analogue/digital converters and joystick, pipe and user ports. Designed and manu-

factured in Britain, the computer is an advanced disc drive micro which can meet the needs of business and home users.

The television set in the package is a Deccacolour 13-colour portable television with soft touch channel selection.

For those who still have money to spend after Christmas, it looks a good deal.

Book to help organise

The amount of exposure given to the Psion Organiser II made it inevitable that someone would publish a book about the machine. *Using and Programming the Psion Organiser II* is the first to be published. Retailing at £9.95, the book by Mike Shaw contains a detailed explanation of how to use the Organiser II.

One of its aims is to enable readers to understand the

internal functions of the Organiser and then to teach them to use those functions more fully by programming on the machine.

The book is well-written and the style makes it highly-readable for beginner and expert alike.

For more details contact Kuma Computers Ltd., 12 Horseshoe Park, Pangbourne, Berkshire RG8 7JW.



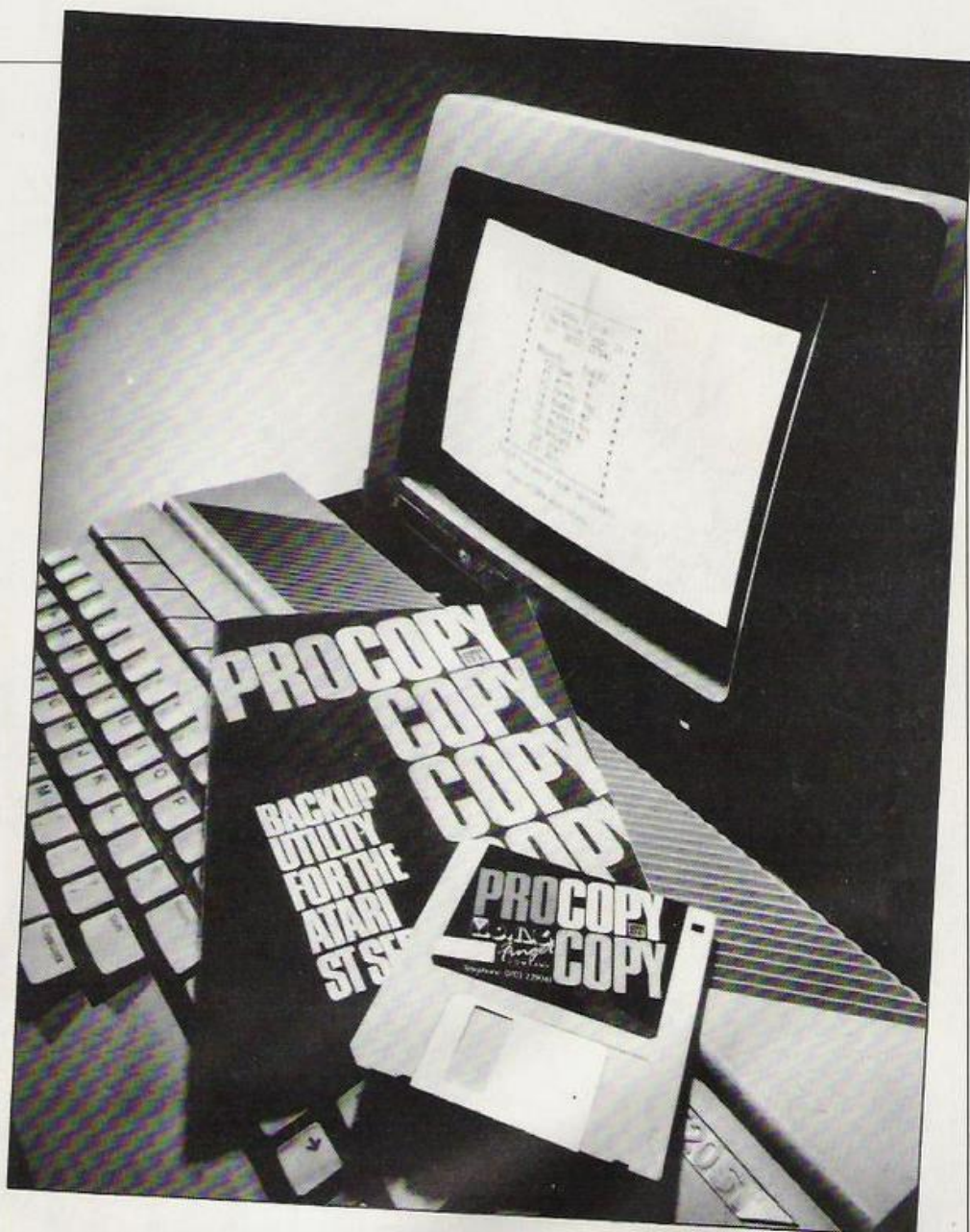
Copy- ing on the ST

A new disc copying utility for the Atari ST has been released by Southampton-based Moving Finger Co. The software package offers a number of disc copying utilities, including the ability to make back-up copies of protected software.

The advantage *Procopy* offers is the security of working from copies at all times. If the software then becomes corrupted or damaged, a new copy can be made.

The program is very easy to use, configuring itself automatically to the available disc drives and memory. *Procopy* can also format and copy in one operation and make a number of copies without re-reading the source disc, which offers a considerable time saving.

The package, with a detailed manual, costs £34.95 including VAT and postage.



More drive for Atari

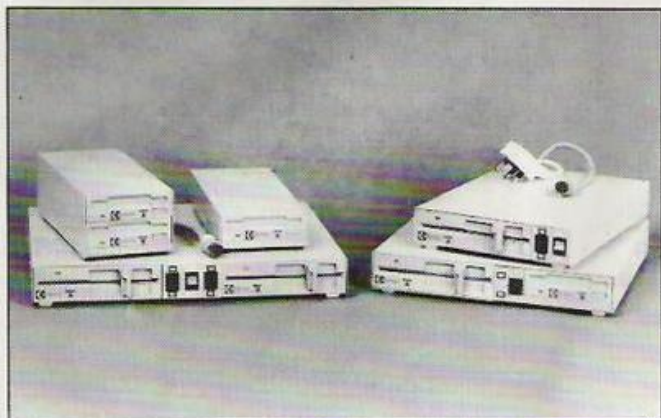
Cumana Ltd, the largest manufacturer of floppy disc drives in Europe, has launched a series

of 3½in. and 5¼in. slim-line disc drives for the Atari 520 and 1040 ST.

The five models, which are colour-matched to the Ataris, feature fast access and high capacity, with all units being 80-track double-sided and giving a storage capacity of 1MB unformatted.

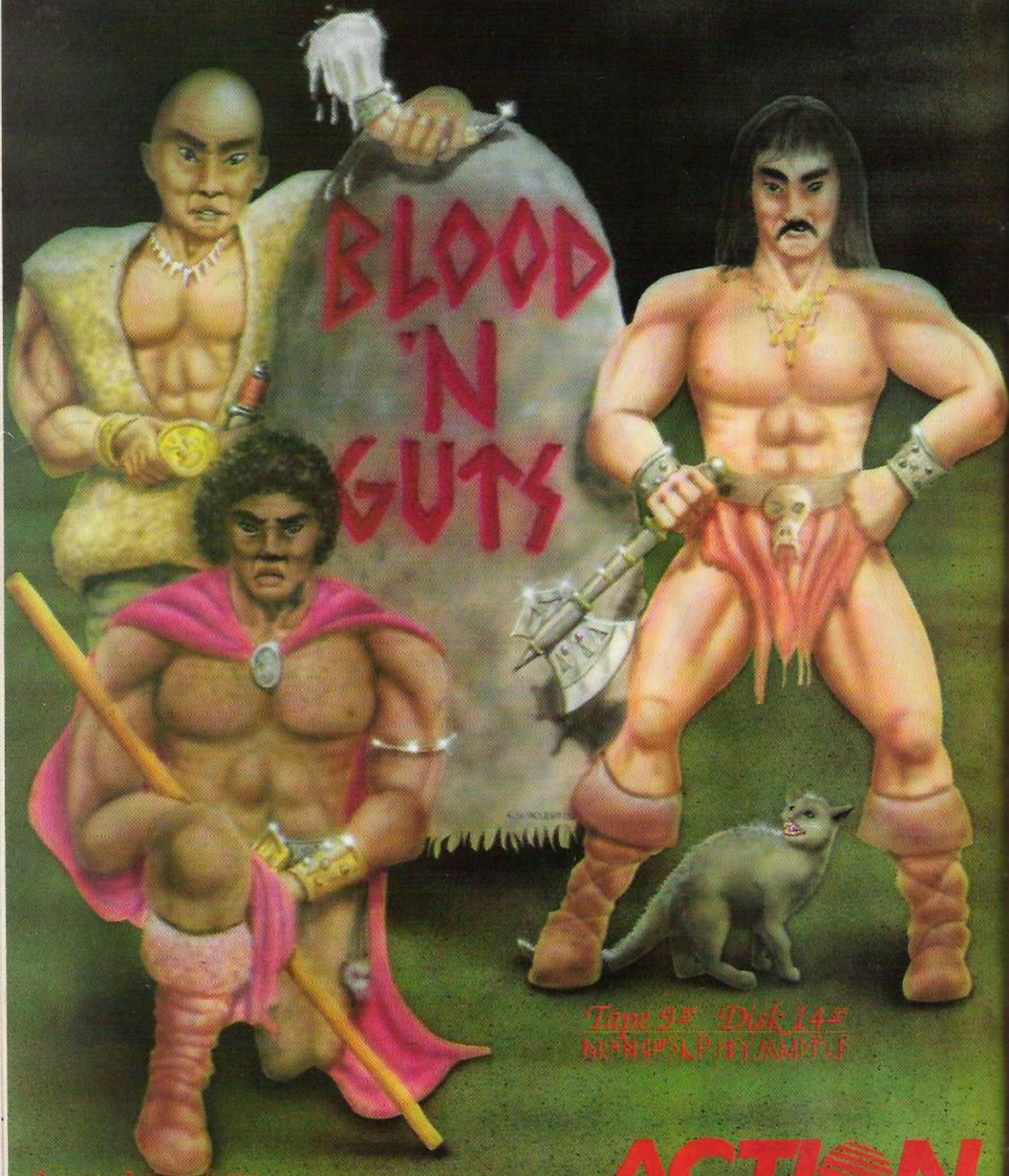
Included in the range is a 40/80-track switchable which allows the machine to read IBM and other compatible software formats for use in software development, or transfer to 3½in. media.

For further details contact Cumana on 0438 503121.



Blood 'n Guts - An ancient barbarian decathlon with all the violence and brutality you've ever dreamed about in a computer game...

NRNHP>K PBY AMPTLT XNRNHP>K PBY AMPTLT XNRNHP>K PBY AMPTLT XNRNHP>K

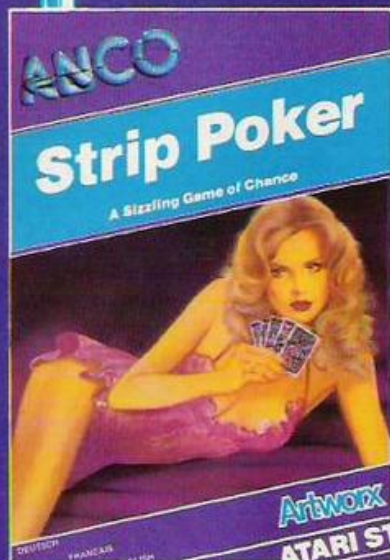


Tape 9" Disk 14"
NRNHP>K PBY AMPTLT

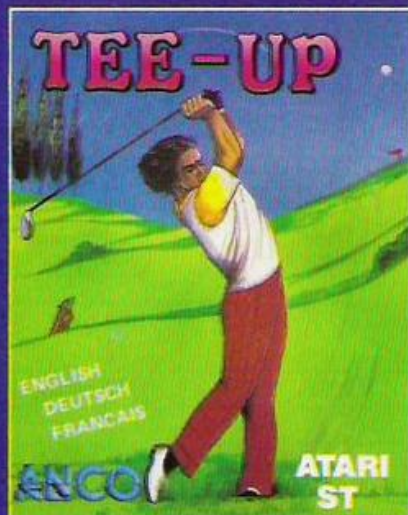
*American Action Software
distributed in the U.S. by
Microcultural International
Telephone (800) 7-4000
NRNHP>K PBY AMPTLT*

ACTION

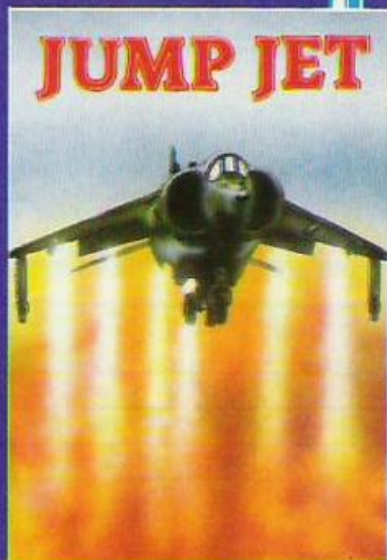
*Entertainment software with some bloody special effects
from American Action. 200, P.O. Box 11390, S-200 43 Sweden
Telephone (+46) 40 23 25 26 Telex 30135 Comput 5.*



STRIPPOKER Settle in for a sizzling evening of Strip Poker with Suzi and Melissa.
ST, AMIGA £19.95
+4, BBC & ELECTRON £7.95



TEE-UP An excellent Golf simulation plus a Fairway Editor to design a Golf Course of your choice.
ST £14.95



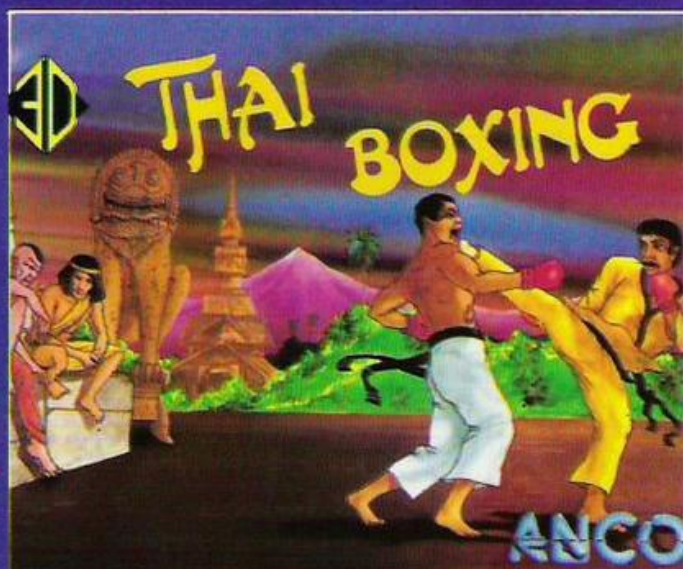
VTOL Vertical take off and landing flight simulator.
ST, AMIGA & IBM £14.95



64/128



64/128



ST



ST

THAI BOXING A demanding game with lightening moves of Karate played in 'Three D' against spectacular background.

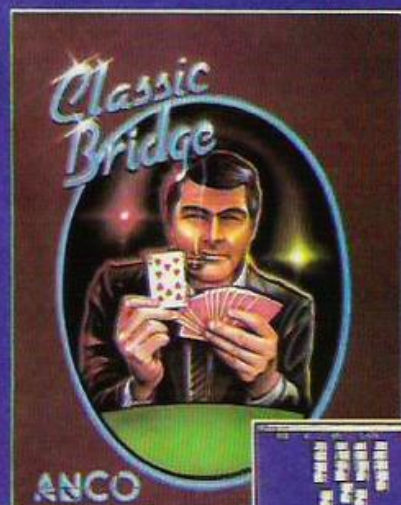
ST, AMIGA £14.95 CBM 64/128
AMS £8.95 MSX & SPECT



AMSTRAD



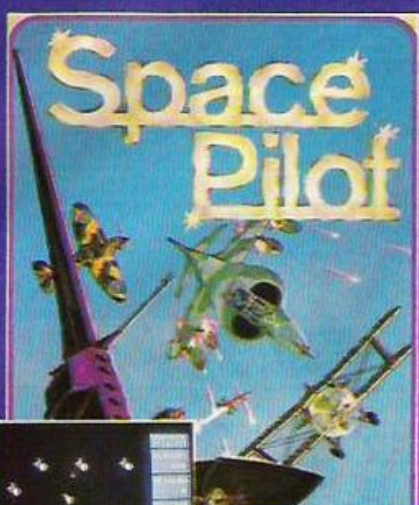
ST



CLASSIC BRIDGE A comprehensive contract Bridge playing program which allows your computer partner to play against two computer opponents.
ST, AMIGA £19.95
CBM 64, +4 £7.95



(PEGGAMMON) BACKGAMMON One of the toughest game challenge of any Backgammon game.
ST, AMIGA £14.95
+4, 64 £7.95



SPACE PILOT Fast moving scrolling arcade action with eight spectacular backgrounds for one to eight players.
ST £14.95

ANCO

THE CHARTS

TOP 20

1	TRIVIAL PURSUIT	DOMARK	SP CO AM BB
2	COMPENDIUM OF HITS 10 VOL. 3	BEAU JOLLY	SP CO AM BB C1 MS EL
3	INFILTRATOR	MINDSCAPE-U.S. GOLD	SP CO AM
4	WORLD GAMES	EPYX-U.S. GOLD	CO
5	PAPERBOY	ELITE	SP
6	1942	ELITE	SP CO
7	URIDIUM	HEWSON	SP CO
8	THEY SOLD A MILLION 3	HIT SQUAD	SP CO AM
9	FIST 2	MELBOURNE HOUSE	CO
10	GHOSTS AND GOBLINS	ELITE	SP CO AM C1
11	THE GREAT ESCAPE	OCEAN	SP
12	TRAP DOOR	PIRANHA	SP CO AM
13	BREAKTHRU	DATA EAST-U.S. GOLD	SP CO
14	DRAGON LAIR	SOFTWARE PROJECTS	SP CO
15	LIGHT FORCE	FIL	SP
16	DRUID	FIREBIRD	SP CO AM
17	GREEN BERET	IMAGINE	SP CO AM
18	FIVE STAR GAMES	BEAU JOLLY	SP CO AM BB EL C1 MS
19	ACE OF ACES	U.S. GOLD	CO
20	LEADERBOARD	ACCESS-U.S. GOLD	CO

BUDGET TOP TEN

1	180	MASTERTRONIC	SP CO AM
2	THRUST	FIREBIRD	SP CO AM AT (BB)
3	NINJA MASTER	FIREBIRD	SP CO AM AT
4	JULIE AND LISA	FIREBIRD	SP
5	KANE	MASTERTRONIC	SP CO AM BB EL C1
6	WARHAWK	FIREBIRD	CO AT
7	HAPPIEST DAYS	FIREBIRD	SP CO
8	BOMB SCARE	FIREBIRD	SP AM
9	SPEED KING	MASTERTRONIC	CO AM C1 MS
10	KAI TEMPLE	FIREBIRD	SP

BUBBLING UNDER

BMX SIMULATOR	CODE MASTERS	CO
COBRA	OCEAN	SP
FAIRLIGHT 2	THE EDGE	SP
KUNAME'S COIN-OP HITS	IMAGINE	SP CO AM
CRYSTAL CASTLES	U.S. GOLD	SP CO BB EL
YIE AR KUNG FU 2	IMAGINE	SP CO
SHAU-LINS ROAD	THE EDGE	SP
DRACULA	CRL	SP CO AM
XENO	A & F	SP AM

MACHINE CODES:

SP = SPECTRUM; CO = COMMODORE; AM = AMSTRAD; MS = MSX; AT = ATARI; V2 = VIC20

Gliding in



Starglider.

Not content with releasing what has been acclaimed unanimously as the best-ever game on the Atari ST, *Starglider*, Rainbird now wants to clean up on all the other formats by doing what many people thought was impossible – converting *Starglider* yet keeping it playable.

When I first heard that this was the intention, I thought about how slow and different the game would be. Then I was shown a very early preview of the Spectrum version and, thankfully, I had not made any smart comments.

As you can see from the Amstrad CPC screen shots, the conversion has been quick

and successful and, incidentally, versions for the Spectrum, Commodore and Amstrad PCW will be available soon. One less than impressive thing about *Rainbird* – there are no plans for a version of *Starglider* to run on the Jupiter Ace.

Everyone knows what licenses U.S. Gold has bought recently but how many people know how good the games will be? Having recently been visited by Richard Tisdall, I can claim

On deck with Destroyer.



Tarzan on the C64.

Ah-Ahahaha ahahaha

This headline should be self-explanatory but it seems likely that many many not be familiar with the literary equivalent of Tarzan's famous cry. Martech, the company which released such classics as *Zoids* and, more recently *Uchi Mata*, has sent screenshots

from the Commodore 64 version of *Tarzan*, promising that the finished product should be released relatively soon.

Not having seen the game, I cannot vouch for how good it is but, judging by past releases, it should be a cracker.

D-Day at U.S. Gold

to have seen a number of the latest U.S. Gold games and the answer to all the questions must be a resounding yes.

The games are near completion. They have stayed close to the arcade originals.

Destroyer really is a Microprose beater and, more important, *Gauntlet* is a worthy conversion of the classic coin-op.

The nearest version of *Gauntlet* to completion is the Amstrad and with music and effects by Ben Dalglish of W.E.M.U.S.I.C. fame, it is by far the best of this type I have seen. Unfortunately it is also the last.

Another conversion almost completed is *Xevious*. Programmed by Probe Software, the company responsible for, among others, *Basildon Bond*, the game should be released by the time you read this. Adventuresoft is also well into the programming of *Masters of the Universe* and the arcade game is looking very impressive.



The Three Musketeers

Team up with *THE THREE MUSKETEERS*, Dumas legendary crusaders for justice and freedom and fence your way to England to collect the missing diamonds!

NOW RELEASED ON COMMODORE 64, 128 & AMIGA

Commodore 64 - Tape £9.95 - Disk £14.95

Commodore 128 (with enhanced graphics) - Tape £9.95 - Disk £14.95

Commodore Amiga - Disk £24.95

COMING SOON FOR

Sinclair Spectrum - Tape £9.95

Amstrad CPC - Tape £9.95 - Disk £14.95

Atari ST Series - Disk £24.95

Apple Macintosh - Disk £24.95



Distributed in the U.K. by
MICRODEALER INTERNATIONAL
Telephone (0908) 74000

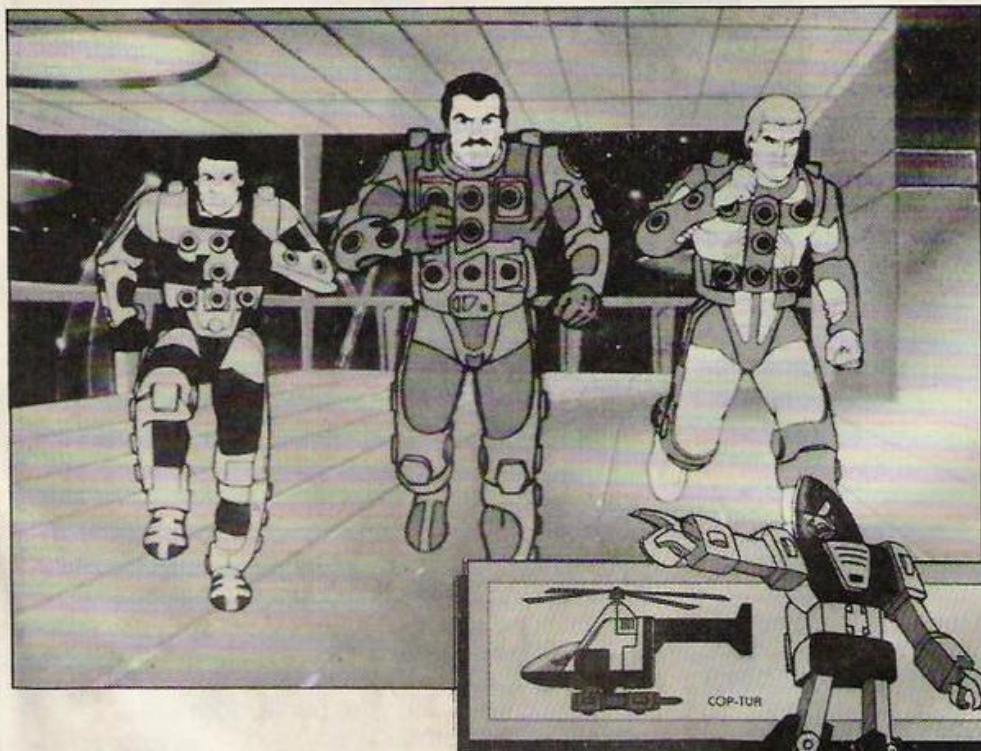
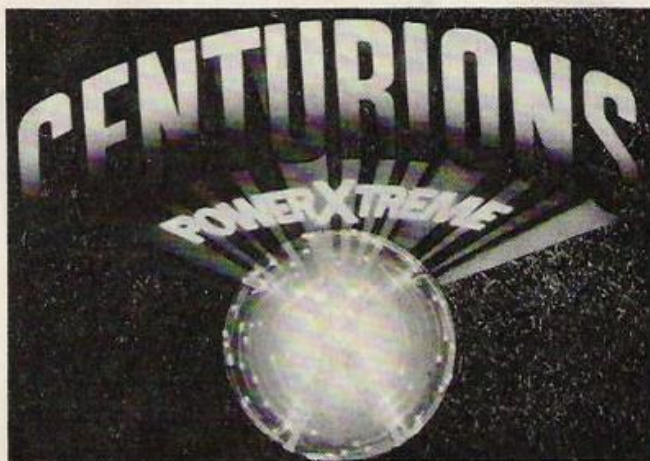
Computer Novels

Computer Novels, P.O. Box 10090, S-200 43 Malmö, Sweden, Tel (+46) 40 23 25 20, Tlx 32135 Comput S

PowerXtreme

Anyone who has ever switched on the television at some point on Saturday morning cannot have avoided seeing the latest cartoon to have caught the imagination of children all over the country, *Centurions*.

Doing for them what Batman and Robin did for me, the cartoons surround the exploits of various armour-clad do-gooders who cannot stand any kind of evil. With a deep-voiced catchphrase which is repeated every time they wish to change from Mr. Joe Public to some wall-crushing hero, the series has



taken over from *Transformers* and Ariolasoft hopes that having the licence will enable it to make a killing.

With a game based closely on the cartoon, and designed by Mark Eyles, the man responsible for *Aliens* – see the Electric Dreams profile – it should be available soon and promises well for this

deserving company. Another, and in many ways similar licence Ariolasoft has obtained is *Gobots*.

In the U.S., Gobots are the most successful toy in the Transformer mould and, with their own 65-episode TV series, that is perhaps not surprising. What is surprising is the lack of public awareness.

Popular Yie-Ar

It was just 20 years ago that Lee, the Kung Fu master, wiped out the dastardly Chop Suey Gang. One member of the gang has survived and, having changed his name from Yen Pei to Yie Gah Emperor and, together with his seven warlords, his power has extended throughout all China. You play the original Lee's son, Lee Young, and you have stepped forth to fight this evil emperor and his comrades.

To rid China of the evil emperor you will need to face eight opponents, all with their own weapons. In order they are: 1, Yen Pei, iron pigtailed; 2, Lang Fang, fans; 3, Po Chin, fire breather; 4, Wen Hu, flying mask; 5, Wei Chin, boomerangs; 6, Mei Ling, daggers; 7, Han Chen, bombs; 8, Li Jen, lightning bolts.

With many similarities to the original, *Yie Ar King Fu II* will probably be another smash for Ocean and the added feature of simultaneous two-player mode should also add to its popularity.

More war

Far from being a quiet, Coventry-based war-gaming software house PSS has recently announced two releases, both of which promise great things for the dedicated war-gaming fan. The first, *Battlefield Germany*, is the eighth title in the PSS Wargamers series and uses the latest in artificial intelligence technology to allow the player to explore the tactical and strategic intricacies of modern warfare in the Warsaw Pact.

The second game is *Annals of Rome* and has a timespan ranging from 273 BC to the eleventh century AD. The object is to survive and expand. Both games are available initially for the Amstrad and Spectrum, with a Commodore 64 version arriving later in 1987.

Wait for it

World Games requires more research than we thought but there will be a full guide to the game in the February issue.

COULD THIS BE YOUR PROGRAM?

ARCADE
SIMULATION
STRATEGY
ADVENTURE



SPACE
SPORTS
WAR
ACTION

Is your program good enough to fill this spot?

Will your game be the next No. 1 hit?

Are you looking for **top** royalties?

Are you writing for leading computers such as Commodore 64/128, C16/Plus-4, BBC/Electron, Atari, Amstrad, MSX, Spectrum or any other 6502/Z80 Micro.

Answer YES to any of these questions and we would like to hear from you. Send your program tape or disc, together with full instructions for fast evaluation. Be sure to state your computer type, memory, peripherals used and your name, address and telephone number.



34 BOURTON ROAD GLOUCESTER GL4 0LE
Tel (0452) 412572

P.S: We are also looking for 6502/Z80 programmers for urgent conversion work.

New Amstrad modem

Bradford-based Pace Microsystems, supplier of the somewhat elderly manual Nightingale-based Amstrad modem, is putting the finishing touches to a new Amstrad modem which will probably be aimed at the new fraternity of PC1512 users. Best-informed guesses are that the modem will be completely software-driven, in the tradition of the upmarket Series 4 and budget Linnet smart modems, and will probably be marketed to take advantage of the new Digital Research GEM Comm package.

To compete with what is available at present, the device will probably offer V21/23 with a 1,200 baud full duplex (V22) upgrade option. There are no prices or launch dates yet.

Electric control

Chris Curry, joint founder of Acorn, recently set up a new company, GIS, to research and develop a branch of comms along a very different line – electricity mains wiring.

With the brand name of Red Box, the system is home computer-controlled – Spectrum, BBC, Amstrad CPC or Commodore 64 – and effectively allows data to be sent to and from special mains-connected modems in controller terminals round a household electricity ring main.

Devices which can be controlled include a remote switch, with built-in remote programmable timer, and an infra-red sensor. With

data-reliable transmission rates of up to 2,400 baud, GIS predicts the system will be used as an extremely low-cost local network linking micros to other micros, data samplers, as well as devices which require controlling.

Difficulties in getting similar systems to work acceptably have defeated giants such as Thorn EMI in recent years but with intensive software and hardware development, the Red Box system works, is cheap – individual units cost around £35 each – and GIS has eliminated the problem of interfering with other similar Red Box installations nearby with a sophisticated data encryption system.

Eventually auto-answer

telephone modems could be linked to a Red Box network for distant remote control of, say, household heating. Telephone lines might one day be eliminated from the equation. Certain electricity boards are experimenting with their own high power/long range electricity line data transmit/receive systems for reading meters and even controlling individual heaters in disabled peoples' homes.

Kirk's Enterprise to Dixons

For the first time, you should be able to buy a modem from most branches of Dixons, which should be a positive boost for both the comms industry and Kevin Kirk's Kirk Automation, as it is his Enterprise range of modems which Dixons has chosen.

Despite selling a wide variety of home and business computers, it is the first time Dixons has gone wholeheartedly into comms, though some selected dealers have been selling Sage Chat modem packages based on the Pace Nightingale.

Legends in the States

A version of the BT Muse MUD, itself a version of the original Essex University Multi User Dungeon, has been sold to the States in a deal which will make the game available to the 250,000 Compuserve subscribers for the first time.

Apparently the Americans do not like the acronym MUD

and will tag the service British Legends.

Music MUD runs on a DEC VAX, though the Compuserve version will return to the rather larger DEC System 10 mainframe monsters on which Essex MUD was written originally. Compuserve has 63 of the machines.



Miraculous Vidterm offer

The much-touted Triangle Software user-friendly comms package for IBM PCs and compatibles, *Vidterm*, is being virtually given away by the company if you buy a Miracle Technology WS4000 modem from it. The offer stands at £149.95 – five pence dearer than the normal price of a WS4000 on its own.

The package is aimed at first-time users who want a plug-in-and-go, easy-to-use system, though Triangle emphasises that powerful features exist also for those who want to use them.

In the meantime, Triangle is setting-up its own Bulletin Board for Vidterm users.

GEM Comms package

Digital Research has announced GEM Comm, a full viewdata and ASCII scrolling text comms package with file transfer facilities. GEM Comm is a customised version of the much-honed AM Technology Vicom package, popularly used on Apple Macs, among others. The package is designed with Hayes-compatible smart modems in mind and costs £99.95.

New Dowty factory

You have never heard of Dowty? Well, the largest U.K. manufacturer of modems seems to be intent on being more of household name and recently had world land speed record holder, Richard Noble, to open its new factory at Newbury.

Dowty recently passed its 100,000 modem mark, most of which are sold under other people's more famous brand names, including the likes of ICL, Motorola, Apple, Apricot, BT – and even car manufacturer BMW.

LETTERS

Calling all contributors

We welcome your comments, hints, complaints and opinions on machines and software and even the magazine. We have received many letters recently from readers who are interested in writing articles for the magazine, so here are a few guidelines for submitting your work.

Articles should be typed double-spaced, on A4 paper and have a name and address securely attached. If you enclose a disc or cassette it should also have your name and address clearly marked, as well as the type of machine on which it runs.

Programs must have a cassette or disc enclosed with instructions and a brief description of what the program does. Letters can be hand-written provided they are legible but regrettably we are unable to reply personally to each letter.

We pay £35 per published page, except for the letters page, where we award £25 for the best letter each month. Finally, for those interested in Software Exchange, we pay £50 per program and 25 pence per program for sales exceeding 100. We look forward to hearing from you.

Let's hear it for Amstrad

I read with interest your November issue but I feel I must complain about the coverage the magazine gives to the Amstrad CPC range of computers, especially on the games front. Of the 16 games reviewed, only two were specifically for the Amstrad, compared to six each for the Spectrum and Commodore 64, machines which are unquestionably inferior in every department.

Any Amstrad owner will tell you that the machine is so far superior to the ageing Spectrum as to be incomparable. The graphics, sound and operating system are all better, and the new crop of games from software houses such as CRL and Ocean only go to further the excellent reputation this machine is gaining.

One final point. Anyone who owns a Spectrum or Commodore should think seriously about selling the machines and buying a CPC; it is the games machine of the future and *Your Computer* should reflect this fact.

**D. Jenkins,
Doncaster.**

Editor's reply: When reviewing new games we can cover only the software released in that month. If that means the choice



between no games reviews or a bias towards one computer, I think most readers would prefer to see the games reviewed despite any unavoidable bias. Your point about Spectrums being inferior to the CPC range seems a little controversial and I would be inclined to delay my reply until Your Computer readers have aired their views.

Key-bounce problem

I have been a Spectrum owner for about three years and my current machine is the Spectrum 128, which I have owned since March. Despite my loyalty to the machine I share the criticism of the keyboard, as typing quickly is difficult with the amount of

More listings, please

I am writing to protest about the apparent naivete of *Your Computer*. In a country where more than three million people are unemployed, how many readers can afford the latest gadget or the newest games? I would guess that the answer is very few. As one of the three million, I used to buy the magazine for the excellent listings, which helped pass the day very well, and the results were usually excellent.

Now, however, even the listings cost money. Pull up your socks, publish more

listings, and give readers features on how to write better programs, so that we do not have to buy the latest games.

**M. McGill,
Honiton.**

Editor's reply: The reason we no longer print pages of machine code listings is twofold. First, the simple fact of cost restricts the number of pages we can allot for readers' programs when they could be used for editorial material. Second, the diversity of machines on the market makes it impossible to cater adequately for each one. While older issues of Your Computer had many more pages of listings, they were for a smaller number of machines. It is unfortunate that we have to reduce this popular part of the magazine but sadly it is unavoidable.

Help cry from a beginner

I have been using my 8256 Amstrad for several months. I am still learning all the ins and outs of the PCW and I believe that this is attributable in part to the quality of the operating manual supplied with the computer. Although it is probably well-written, it seems to assume a certain degree of computer literacy which would appear to be somewhat of a contradiction, as the machine is intended for use by near beginners like myself. As a result, I am looking for some

more understandable books on Locoscript and CP/M. Perhaps you could suggest some good titles.

**J. Causier,
Basingstoke.**

Editor's reply: There is a variety of books available. Any good bookshop should have a selection of titles in this field, as will most computer retailers. Failing that you could buy our sister publication, Putting Your Amstrad to Work, which has up-to-date information on book releases.

key-bounce which occurs.

I have been looking at the new Amstrad 128+ and would like to know if the machine is basically the same underneath its re-designed exterior, because if it is it would be cheaper for me to buy one of the keyboard upgrades available.

**P. Cain,
Exeter.**

Editor's reply: You are correct to assume that the new Amstrad

machine is basically the same old Spectrum underneath the new design. The machine is offered only as an upgraded version of Sir Clive's model and has a number of advantages, such as the built-in cassette recorder, which obviates all the problems faulty leads can create. If you have all the necessary equipment, which I assume you have, the obvious course would be to buy a replacement keyboard.

Write to: Your Letters,
Your Computer,
79-80 Petty France,
London, SW1H 9ED
Tel: 01-222 9090



Grateful thanks

Readers probably realise that Your Computer receives a great deal of professionally-produced software each week for review. As we do not have storage space to house the cassettes and discs, after two months we have to dispose of them, normally to a charity organisation. Several weeks ago we sent a large amount of

software to Dr. Barnardo's and this is the reply we received:

On behalf of Dr. Barnardo's may I thank you for your most generous gift. The computer games have been given to residential schools in our London and Yorkshire divisions and they have asked me to thank you on their behalf and tell you how pleased they were with your thoughtful gift.

Joyce Clay,
Public Affairs Officer,
Dr. Barnardo's.

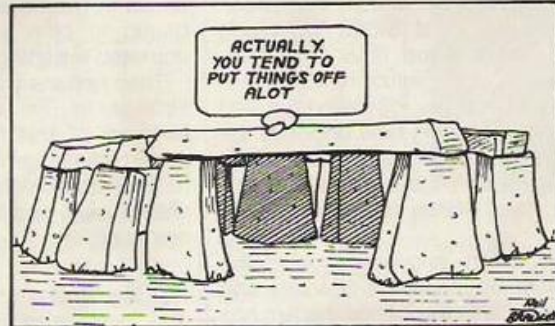
Computer mail

I am interested in opening an electronic mail box but know very little about them. What kind of features should I be looking for and what price should I expect to pay? If I take an account with a particular company, would I be restricted to correspondence with other account holders or could I

contact other companies' clients as well. **M. Kirk, Bournemouth.**

Editor's reply: The three companies on which you should concentrate are Telecom Gold, One to One and Easy Link. The services offered by those companies are similar and it would be best to contact all three to assess which best suits your needs. Prices are related directly to the type and number of services you use but there are generally monthly payments.

MAN LOGIC



By NEIL BRADLEY

DIRECT TECHNOLOGY (UK)

35 The Homesteads, Waterfall Road, London N11 1LH
Telephone: 01-361 2484/4268. Telex: 8951182 GECOMS G

MAIL ORDER PRICE-LIST: NOVEMBER 1986
PLEASE NOTE: ALL PRICES INCLUDE VAT AND FREE DELIVERY SERVICE IN MAINLAND UK

AMSTRAD

PCW 8256	458.85
PCW 8512	573.85
PC 1512 (1 x floppy-disc drive and mono screen)	458.85
PC 1512 (1 x floppy-disc drive and colour screen)	631.35
PC 1512 (2 x floppy-disc drive and mono screen)	573.85
PC 1512 (2 x floppy-disc drive and colour screen)	746.35
PC 1512 (10MB hard-disc drive and mono screen)	803.85
PC 1512 (10MB hard-disc drive and colour screen)	976.35
PC 1512 (20MB hard-disc drive and mono screen)	918.85
PC 1512 (20MB hard-disc drive and colour screen)	1091.35

ATARI

520ST-M (512K with modulator)	320.00
1MB RAM UPGRADE (Upgrade your 520ST to a 1040ST)	75.00
1040ST-F (with SM125 hi-res mono screen)	775.00
1040ST-F (with SC1224 med-res colour screen)	950.00
SF354 (1/2MB 3.5in. floppy-disc drive)	149.00
SF314 (1MB 3.5in. floppy-disc drive)	185.00
SF204 (20MB hard-disc drive)	622.00
SM125 (12in. hi-res mono screen)	149.00
SC1224 (12in. med-res colour screen)	360.00
CM36512 (14in. lo-res colour screen)	270.00

BBC (ACORN)

MASTER (128K)	499.00
MASTER COMPACT (128K)	442.00
MASTER COMPACT (128K with modulator)	458.00
MASTER COMPACT (128K with mono screen)	539.00
MASTER COMPACT (128K with colour screen)	688.00

CUMANA (5.25in. FOR BBC COMPUTERS)

CDX 200 (200K double-sided floppy-disc drive WITHOUT PSU)	218.00
CDX 800S (800K double-sided floppy-disc drive WITHOUT PSU)	282.00
CD 200 (200K floppy-disc drive WITH PSU)	282.00
CD 800S (800K floppy-disc drive WITH PSU)	328.00

CITIZEN PRINTERS

120-D (Dot matrix - 120cps, 25cps NLQ, 80clms, F/T)	210.00
PARALLEL INTERFACE FOR 120-D	43.70
SERIAL INTERFACE FOR 120-D	59.80
LSP-10 (Dot matrix - 120cps, 25cps CQ, 80clms, F/T)	285.00
MSP-10E (Dot matrix - 160cps, 25cps CQ, 80clms, F/T)	375.00
MSP-15E (Dot matrix - 160cps, 25cps CQ, 136clms, F/T)	475.00
MSP-20 (Dot matrix - 200cps, 50cps CQ, 80clms, F/T)	450.00
MSP-25 (Dot matrix - 200cps, 50cps CQ, 136clms, F/T)	545.00
PREMIER 35 (Letter quality - 35cps, 136clms)	689.00
HQP 45 (Dot matrix - 24in. 200cps, 132cps CQ, 66cps LQ, F/T)	870.00

DIRECT TECHNOLOGY (UK)
FOR THE BEST DEALS ON ANYTHING!



INDEPENDENTLY SPEAKING

The Independent is the first in what could be a generation of computer-produced newspapers. This month John Barnes looks independently at how the paper is produced.

The revolution which has been changing Fleet Street has made news for some time. The main issue of the dispute is not one of pay but technology. Print workers and typesetters for a long time opposed the introduction of modern newspaper technology which has been used widely in the United States for a number of years.

The technology in question makes the role of normal typesetters obsolete and also requires less work once the film has arrived at the printers. In moving to Wapping, Rupert Murdoch's News International changed the daily production of *The Times* and *Sun* to a computer operation, disregarding what he considers the obsolete, outdated way Fleet Street operated previously.

As tempers flare and daily television news reports provide different views on

affairs in the newspaper world and has begun to gain a reputation for good unbiased reporting.

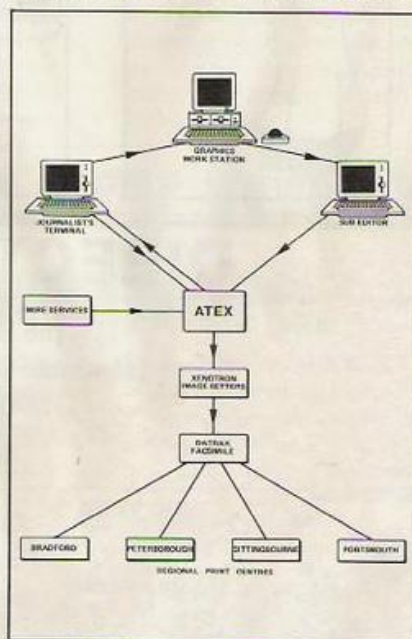
The apparent lack of publicity is strange, as *The Independent* is at the forefront of this revolution, having the added advantage of being able to start in a position which established broadsheets are trying to reach – completely computerised.

ATEX a first

The heart of *The Independent* is an ATEX editorial direct input system manufactured by the American Eastman Kodak Group, the world's largest supplier of newspaper systems. This system is well-proven, having been used in Europe and the States for a number of years. *The Independent* has a 10 CPU system, eight of which are used by the

There are 170 ATEX terminals, both for the direct input of copy and for page layout. The editorial copy for the newspaper arrives from a variety of sources. Correspondents are equipped with Tandy 200 lap-top computers which they use in conjunction with modems to transmit copy to *The Independent* offices, or if communications are too poor they will Telex their copy to London.

Local reporters also use the portable terminals to write and send copy and



The Independent's ATEX system.

reporters based at the City Road offices use one of the 170 terminals. In addition there are wire service transmissions, either on the company's IBM PC network for writers or from the news agencies such as Reuters, AP, UP and Agence France Press and the various sports and financial services. Altogether there are about 16 or 17 wire services received by the ATEX and then sorted into different categories, such as sport or financial, and filed for use of journalists during the day. Each journalist has his own ATEX terminal and each of the editorial desks, such as sport, home, foreign, has its ATEX graphics workstation for page layout.

Copy, once written, is passed to the graphics workstation and it is that part of



The ATEX graphics workstation keyboard

the events at and surrounding the Wapping dispute, other aspects of the Fleet Street revolution are largely ignored. The initial fuss which surrounded the launch of Eddie Shah's *Today* has died considerably, while *The Independent* has managed to slip through the net of the various trade unions enraged about the state of

editorial department and two by advertising. On the system are two programs, the standard editorial package and the news layout system. Despite the widespread use of the ATEX system, *The Independent* can claim to be one of the first publications to use the news layout package for the whole paper.

the system which is most impressive to the onlooker. The graphics workstation has two different screens. First, the empty page and the list of copy with its typesetting requirements such as the kind of typeface to be used and the length and style of the headline. It is the job of the layout artist to ensure that all copy fits on to the page and that the final result is aesthetically pleasing.

A number of photographs will need to be positioned on the page but rather than store them on the computer, which would use a tremendous amount of memory, they are sized in the traditional way and a correctly-sized space left for them.

Time-saving

When a page has been laid out the information for the size and style is fed back to the sub-editors' desk and the article has to be subbed accordingly. The ATEX will not allow copy of incorrect length to be laid out and will cut lines if they exceed the number required. It is therefore very important that articles are edited to size.

While that type of sub-editing can be a headache for the sub-editors, it means that once the copy has been released for typesetting there is nothing more to do to it, which is not only more efficient but also saves valuable time.

Once the copy has been edited to strict limitations it is possible to create an image of how the printed page will look on the workstation monitor. The image will be identical to the printed page and will include the copy set to the different styles and headlines. The only part of the page which will not appear on the monitor are the photographs and any standard artwork which is used.

Once that stage has been completed, the copy is then ready for typesetting. It is that stage of the process which is so different from the traditional method. Originally the process was manual but the ATEX system is able to complete that task as well. The copy is typeset on Xenotron image-setters, taking from a machine called the Art Master any standard artwork needed, and then photographs are inserted into the completed page make-up.

The scanners connected to the Art Master can also be used to enhance the quality of photographs by lightening or darkening them so that a better image is obtained.

As page proofs are produced they are transmitted to the four regional print centres via British Telecom Megastream lines using Datrax facsimile machines. They are page fax machines which are the same as dot fax machines but the resolution is much better.

With the machines, two pages at a time can be sent and they can burn plates, plastic short-run plates which can produce up to about 50,000 copies, which can be used for printing. *The Independent* has print centres in Bradford, Peterborough, Sittingbourne and Portsmouth,

believes that those people are very busy and that the time they allow themselves to read newspapers is fragmented – often reading for short periods on the way to work, over coffee or lunch, on their return journey from work and at home in the evenings – and, more often than not,



The page layout screen on the ATEX workstation.

each of which is equipped with Crosfield Datrax receiving units.

Distribution is also controlled from the City Road offices. There are 320 wholesale agents used by the paper serving in the region of 40,000 retail outlets throughout the U.K.

Using an IBM System 38 computer, each of the orders from agents is processed and labelled. With the system it is possible to adjust the printing requirements according to the type of orders placed each day. That obviously makes the printing of the paper more profitable, as if the print run needs to be increased because of an important story, that will boost sales. If it is reduced because orders for a particular day have fallen, adjustments can be made almost instantaneously.

Newspaper Publishing plc employs 350 people, 178 of whom are journalists. The journalists represent a wealth of experience, with many having worked on familiar titles such as *The Times*, *The Guardian*, *The Daily Telegraph* and Sunday papers such as *The Observer*. The number of employees to have worked for the BBC is also impressive.

Founders of *The Independent* believe that Fleet Street has failed to adapt to the changing needs of the reading public in the last decade, staying with their traditional formulae and failing to adapt to the changes which have taken place both in the media and the reading public.

That belief forms the basis for the editorial formula at a very specific readership which is believed to be sceptical of between 20 and 30, or more simply young professionals. *The Independent*

relying on television news broadcasts for details concerning the current news stories.

Changing readership

While existing broadsheets have attempted to cater for those needs by introducing news in brief columns, that is not really sufficient. *The Independent*, however, seeks to complement rather than duplicate news broadcasts, aiming to take readers beyond the point where TV and radio must stop.

As many people will know, especially those who have seen or heard the endless television or radio commercials, the paper remains politically independent, largely as a function of its target readership which is believed to be sceptical of party politics and remaining largely neutral but still retaining the integrity to query the Establishment and to campaign on issues which arise from its own reporting, analysis and internal debate.

The founders believe that good reporting will be the foundation on which *The Independent* will build. Launched in October, the paper began life at a time when the old methods of Fleet Street were being rejected in favour of the new, the kind of methods being used at City Road at the moment.

The Independent has, therefore, given itself a considerable advantage over its rivals by already operating with new technology. Time will tell how successful it will be but the reputation it has already gained suggests that the paper will not disappear in a hurry.

THE VOLEX TELETEX-TELESOFTWARE ADAPTOR

FOR USE WITH SPECTRUM, BBC & AMSTRAD MODELS

FREE COMPUTER PROGRAMS INSTANT SPORTS RESULTS CONSTANT TV UPDATE
A WORLD OF INFORMATION AT YOUR FINGERS

TELETEX

Extra information available day or night whilst television transmitters are on air and without any charge can now be enjoyed without the need of having a special Teletext T.V. set. All you need is to plug in your VOLEX ADAPTOR to receive 4-Tel from Channel 4, CEEFAX or ORACLE services.

TELESOFTWARE

Telesoftware is the name for computer programs which are broadcast on Teletext. Thus they may be loaded OFF AIR into the appropriate micro computer instead of being loaded from say TAPE or DISC. Both Channel 4 and BBC are broadcasting Telesoftware, however there are the following limitations:-

- (a). Spectrum Adaptor:- All Teletext Channels but Channel 4 Telesoftware only.
- (b). BBC Adaptor:- All Teletext Channels but BBC Telesoftware only.
- (c). Amstrad Adaptor:- All Teletext Channels, Channel 4 Telesoftware programs and BBC Telesoftware data files including the Education Newsletter.

*Channel 4 is currently expanding its Telesoftware programs particularly CP/M based material.

Because of the special nature of Teletext these programs are frequently updated-So you will not see the same thing each time you run the program.

STORING PAGES

With the Volex Adaptor it is possible to send received pages to your printer or to disc or cassette for storage and later recovery.

EASY TO SET UP AND USE

A simple procedure tunes the Volex Adaptor to your local teletext channels. All loading of Telesoftware is via an index page which the Adaptor will automatically find and display for you. Absolutely no modification is necessary to TV or Computer.

- *User friendly-built in disc/tape and printer routines.
- *Comprehensive User Guide included.
- *2nd Processor Compatible. (BBC Version).
- *Incorporates Custom gate array and Crystal controlled Data Slicer.
- *Free Power Supply included.



Simply write out your order and post to:
VOLEX ELECTRONICS, STOWELL TECHNICAL PARK,
ECCLES NEW ROAD, SALFORD, M5 2XH. TEL. 061-736 5822.

I enclose cheque/PO, payable to VOLEX ELECTRONICS
OR charge my ACCESS/BARCLAYCARD/VISA number:



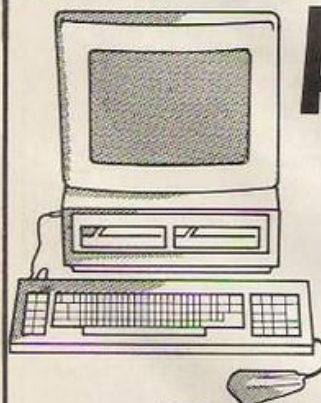
NAME _____

ADDRESS _____

- ☐ £79.99 (SPECTRUM) 16-48K
- ☐ £89.99 (BBC) Model B
- ☐ £89.99 (AMSTRAD) 464, 664, 6128

VOLEX ELECTRONICS
A DIVISION OF VOLEX GROUP P.L.C.

SUPERTEC COMPUTER OFFERS



AMSTRAD

PC 1512 SM	£458.85
PCW 8526	£458.85
PC 1512 DM	£573.85
PCW 8512	£573.85
PC 1512 SC	£631.35
PC 1512 DC	£746.35

PC 1512 SOFTWARE

Wordstar 1512	£69.95	Sidekick	£29.95
Supercalc 3	£69.95	Various Games (Eg. Pitstop II)	£19.95

ATARI

MANY ST SYSTEMS
AVAILABLE FROM
STOCK — CALL FOR DETAILS
Eg. 520 STM From £343.00

ST GAMES

E.G. STAR GLIDER
DEEP SPACE — ARENA
SUNDOG — THE PAWN
HACKER — SILENT SERVICE
FLIGHT SIMULATOR II
PLUS MANY MORE

ST SOFTWARE

Including:
KUMA - HABA - ATARI - PHILON
CASHLINK - SOFTWARE PUNCH
CHIPSOFT (ST ACCOUNTS)
BATTERIES INCLUDED
Call for details and prices

PRINTERS... PRINTERS... PRINTERS

Including: EPSON • BROTHER • MANNESMANN TALLY

STOP PRESS!

Call for details of NEW Mannesmann MT910
LASER PRINTER

PERSONAL SHOPPERS WELCOME
MON — FRI
9 a.m. — 5 p.m.



BULLETIN BOARD
0268 293639 (24 HOURS)
300 BAUD

CUMANA D/D DRIVES FOR ST

CSA 354 (Single) £159.00 CSA 358 (Twin) £269.00

DISKS

5 1/4" SS/DD (Pack of 10)	£7.50
3 1/2" DS/DD	£2.50 ea.
3 1/2" SD/DD	£1.95 ea.

MODEMS by Miracle Technology

WS2000	£125.00
WS4000	
Auto-dial/Auto-answer	£172.44

SUPERTEC LTD. CORNWALLIS HOUSE, HOWARDS CHASE, BASILDON, ESSEX SS14 3BB Tel (0268) 282308



CRL's Dracula.

ADVENTURE LINE-UP

Christmas arrived early for me in the form of a Commodore Amiga – a truly remarkable machine. The best part was that it enabled me to play two Infocom games which had previously eluded me, *Trinity* and *A Mind Forever Voyaging*. I will deal with them in more detail next month. What I like about the Amiga is that each game loads in its entirety so there is no waiting for the normal disc access before continuing.

Let us hope we see more quality adventures like *The Pawn* being produced for this superb micro. Even arcade games look good on it.

This month's mixed bag includes dealing with mysterious happenings at an old Cornish castle, an epic monster-bashing RPG, a quick sojourn into the heart of Africa, a new Quilled adventure from M42 Software in which you play Bluebeard's wife, and a terrific new game from Activision.

The most interesting item this month is

that Level 9 and Delta Four have joined forces to write a spoof adventure which will be released at Easter. To quote Mike Austin of Level 9, "The storyline is wondrously funny. It will be the best spoof adventure ever." St. Brides, are you listening?

I hear that Adventurers Club Ltd is back in business. I feel I would have to be 100 percent certain it is before sending a cheque. Rumour also has it that *The Guiding Light* is closing. Far from it. In fact the magazine is being produced bi-monthly in a larger format and at the same price and also boasts the distinction of having Dave Lebling, president of Infocom, as honorary chairman.

U.S. Gold is set to release the full range of Strategic Simulations fantasy RPGs. They include *Phantasy 2*, *Wizard's Crow*, *Rings of Zilfin* and *Shards of Spring*, a veritable feast for RP freaks. There is also news of a wargame construction set, in which you can create your own scenario,

whether it be fantasy or war.

Two new adventures written by using GAC and released by Incentive on its new Medallion label are *Winter Wonderland* in which you crash-land your aircraft into a rather cold and snowy place, and *Apache Gold*, which centres on finding treasure in an ancient burial ground. What I would like to know is what has happened to *Axe* and *The Ket Trilogy* which were due some time ago.

Gilsoft has added another utility to enhance *The Quill*, entitled *The Press*, which will allow you to compress your text, thus getting more text into your adventure.

HELPFUL HINTS

Dracula

Can't find a mirror – Use the cloth to do some polishing.

Stuck in the Coach – Examine old woman's eyes.

The Pawn

Short of cash – look in the Fountain.

Snowman a problem – melt him with something warm; examine colours.

Adventure Quest

To get rid of Balrog – Smite Bridge with Sword.

Cave door stopping your progress; say "Open Sesame".

Dungeon Adventure

Throw items at the Willow Tree, then use axe.

Drop Poppy Seeds to foil the Siren.

The Boggit

To get past Trolls, say "Lux".

To get out of house, examine diary in the chest.

Trinity

To get to Long Water, climb into pram then open umbrella.

Examine bones in cemetery to find skeleton key.

More readers are taking time to write to me. Remember if you want a personal reply send a SAE. Address all correspondence to Roger Garrett's Adventureline, c/o Your Computer, 79-80 Petty France, London SW1H 9ED.

READERS' FORUM

James Burton sends his best wishes to Adventureline. "I have received tremendous help from Geoff and Jackie but I am still hopelessly stuck in the Infocom *Trinity*. It would appear Burton keeps getting killed by some oriental parents. He also wants to know what he should do to stop his blood over-heating. Apart from switching off the computer, can anybody help?

Kelly Medori writes from sunny Milan wanting to know how to get the cube from the Roc's nest in *Spellbreaker*. Also stuck in an Infocom game is Hans Heemskirk from The Hague. His problem is how to get the ticket from the library in *Enchanter*. He could always reach into the hole.

The Pawn is now beginning to cause difficulty for some adventurers. Maureen Barton wants to know how to stop being eaten by the Dragon and Paul Simms is slowly going berserk trying to get the Lumps in the mine. John Williams still cannot get past the boulder and Simon Bell wants to know the purpose of the plant pot.

Mandy James would appreciate help on the Level 9 *Adventure Quest*. In particular, what to do with the Skeleton hands which drag her to her death. Has she found a sword? If so, use it.

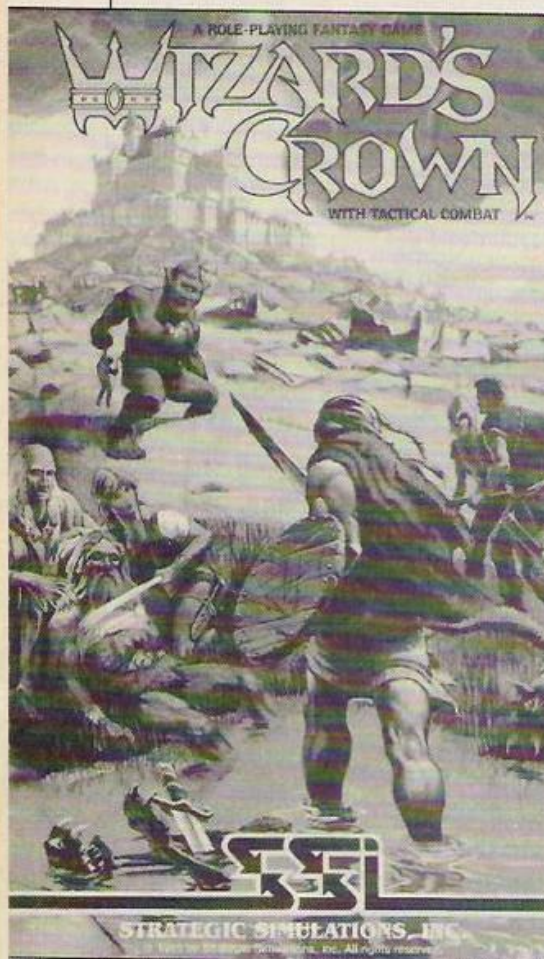
Paul Scott writes saying "I know this sounds daft but I cannot get past the coachman in *Dracula*." Has he tried tipping the coachman?

Helpline Service

If you are in deep despair or cannot find that elusive key, help is only a telephone call away. The Adventureline Helpline is Jackie on 061 339 0092 and Geoff on 0695 73141, available five days a week from 7pm to 9pm. My thanks this month to Mike Maule for his compilation of hints.

Last month's review of *Dracula* stated that it would be text-only but CRL in its wisdom has decided to include graphics; not any old type, but digitalised graphics. I cannot wait to see it.

WIZARD'S CROWN



- CBM64/128/Atari/IBM PC
- U.S. Gold/SSI
- Role-playing adventure
- £15.20

This month's RPG is another classic from Strategic Simulations. Unlike last month's RPG, *Crown* has everything for which the ardent RP gamer could wish. The overall playing area is not so big as for some games but what it lacks in size is compensated by the number of battles you need to undertake. This is no ordinary travel-the-land, meet-monster, kill-monster, get-gold type of game. It is an adventure full of twists, where commonsense and good strategy are the order of the day, or you will not last long because the game is first and foremost an excellent battle for survival.

Your mission is to find the missing Crown of The Emperor. It is no ordinary crown. Whoever holds it is able to draw from its wisdom and power. As usual, one old wizard decides to keep the Crown for his use. You have to find and return the Crown and fame and fortune are yours.

As with any RPG, your first task is to recruit various members for the journey. Take your time in this section – it will be worth it later. Once having selected or created your band, it is time to look round the city and while looking to kill a few thugs and thieves, save a damsel in distress and have a whale of a time in the local taverns.

The game moves at a fairly rapid pace. Battle confrontations are in two forms.

You can choose Tactical or Quick Battle. Quick Battle is self-explanatory – the computer decides the outcome – whereas Tactical can last as long as 45 minutes and that is where your skill as a tactician is required.

During the battle you can check your band to discover the injuries incurred. The usual hit point system is used but instead of losing, say, three points after a

GRAPHICS
● ● ● ● ●
ATMOSPHERE
● ● ● ● ●
PLAYABILITY
● ● ● ● ●
VALUE FOR MONEY
● ● ● ● ●
OVERALL
● ● ● ● ●

hit the points are evaluated on severity of the blow and whether it is a 'bash' blow or a 'cut' blow. A 'bash' causes injury, which could be serious or normal; the 'cut' causes bleeding – a player will bleed to death if unattended, so it is vital to check and heal your player as soon as the battle is over.

I enjoyed *Crown* immensely. My only criticism of an otherwise excellent game was the amount of times I had to re-visit the inn to rest my warriors, or progress is almost impossible. In saying that I do not think you will be disappointed in the overall playability and depth of gameplay awaiting you in the fantasy land of Arghan.

MOONMIST

- Amiga/CBM64/Atari + Disc Drives
- Activision/Infocom
- Adventure
- £30

Rounding the corner of the cliff road, the beams of my sports car illuminated the wrought iron gates which stood closed in front of me. Climbing quickly out of the car, I marched to the impressive gateway. A cold November mist was rolling in from the sea which seemed to eat into my bones. Pulling up the collar of my jacket I rang the bell. A mechanical-sounding voice asked the usual questions and then told me to enter.

Climbing back into the car I drove slowly along the narrow twisting drive towards Tresyllian Castle, thinking of the events of the last twelve hours. It was the letter from Tamara, a sweet and trusted old girl friend, which had taken me to the old Cornish castle. Someone or thing had tried to kill her and it was for me to try to find who and why, so after a long flight from the States there I was.

I could discern the castle, with its dark turrets reaching into the ever-darkening sky like cold, dark fingers. Somewhere

inside was the object of my journey. Could it really be haunted? I had heard stories about so-called haunted houses but was the legend of the White Lady of Tre-

GRAPHICS
None
ATMOSPHERE
● ● ● ● ●
PLAYABILITY
● ● ● ● ●
VALUE FOR MONEY
● ● ● ● ●
OVERALL
● ● ● ● ●

syllian Castle true, and was it really possible for a long-dead person to rise from the grave and try to kill another?

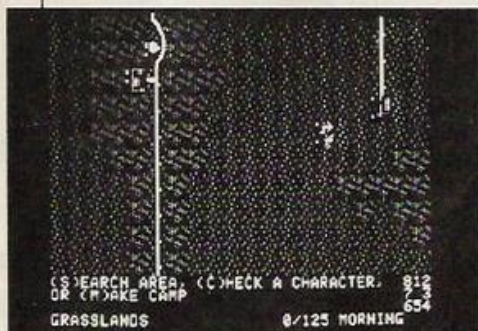
If you fancy a good detective mystery set in and around a rambling old castle inhabited by strange and mysterious characters, look no further, because Infocom has again delivered the goods. You will need all your detective skills to help you solve this one but beware while you explore the dungeons and secret passages which abound in this game because there is a particularly nasty ghost who is dying to see you in the same state.



Full of atmospheric text descriptions for which Infocom is famous, the tale twists and turns like a rollercoaster as you try to solve the strange happenings inside the castle. The objective is to save Tamara from a fate worse than death and at the same time solve various clues which eventually will lead to completion of the game. Do not linger too long in your quest or you will find a nasty surprise awaiting you.

HEART OF AFRICA

- ▶ CBM64/Atari + Disc drive
- Ariolasoft
- Graphic/Arcade Adventure
- £14.95



This, I suppose, is a mixture of graphic adventure mingled with RPG plus arcade. Ariolasoft must be congratulated for trying to please everyone but will the game do so?

I found it to be interesting, albeit in a funny kind of way. Your objective is to find the hidden tomb of an ancient Pharaoh. Sitting alone drinking creme de menthe you are surprised by the arrival of a letter from Flattery, Frump, Flaghorne

and Fagin, solicitors, explaining that you are the sole beneficiary in the will of your demented uncle. Before you can inherit there are one or two things you must do,

GRAPHICS
●●●●●
ATMOSPHERE
●●●●●
PLAYABILITY
●●●●●
VALUE FOR MONEY
●●●●●
OVERALL
●●●●●

like visiting the Dark Continent and finding the tomb. Along the way you may need to fight off a few cannibals, suffer dire thirst in the deserts, starve slowly to death and, in general, have a good time.

Your quest begins in Port Cairo, where you must visit the local stores to obtain the goods necessary for your journey. I found that part frustrating, mainly because of the method of visiting the stores. The way could have been made easier. First you are presented with an overall view of the town/village, represented by little boxes.

On entering a certain box you are given a close-up of the village. Each store is depicted by a different-shaped hut. By entering the hut and standing beside the character you find there you are able to buy your goods. What I found frustrating was if you wander outside the boundary of the village – and you discover that only when you have done so – you are once again presented with the overall view.

After doing that a few times, especially with the slowness of the CBM disc access, you become a little disenchanted. Having acquired the items needed you can start your journey. It can be done in a number of ways – by using a travel agent, walking or travelling by canoe.

Finding caches left along the way by your uncle will help you understand a little more about what you are doing but not much. The game is icon-driven, each icon giving a sub-menu of commands to use. The graphics, even though correct geographically, have a dated look. The main character looks like a pair of crab legs, which does not help much. If you can tolerate those shortcomings, after playing for a time the game becomes addictive and so the shortcomings do not seem so bad.

PISS TIMES IN TONETOWN

- ▶ CBM64/128 + Disc Drive
- Activision
- Graphic Adventure
- £14.95

From the company which produced the excellent *Borrowed Time*, the latest release is everything I would expect from one of the most innovative software houses. Tass is, to say the least, certainly different from some of the usual rehashed unoriginal adventures. Graphically superb and once again featuring either icon or keyboard control, your quest is to locate your old grandad and save him from

because gramp loves his pizzas. Finding a laboratory, you pull the switch to activate the time warp hoop and are transported instantly to the strange dimension in which Tonetown exists.

Surviving in Tonetown is not easy but one source of help is Enio the Legend, who used to be gramp's dog Spot – but now he can talk. Among the unusual inhabitants you will meet are such enlightening folk as Chaz, who does a

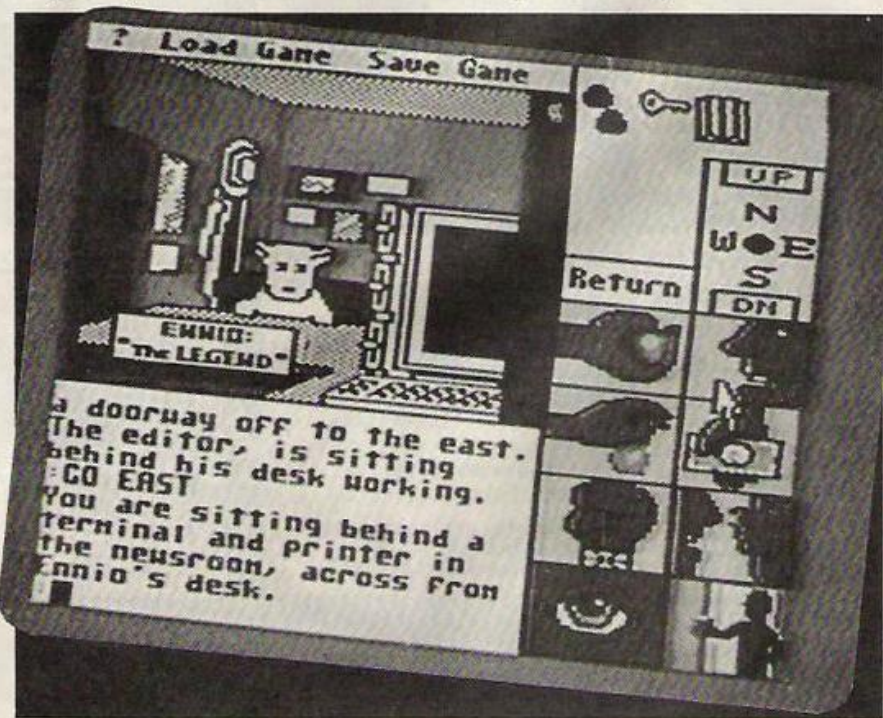
two-tone hair job; Fast Freddy, whose Globurgers are the talk of the Tone; and The Daglets.

The packaging includes an information booklet and also the Tonetown Times, which provides some clues to help you in your quest. The game includes Quickload and Quicksave, a boon to any adventurer, and the parser is fast to respond to its large vocabulary. Overall an excellent adventure guaranteed to please.

GRAPHICS
●●●●●
ATMOSPHERE
●●●●●
PLAYABILITY
●●●●●
VALUE FOR MONEY
●●●●●
OVERALL
●●●●●

the clutches of the rather nasty Franklin Snarl. At the same time you must also make sure Snarl does not get you.

The adventure is similar to countless others but Interplay, the author, has again produced a world in which strange and amazing characters help and hinder you in your quest. The game starts in your grandad's old winter hut. A half-eaten pizza lies on the dusty table. That is unusual



SpecDrum / Amdrum Digital Drum system for the Spectrum 48K/128K/+2 and Amstrad 464, 664, 6128.



SPECDRUM AMDRUM
£29.95 £34.95

Sweet Talker

Compatible with Interface I & II and Spectrum 16K, 48K, 128K, +2, Commodore 64. Complete with cassette and full instructions.



£24.95

Mega-Sound

For 48K Spectrum and ZX Spectrum+. Achieve amazing sound capabilities that your Spectrum has been lacking.



£10.95

Spectrum Joystick Interface

For Spectrum 48K/128K/+2. Accepts any Atari style joystick including Cheetah 125+, Mach 1+. For Kempston Compatibility.



£9.75

Sound Sampler

17.5 KHz Bandwidth



Compatible with Spectrum 48K, 128K, +2.

£44.95

Midi Interface



Compatible with Spectrum 48K, 128K, +2.

£49.95

Cassette / Data Recorder

High quality cassette/data recorders for your home computer will allow easy loading of even the most stubborn programs.



£24.95

MK5 Midi Keyboard



A full size 5 octave polyphonic keyboard containing a sophisticated and very powerful computer, suitable for a wide range of uses.

£99.95

Peripheral Power

Mach I+ Joystick

Probably the best joystick in the world.

- Auto Fire
- Metal Shaft
- +2 Selector Connector
- 12 Month warranty.



£14.95

125+ Joystick

- 4 extremely sensitive fire buttons
- Auto fire switch
- +2 Selector connector
- Uniquely styled hand grip
- 12 Month warranty.



£8.95

R.A.T. Remote Action Transmitter

- Infra Red transmission
- Touch control
- No extra software required
- Compatible with all Sinclair/Cheetah peripherals via the rear edge connector.



£19.95

+2 Selector Connector

Sinclair Joystick Adaptor for connecting ZX Spectrum +2 computers to most joysticks



£2.99

56 Way Extension Connector

Cheetah's 6" long extension cable enables Spectrum peripherals to be distanced from your computer.



£7.95

Aerial Splitter

Cheetah's neat splitter unit complete with self-adhesive pad allows you to keep your T.V. and computer aerial leads plugged in without disturbing the picture.



£2.25

Spectrum 128 / +2 to Midi Lead

Midi control lead for Spectrum 128K/+2 computer.



£9.75

Split Extension Connector

Enables 2 Spectrum or Amstrad peripherals to be connected to the computer bus.



SPECTRUM AMSTRAD
£10.99 £11.75

Prices include VAT, postage & packing. Delivery normally 14 days. Export orders at no extra cost. Dealer enquiries welcome.

Cheetah, products available from branches of
Dixons **John Menzies** **WHSMITH**
High St. Stores and all good computer shops.

Cheetah
Marketing



CHEETAH MARKETING LTD.
1 WILLOWBROOK SCIENCE PARK
CRICKHOWELL ROAD, ST. MELLONS, CARDIFF
TEL: CARDIFF (0222) 777337 TELEX: 497455
FAX: 0222 779404



Within Your Reach

£149.95* for a Hayes compatible, autodial, autoanswer with speed seeking smart modem from one of the UK's best-known modem manufacturers — that really brings the world of data communications within your reach!

If that wasn't enough, the new WS4000 is also fully intelligent and speed buffered. And you can add your choice of optional extras now or later, taking it right up to full V22 or even the 2400 bps V22 bis standard.

For only £149.95* you can reach out to Prestel, Telecom Gold, Micronet, Microlink and the world's databases, bulletin boards and telex links through your own telephone line. User-user file transfer too.

WS4000 is made to the same high quality as all our products. The price breakthrough is a direct result of our massive component buying power through high volume sales to business, home, educational and Government users throughout the world.

If £149.95* is within your reach — then so is the world.

* Price excludes VAT. Total delivered price, UK mainland, is £178.19. Prestel, Telecom Gold, Micronet and Microlink are registered trade marks of those companies. Access & Visa cards accepted.



MIRACLE TECHNOLOGY

MIRACLE TECHNOLOGY (UK) LTD ST PETERS STREET IPSWICH IP1 1XB ENGLAND
 ☎ (0473) 216141 6 LINES TELECOM GOLD 79: KEY 001 (Dealerlink 72: DTB 10135)
 ☐ 946240 CWEASY G 19002985 PRESTEL MAILBOX 919992265

CADMASTERTM

THE ULTIMATE GRAPHICS PACK

SUPERB GRAPHICS SOFTWARE
PLUS
A QUALITY LIGHT PEN

Discover the exciting world of creating your own graphics on screen.

Look at these options:—

	AMSTRAD CPC464/664 COLOUR MONITOR	COMMODORE 64/128	PLUS4	C16	VIC 20 NEEDS SUPER EXPANSION	SPECTRUM	DRAGON 32/64 TANDY COLOUR 32/64
FREEHAND DRAW	✓	✓	✓	✓	✓	✓	✓
DRAW BOX	✓	✓	✓	✓	✓	✓	✓
DRAW CIRCLE	✓	✓	✓	✓	✓	✓	✓
DRAW LINE	✓	✓	✓	✓	✓	✓	✓
DRAW TRIANGLE	✓	✓	✓	✓	✓	✓	✓
DRAW RAYS	✓	✓	✓	✓	✓	✓	✓
PEN THICKNESSES	1	3	3	1	1	2	1
PEN QUILLS	✓	✓	✓	✓	✓	✓	✓
PAINT BRUSH	✓	✓	✓	✓	✓	✓	✓
TEXT	✓	✓	✓	✓	✓	✓	✓
FIN POINT ACCURACY	✓	✓	✓	✓	✓	✓	✓
ACTIVE BANDING	✓	✓	✓	✓	✓	✓	✓
COPY FUNCTION	✓	✓	✓	✓	✓	✓	✓
WASH	✓	✓	✓	✓	✓	✓	✓
COLOURS	27	16	121	121	16	8	4
FILL	✓	✓	✓	✓	✓	✓	✓
FILL PATTERNS	5	11+5	11+5	5	—	7+5	5
ERASE FUNCTIONS	✓	✓	✓	✓	✓	✓	✓
SAVE SCREEN	✓	✓	✓	✓	✓	✓	✓
PRINTER DUMP	✓	✓	✓	✓	✓	✓	✓
PROGRAM FORMAT	C#	C#	C#	C#	C#	C#	C
RETAIL PRICE	£14.95	£19.95	£19.95	£19.95	£19.95	£19.95	£17.25

This powerful PROGRAM + a QUALITY LIGHT PEN and an INSTRUCTION BOOKLET in one reasonably priced package.
Easy to use by all ages for creating colourful pictures or technical drawings.
Full back-up service from the manufacturers.

TROJAN

Trojan Products, 166, Derlwyn, Duwaut, Swansea SA2 7PF. Tel: (0792) 205491



AT LAST IT'S HAPPENED!!!

J.B. SOFTWARE'S NEW AUTUMN MAIL ORDER CATALOGUE IS NOW AVAILABLE
WITH OVER — PAGES CRAMMED FULL OF EVERY KIND OF HOME COMPUTER SOFTWARE TITLE AT AMAZING DISCOUNT PRICES.

IT'S THE BIGGEST AND BEST EVER TO HIT THE COMPUTER USER AND
IT'S ABSOLUTELY FREE!!!

TO GET YOUR FREE COPY JUST SEND A 22p SELF ADDRESSED ENVELOPE TO THE ADDRESS GIVEN BELOW.

OUR SALES OFFICE IS OPEN FROM 9.00a.m. to 6.00p.m. MON TO SAT EXCEPT WEDNESDAY WHEN WE CLOSE ALL DAY. AN ANSWERPHONE IS AVAILABLE OUTSIDE OFFICE HOURS.

EVERY FORTNIGHT WE ISSUE OUR "FORTNIGHTLY FLYER" WHICH IS A SPECIAL LIST OF HEAVILY DISCOUNTED SOFTWARE, BUT DUE TO THE FAST TURNOVER OF THESE ITEMS PRICES ARE ONLY HELD FOR TWO WEEKS AND SOLD ON A "FIRST COME FIRST SERVE" BASIS.

PLEASE MAKE SURE YOU TELEPHONE OUR M.17 DEPT. BEFORE PLACING AN ORDER FROM THE FORTNIGHTLY FLYER, SO THAT YOUR SOFTWARE CAN BE HELD IN STOCK UNTIL YOUR PAYMENT IS RECEIVED.

EXAMPLES OF FORTNIGHTLY FLYER OFFERS:

C64 (D) Simons Basic Extension	£7.00
C64 (D) Ultima III	£5.00
Spec H.E.R.O.	£2.50
BBC Pole Position (Atarisoft)	£3.00

OVER 30,000 ITEMS IN STOCK READY TO DESPATCH.

IF YOU'RE HAVING PROBLEMS GETTING A PARTICULAR PIECE OF SOFTWARE ASK US IF WE'VE GOT IT — YOU NEVER KNOW!!!

J.B. SOFTWARE
DEPT. M.17
P.O. BOX 247
BIRMINGHAM B11 3SD
TEL: 021 236 1976



THOUGHTS & CROSSES

(COMPUTERS) LTD.

33 MARKET STREET, HECKMONDWIKE, WEST YORKS

COMPUTERS		IBM/AMSTRAD PC 1512, SOFTWARE		SAGE		SIN. AMSTRAD DISKETTES 10 for	
Amstrad CPC464 (green) + £100 FREE software	£199	Title	Company	Retrieve	£109	3 1/2 in. 5 1/4 in. 10 for	£35
Amstrad CPC464 (colour monitor) + £100 FREE software	£299	Integrated Accounts	Camsoft	S.I. Data	£202	3 1/2 in. 5 1/4 in. 10 for	£20
Amstrad CPC6128 (Col & disk drive)	£299	Sales Ledger	Camsoft	TAS Plus	£71		
Amstrad PC1512 S.D. Mono Monitor	£299	Stock Control	Camsoft	Supercalc 3	£45		
Amstrad PC1512 D.D. Mono Monitor	£458	Invoicing	Camsoft	Scratchpad Plus	£45		
Amstrad PC1512 S.D. Colour Monitor	£299	Purchase Ledger	Camsoft	P.C. Planner	£102		
Amstrad PC1512 S.D. Colour Monitor	£573	Non-nominal Ledger	Camsoft	Mult Plan	£102		
Amstrad PC1512 D.D. Colour Monitor	£746	Payroll	Camsoft	Mindreader Executive	£45		
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft	Wordstar 1512	£63		
Amstrad PC1512 D.D. Colour Monitor	£573	Sales Ledger	Camsoft	P.C. White	£179		
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft	Wordperfect, Jr	£81		
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft	Wordperfect Personal	£179		
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft	Wordperfect Corp	£439		
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft	Touch n Go	£22		
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft	Delta Graph	£63		
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Invoicing	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Purchase Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Non-nominal Ledger	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Payroll	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Integrated Accounts	Camsoft				
Amstrad PC1512 D.D. Colour Monitor	£458	Sales Ledger	Camsoft				
Amstrad PC1512 D.D.							

Drum simulators for the Commodore 64/128 are multiplying at an alarming rate. In the dim distant days of 1985, the trail-blazing Tron *Digidrum* had the market to itself. It was joined recently by the Datel *ComDrum* and now there are two new arrivals, *Polydrums* from Music Sales and *Rhythm King* from Supersoft.

Polydrums is a software-only package designed to run on Commodore Sound Sampler hardware. As with others of its ilk, it stores digital recordings of percussive sounds in the micro memory and plucks them out and plays them back at staggering intervals to



play it, there is also a graphical representation – or icon – of the instrument. That can be confusing, especially on the editing screen where you have to refer from the name to the icon and then to the number before knowing which key to press.

The arrival of the two new packages makes choosing a drum simulator for the Commodore 64/128 extremely difficult. Each contender has its strengths and weaknesses. The original Tron *Digidrum* package, for example, offers by far the largest library of sampled sounds but with time, its newer rivals could catch up. At £79.99, the *Digidrum* is the

Two more drummers join the Commodore band

produce the effect of a kit of instruments being pounded.

Polydrums has three eight-instrument kits of sounds – natural, electronic and Latin – the last being the most impressive. As with most other drum machines, rhythm patterns can be specified and edited on an instrument-versus-beat grid or tapped-out on the QWERTY keyboard in real-time. Any four instruments can sound simultaneously. The program provides 26 pre-defined patterns which can be combined with your efforts to produce a string of patterns, called collectively a song.

Posterity

Up to 245 patterns can be strung together to give many minutes, possibly hours, of rhythmic variation, provided you have the stamina to listen.

What distinguishes *Polydrums* from its rivals is the ability to include user-generated sounds in its patterns. You simply clap, burp or feed some other short-lived sound into the microphone which accompanies the Sampler package and that sound

Tony Sacks tells us what is new. If you want to know HOW it is done, read on...

replaces one of the pre-recorded sounds in the kits. If you wish, you can create a complete new kit in that way. User-sampling certainly adds to the fun of using a drum machine and can produce some interesting and amusing effects which can be stored for posterity.

At £19.99, the *Polydrums* kit is essential for any Sound Sampler owner but it faces stiff competition from the other new arrival, the Supersoft *Rhythm King*, which will also run on the Sound Sampler hardware or, it is claimed, on any of the other sampler/drum machine hardware packages on the market. Supersoft is supplying the *Rhythm King* either as a £19.95 software-only package or together with a cigarette-pack-sized decoding module at £39.95.

Much thought has obviously gone into *Rhythm King*. Its displays are better-designed

than its rivals and almost any facility you might want from a drum simulator has been built-in.

The software provides two eight-instrument kits of sounds; some have a pleasing reverberative sound, others are flat by comparison. Supersoft plans to provide more sets of sounds at about £3 per set.

Rhythm King has many sensible points, including colour-coded displays of the beats in a bar. When editing you can jump from any beat in one bar to the same beat in the next, which is most useful. The care which has gone into the software also shows in the instruction manual, which is more detailed than those of its competitors.

Supersoft has almost tried too hard. In addition to naming each sound and giving the number of the QWERTY key which has to be pressed to

most expensive of the drum machines.

Sound sampler

Users of the *Polydrums* package will not have to wait for new sets of pre-recorded sounds because they can create their own samples. To do so they must own the £69.99 Sound Sampler package in addition to the drum software.

The Datel *ComDrum* is, at £29.99, the cheapest stand-alone drum simulator but it is also the least versatile of the packages.

Rhythm King is the most flexible and best-designed of the bunch but it lacks the fun element of the *Polydrums* user sampling. It is a difficult choice which may, in the end, be decided by the survival of the noisiest.

Addresses

Datel – Unit 8/9,
Densbury Road,
Fenton Industrial Estate,
Stoke-on-Trent.
Supersoft,
Winchester House,
Canning Road,
Harrow, Middlesex.

Subject –

Xerox Documenter – dream or reality?

In the past being a publisher was the privileged position of a few. Now by being in possession of only a relatively small fortune the budding entrepreneur can take his chances. Geof Wheelwright describes the latest offering from Rank Xerox.

systems, along with 10, 20 or 40MB of hard disc storage – and the Xerox 4045 desk-top laser printer, which offers a resolution of 300 dots per inch and can double as a photocopier.

The bundled integrated software, which Xerox calls Viewpoint, employs the same desk-top metaphor with re-sizing boxes, scroll bars and pull-down menus with which you will be familiar from the Apple Mac, the Atari ST and, more recently, the Commodore Amiga.

Also like the other WIMP products, the Xerox system uses the concepts of on-screen folders within folders – the icon equivalent of directories and sub-directories – icons for various types of documents and high-resolution, on-screen representations of different type-faces and graphic densities.

To all intents and purposes, the machine looks like an odd

Before you consider this month's dream machine, you will have to learn a few facts of life. Do you, for example, know from where WIMPS – Windows, Icons, Mouse and Pointer Systems – emanate? You probably saw them first on the Apple Macintosh, where they were employed to provide the picture-driven interface and mouse control which provided most people with an idea of what their first dream machine looked like. You would, however, not be correct to think that they came from Apple.

Most of the work on WIMPS originated at Xerox, which has a highly-regarded research facility in California known as Xerox Parc. It was from that research facility that the first well-known WIMPS machine, the Xerox Star, emerged. It was followed later by the Apple implementation of those ideas on the Apple Lisa and then the Macintosh.

So it may be that Xerox originated the WIMPS ideas but surely it was Apple which first leapt into the whole desk-top publishing business. Wrong, again. Xerox – or Rank Xerox Ltd, to call the company by its proper corporate name – has been involved in terminal-based publishing systems for some years and only a few months ago announced its latest desk-top publishing system, *Xerox Documenter*, which includes both desk-top publishing

hardware and software and is the subject of this month's dream machine reveries.

To look at, the system is a good deal more substantial than the Apple Macintosh-based desk-top publishing system but is nowhere near the

of sources, including discs in IBM PC format, and uses a page-by-page WYSIWYG – What You See Is What You Get – system in conjunction with a laser printer.

There are a number of components to desk-top publishing



Xerox Documenter – a self-contained office publishing system.

sprawling hulk which made up the massive Cray supercomputer at which we looked in the previous issue.

The system allows input of text and graphics from a variety

with the Xerox equipment, including the Xerox 6085 multi-function workstation – a massive 19in. high-resolution monochrome screen, PC-style keyboard and mouse input

cross between the Mac and the PC, with a PC-style keyboard which comprises function keys, standard QWERTY keyboard and several specialised keys. Beside the keyboard is a

standard two-button mouse, unlike the uni-button offering on the Apple machines, with a sufficiently long lead that you do not find yourself struggling to decide exactly where the mouse will be positioned.

Unlike the PC or the Mac, Documenter has been designed from the beginning as a true multi-tasking machine. Although its primary purpose is obviously for desk-top publishing, it also includes a hardware/software PC option which allows you to run almost any IBM PC software in a window on the desk-top at the same time as you are also running the Documenter Viewpoint integrated software. That IBM emulation does not just run to easy MS-DOS applications but also promises to allow you to run well-known, 'badly-behaved' software such as Lotus 1-2-3.

Page by page

It is, of course, the desk-top publishing applications where Documenter really scores. Unlike existing desk-top publishing applications for the IBM PC and the Macintosh, which are designed for taking existing word-processed text and formatting it page-by-page, the Documenter Viewpoint software incorporates word processing, business graphics, spreadsheet, list management and freehand drawing applications.

That means that unless you want to import existing PC text or graphics there is no reason why whole publications cannot be undertaken solely via the Viewpoint software.

The word processing is in the mould of *MacWrite* or *First Word* and allows for a wide range of paragraph and page layouts to be created, with numerous fonts and typesets. The system software also supports writing in a variety of languages, including options for Chinese and Japanese, so that a single document can contain the necessary characters to be written in, for example, English, French, German, Chinese and Japanese.

Xerox obviously has its own ideas about the use and impor-

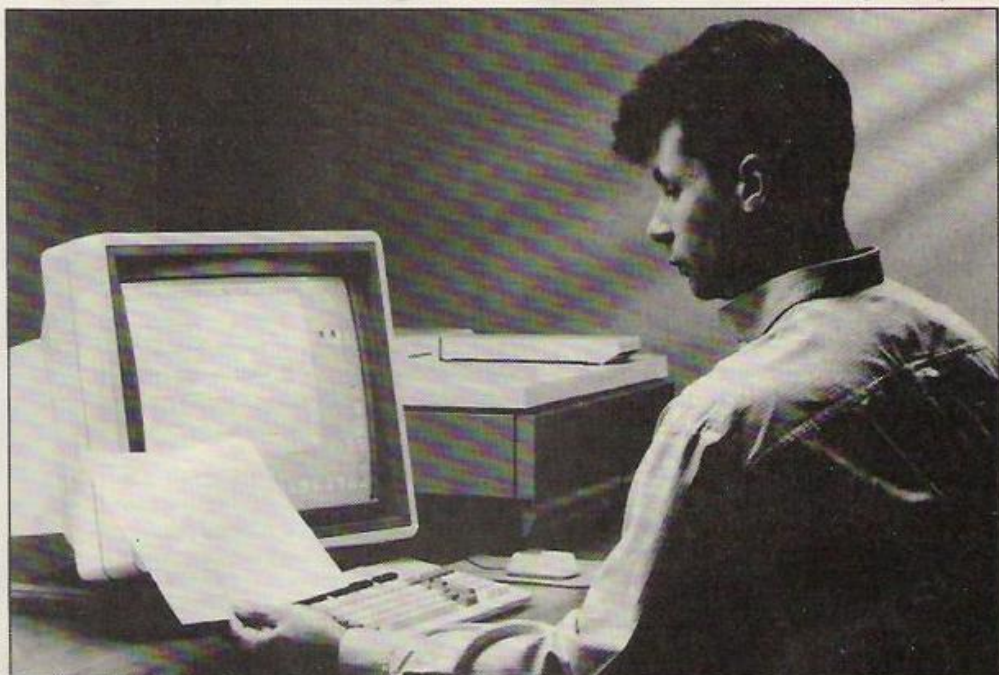
tance of its new publishing system, and U.K. marketing manager Alan Higson is vocal about them. "Office systems which address document publishing need to provide solutions which effectively combine the creation, or capture, of the document content with

machines price is initially no object, as it costs nothing to dream, but in the case of Documenter you would find yourself with a bill of at least £7,500, rising to £12,000 depending on the configuration you want.

It is not really so expensive as you might think, especially

sheet in a second and perhaps a word-processed document in a third.

All in all, the Xerox Documenter must be one of the more pleasant dreams I have had since this column began. As a journalist, anything which involves reducing the cost of



It carries-out document creation-composition and printing for business applications.

composition, editing, storage, retrieval, printing and distribution," he said.

Coherent solution

"Rank Xerox has well-established strengths in workstations, electronic printing, facsimile and networks, as well as our reprographics capabilities," adds Higson. "We are committed to international standards and compatibility with other leading systems vendors. We believe we are in a position, therefore, to work with our customers to evolve a coherent and integrated solution to their document-processing needs in both printed and electronic form."

It is clear that Xerox wants you to know it plans to be top dog in this area and that it does not intend Apple, IBM or anyone else to spoil this scheme.

Where, you may well ask, is the catch in all this? The first catch for the small business will be the price. Like all dream

when you consider that an Apple Macintosh Plus, with hard disc, desk-top publishing software, word processing application and laser printer would cost a comparable amount. The Apple system does not allow the laser printer to double as a photocopier, nor does it offer the same type of IBM PC emulation options.

The IBM AT, of course, is good at emulating the IBM PC but once it is kitted-out with the desk-top publishing add-ons needed to take it to the kind of specification offered on the Xerox system, it would cost the same or even more.

That price becomes even more attractive when you consider how well Xerox has integrated the Documenter with a networking system so that a single laser printer can be shared between multiple workstations or over an industry-standard Ethernet network. The system even allows you to access a mainframe in one window while running a spread-

publishing to where you do not have to bother with editors, publishers and all those nasty typesetting costs must be attractive. When it is as easy to use as Documenter, it is also very tempting.

I worry, however, that this obsession for desk-top publishing might be disenchanting to the rest of the world. There have been suggestions that the only reason DTP is receiving so much attention is because journalists, and not readers, are excited about the possibilities it presents.

We all know that is not true, don't we? Who would not give the odd £7,500 for the chance to become a publishing tycoon? Now, if I could only find the £7,500.

INFORMATION

Rank Xerox (U.K.) Ltd.
Bridge House, Uxbridge,
Middlesex.
Tel: 0895 51133 extn. 3131
Launched November, 1986.

Fleet Street Editor

Low-cost PC hardware, most notably in the form of the Amstrad PC1512, combined with the Mirrorsoft Fleet Street Editor package, bring the cost of desk-top publishing within the reach of any aspiring publisher.

Desk-top publishing, or DTP as it is referred to by those in the know, is one of the current buzz words of the computer world. DTP is rather a grand way of referring to systems which allow the creation and printing of documents owing more in appearance to a typical magazine page than the rather bland-looking pages produced by a typical word processor.

DTP software allows columns of text to be laid out on a page, headlines and captions to be positioned, graphics and line drawings to be included in a document — all the functions associated with the traditional skills of magazine layout. Mirrorsoft has recently launched two DTP packages, though it has experience with DTP software as it has been marketing a package for the BBC micro for some time. The two new DTP packages are written for the IBM PC or compatibles and for the Amstrad PCW. It is the PC version of that we evaluate for this review.

Fleet Street Editor is supplied as a set of four discs. Two system discs, the difference between them being the screen driver supplied, either IBM colour or Hercules. The other discs contain the fonts — typefaces — supported by FSE and a collection of line drawings and illustrations which may be included in FSE documents.

Keyboard

We used the package in conjunction with two PC clone systems, one a dual floppy system, the minimum system requirements, the other being a hard disc-based system. Both featured 512K of RAM, again a minimum requirement. FSE may be used in conjunction with a mouse or, slightly less effectively, controlled via the keyboard.

We used the software with a mouse for a brief period but the remainder of this review assumes that the software is used with a hard disc system and is controlled via the keyboard. The main advantage of using FSE with a hard disc is that the software is faster in operation and that there is no need to swap between system and data discs, as is the case when it is used with a floppy system.

Before entering FSE from the MS-DOS prompt it is important to ensure that the path in which the system files have been

installed is the active path. If FSE is to be controlled via the keyboard it is also necessary to issue the command NO-MOUSE before calling the main software.

Typing FSE at that stage will call a batch file which will load the PUBLISH.COM file and the appropriate overlay files into RAM. After a short delay a copyright message appears on-screen. That gives way shortly to the main menu screen shown in figure one.

In keeping with current trends, the software is controlled via a series of pull-down menus, selected by the function keys, and a set of icons, again selected by a function key.

When using a package such as FSE it is easy to lose sight of the fact that, while effective presentation of a document is important, the words used are vital if any publication is to communicate its message effectively. While FSE builds in a basic text processor, the most efficient way to use the system is to create the words as an ASCII text file, using a full-feature word processor such as *WordStar*.

Column width

Having created a document containing the words to appear on the final page, the next step should be to prepare and position any graphics to be included as part of the final page. The FSE package includes generous general-purpose artwork supplied on disc but the user is able to create basic drawings using the artwork editor. Alternatively, artwork may be prepared using a specialised graphics package and those images converted into a form suitable for inclusion in FSE pages.

Another important decision to be taken before text is imported into the FSE document is the column width in which the text is to appear. FSE supports column widths of either one, two, three or four columns. Careful consideration to the layout of text columns is necessary if a document is to have an acceptable appearance.

The software is controlled via a series of pull-down menus selected by the function keys, and a set of icons, again selected by the function key.



FSE allows text to be justified, centred or to be ranged either right or left. Selecting the justify option with either three- or four-column text can lead to problems, as FSE does not feature a hyphenation algorithm; instead, it will pad out lines with spaces. That can result in some lines containing an excessive number of spaces and lead to a ragged layout. Intelligent hyphenation, though, is an option

only considerably more expensive DTP packages would provide.

When preparing a page, FSE provides a window on to the page. To view the completed page, a low-resolution, show-page option available from the f1 menu can be used. It is wise to check the layout of a page in that way before committing anything to the printed page.

The text imported into an FSE layout

may be displayed in a number of type styles – fonts – and may appear in a range of type sizes to give the proper emphasis to headlines, introductions and captions. The leading – the gap between the lines in the main body of the text – may also be adjusted.

An option known as picture wrap allows the text to be run round any graphics positioned on the page. Use of this feature gives FSE layouts a professional quality.

In addition to those features, FSE builds in many other commands which give the computer-aided layout a considerable degree of control over the way a document will look when printed-out. While professional typesetting systems offer far more sophistication, for its budget price FSE builds in an impressive array of features.

FSE supports a number of printers, including, with an appropriate driver package, laser printers. When printing-out using a dot matrix printer the quality of the output is acceptable, although nobody would confuse a page for one produced by a professional typesetter.

Professional

When a laser printer is used, however, the quality of the page can approach that produced by equipment costing many thousands of pounds. FSE can print documents, not to a printer but to a disc file. That option is useful if, for example, a document is prepared at one location but is to be printed at another computer which has a higher-quality printer available. The disc with the printable file can be loaded into any machine and the document printed with the MS-DOS PRINT command.

FSE will appeal to many people who at present use scissors and paste to produce a variety of newsletters and small-scale publications. Even when used with a dot matrix printer, the quality of a finished document will be an improvement on the cut-and-paste approach. If a laser printer is available, FSE can produce results approaching professional quality. While FSE lacks some of the sophisticated features of high-cost DTP packages, at £150 it offers a surprisingly sophisticated product which will appeal to many PC users.

INFORMATION

Fleet Street Editor – IBM PC version

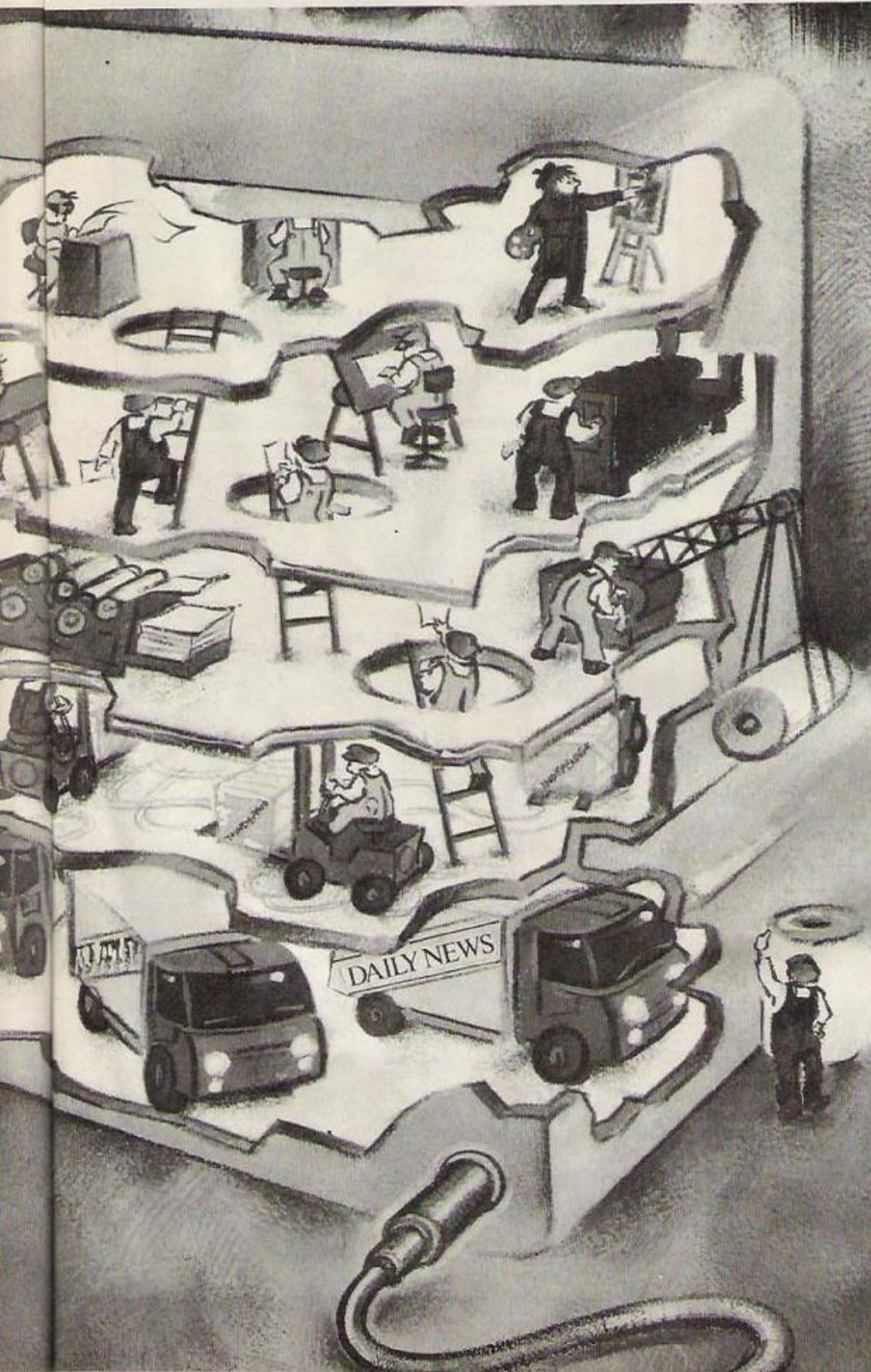
Price: £149.95

**Mirrorsoft, 74 Worship Street,
London EC2 2EN.**

Telephone: 01-377 0022

**Fleet Street Publisher also available
for the Amstrad PCW8256 and 8512.**

Price £69.95.



A SPECIAL MESSAGE TO ALL THOSE PEOPLE WHO HAD A SINCLAIR COMPUTER FOR CHRISTMAS

THE NEW YEAR
MICROFAIR IS ON
JANUARY 31st 1987
AT THE
HORTICULTURAL HALLS
LONDON SW1.



(and those who have had
one for years)

Looking for great gizmos for
your new Spectrum or QL?
There's one place you will
find everything:

THE MICROFAIR.

If it's new it will be on
show. If it's original
you'll find it on sale. If
you need advice you only
have to ask the exhibitors. If
you want to meet thousands of
enthusiasts, just come along
and enjoy yourself.

There's everything for
Sinclair Computers. Hardware,
Software, Books, User Clubs,
Programming Aids, Games,
many at special 'show' prices —
there's even a bring and buy sale.

For a fun day out and a chance to
see and buy everything new and
exciting... you won't beat the
MICROFAIR.

THE NEW YEAR MICROFAIR

JANUARY 31st 1987

AT THE HORTICULTURAL HALL

GREYCOAT STREET/ELVERTON STREET

LONDON SW1. 10am-6pm

ADMISSION: £2.00 (ADULTS)

£1.50 (KIDS UNDER 14 YRS)

SEND NOW FOR REDUCED PRICE ADVANCE TICKETS

Send to Mike Johnston (Organiser), Dept Y.C.
ZX MICROFAIRS, 71 Park Lane, London N17 0HG.

Please send me advance tickets
(Adult @ £1.50)

Please send me advance tickets
(Child under 14 @ £1.00)

Name: _____

Address: _____

22nd
ZX MICROFAIR

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

COMPUTEC

MUSIC UK - (0902) 405100

HARDWARE

Prophet 5 to MIDI interface £100 inc VAT
Monster ROM for DX7 512 voices £145
Spectrum Sampler £49.95
DX7 ROMs from Skyslip and Rittor
Shadow GTM6 guitar to MIDI

SOFTWARE

Steinberg Syntech Passport C.Lab Joreth
Microvoz Treesoft DHCP Lemi MIDI soft
XRI Systems Icon Cheetah Roland Etc.
Roland JX8P Editor for the Commodore
Prophet 2000 Editor for the Commodore

Overseas Customers Welcome
UK Send Cheque or PO for £1, Overseas send £2
International Money Order, for facts pack and price list.
Refund on purchase

* The only music-software specialists in the country *

24 HIGH ST., BROCKMOOR, BRIERLEY HILL,
WEST MIDLANDS DY5 3JA

BINDER OFFER

Are your shelves bursting with back-issues?
If so, or even if you are planning on keeping
your copies of *Your Computer*, what you
need is a binder. Priced reasonably at £3.45
inclusive of VAT and postage and packing,
the binder is a must to any dedicated *Your
Computer* fans.

To order, simply send a cheque or postal
order, made payable to Focus Magazines to
the address below.

Focus Magazines,
79-80 Petty France
London SW1H 9ED.

Please allow 28 days for delivery.

Seeing is believing

Would you spend £100 on a machine designed only to play games? Ariolasoft hopes you will as it releases the Sega Master System on an unprepared world. Francis Jago reports.

War has been declared – just like the war between Commodore and Sinclair three years ago. This time, however, the



three sides are much more diverse and the battle might be more fierce.

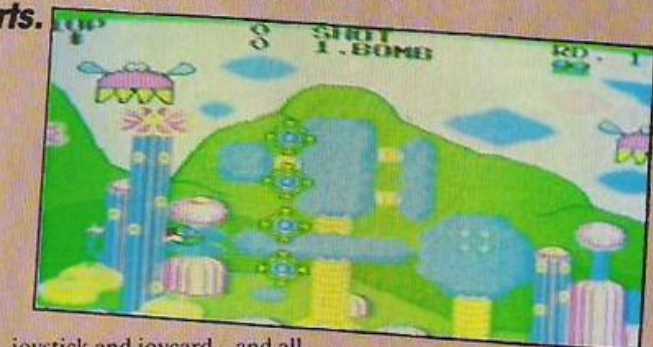
Let us start at the bottom. Atari – yes, the company responsible for the ST – is set to release, for slightly less than £75, its entry into the cheap dedicated games machine market. With graphics and sound far superior to the early VCs, it hopes price advantage will allow it to clean up.

At the top of the ladder is the Nintendo games console, soon to be imported by Mattel. Having played with the machine extensively, I can vouch for its quality, and some of the games, especially *Nemesis* and *VS Super Mario Bros*, are outstanding and certainly worthy of the tag of an arcade machine at home.

In the middle, and the one about which I am going to write in more detail, is the Sega Master System, imported to the U.K. and Europe by Ariolasoft. Costing £99.95

inclusive of VAT, and with games, whether on cartridge or Sega Cards, priced at £19.95, it manages to be cheaper than the Nintendo in every department.

Anyone who has spent time wandering in the arcades will have noticed some games created by Sega. With hits such as *Hang On*, *Enduro Racer* and *Out Run*, it is one of the most prolific and successful arcade machine manufacturers in the world. What it hopes for is a new market, one which can



joystick and joycard – and all the necessary leads to connect it to your television set. Also included is a 256K TransBot Sega Card. The processor used

Resolution is high enough at 256 x 192 dots and the overall effect is very impressive.

As you would expect with such a machine, the screen can be scrolled in almost any direction and the sound effects are realistic, if not exceptional. As with all of the new generation of dedicated games machines, the Sega will live or die on the quality of the software released for it. The first crop is, to say the least, mixed, with some excellent games and some very poor conversions.

Apart from *TransBot*, seven other games will be available

immediately after the launch, to include *Black Belt*, *Fantasy Zone*, *World Grand Prix*, *Choplifter*, *Action Fighter*, *Astro Warrior/Pit Pot*, and *Hang On*.

If the Sega is supported by a variety of software houses and new releases are not in short supply, then it is priced for success. The only doubt at the moment seems to be that the Nintendo has attracted more attention.



exploit the success of the arcade machines, yet possibly have a longer life.

For your money, you will receive the console, two controller cards – which seem to be an uneasy combination of

in the machine is a Z-80A running at a clock speed of 3.6MHz which is used to control the 128K of RAM.

The machine can display up to 64 colours, of which only 32 can be on-screen at once.



ATARI COMPUTERS



All All ST computers come with tax and gem in rom and logo, basic, neochrome, firstword, db master one, doodle and megaroids. (Please add £9 (£9) £14 if the logo manual is required). 2080ST+ b/w £1264 (£1264) £1364, colour £1484 (£1484) £1594. 4180ST+ b/w £1605 (£1605) £1705, colour £1825 (£1825) £1935. 1040ST+ £666 (£666) £697. Atari 520 STM Computer (512K version) £301 (£297) £338. Atari 520 STM+ (1 Megabyte version) £387 (£378) £419. Limited period special package offers: Atari 520 STM with 500K disc drive, Atari 520STM+ with 500K disc drive please write for prices. 1 megabyte upgrade for the Atari 520STM £99 (£99) £109. Cumana economy 1000K disc drives for the 520STM: single £151 (£151) £173, dual £244 (£244) £276. Atari 500K ST disc drive £135 (£135) £155. Atari 1000K ST disc drive £183 (£179) £196. Atari ST monochrome monitor £139 (£149) £198. Economy Fidelity ST colour monitor £203 (£208) £269. Atari 12" medium resolution ST colour monitor £361 (£361) £407. 20 Megabyte ST hard disc £504 (£512) £682. (Now in stock). New Bit Chip for ST range £66 (£66) £68. We offer good discounts on most ST software for example: HiSoft DEVPAK £42 (£42) £46. Metacombo Lattice C £81 (£81) £85. Computer Concepts Fast Basic £79 (£79) £80. Atari 130XE computer + game £117 (£123) £144. 130XE computer + cassette recorder + software £151 (£150) £176. 130XE computer + disc drive + software £239 (£238) £269. 130 XE computer + disc drive + 1027 printer + software £313 (£315) £373. Atari 1029 £118 (£124) £151. Atari 1050 £118 (£124) £151.

SINCLAIR COMPUTERS



New Spectrum 128K Plus Two £146 (£150) £180. Sinclair QL Computer £125 (£132) £165. QL Floppy disc interface (See Cumana disc section below for suitable disc drives) £88 (£86) £96. Sinclair Spectrum Plus Computer 48K £96 (£101) £121. Spectrum Plus Computer + cassette + 4 games + joystick with interface £129 (£131) £162. Blank

microdrive cartridges £2.50 (£3) £4. Spectrum floppy disc interface (See Cumana disc section for suitable disc drives) £107 (£98) £109. Spectrum Centronics printer interface £46 (£42) £47.

COMMODORE COMPUTERS

Commodore Amiga with colour monitor: System 1 £1622 (£1622) £1772. System 2 £1842 (£1842) £1969. Commodore 128 £1466 (£1470) £520. 1571 Disc drive £283 (£280) £302. New 64C with cassette recorder and software £245 (£254) £294. Converter to allow most ordinary mono cassette recorders to be used with the Commodore 128 and the Commodore 64 £9.78 (£9) £11. Centronics printer interface for Commodore 128 and the Commodore 64 £30 (£31) £36. MPS803 Printer with tractor unit £166 (£170) £191.

AMSTRAD COMPUTERS

We can supply a wide range of software for the 1512, the PCW8256 and the PCW8512 - write for a quote. New Amstrad 1512 IBM Personal Computer Range: 1512 with single disc and b/w monitor £516 (£543) £650. dual disc b/w £645 (£653) £760. Single colour £710 (£715) £822. Dual colour £839 (£824) £931. 10MB Hard Disc b/w £903 (£912) £1032. 20MB HD b/w £1033 (£1026) £1146. 10MB HD colour £1098 (£1078) £1198. 20MB HD colour £1228 (£1198) £1318. DMP3000 printer £194 (£197) £230. Amstrad PCW8512 £564 (£587) £694. Amstrad PCW8256 £449 (£474) £581. Amstrad 464 Colour £297 (£328) £410. Amstrad 464 Green £197 (£235) £316. Amstrad 6128 Colour £397 (£428) £510. Amstrad 6128 Green £297 (£328) £410. Amstrad DMP2000 printer £156 (£162) £195. Extra disc drive for Amstrad 6128 £39 (£105) £136.

CUMANA DISC DRIVES

To suit disc interfaces of Sinclair QL, Spectrum, Enterprise and BBC B. 80 track double sided, cased and with power supply: single 3.5" £134 (£137) £159, dual 3.5" £224 (£229) £261, single 5.25" £172 (£175) £205, dual 5.25" £310 (£316) £357.

PRINTERS

New Epson LX86 £281 (£280) £314. Brother M1109 £220 (£224) £265. Shimwa CT1 CPA80+ £193 (£196) £233. Cannon PW1080A £309 (£312) £363. Microperipherals MP165 £223 (£227) £269.

SWANLEY ELECTRONICS

The Computer Export Specialists
Dept. YC, 32 Goldsel Rd., Swanley, Kent BR8 8EZ, England
Tel: SWANLEY (0322) 64851

Official orders welcome. UK prices are shown first and include post and VAT. The second price in brackets is for export customers in Europe and includes insured airmail postage. The third price is for export customers outside Europe (including Australia etc) and includes insured airmail postage.

BINDER OFFER

Are your shelves bursting with back-issues? If so, or even if you are planning on keeping your copies of *Your Computer*, what you need is a binder. Priced reasonably at £3.45 inclusive of VAT and postage and packing, the binder is a must to any dedicated *Your Computer* fans.

To order, simply send a cheque or postal order, made payable to Focus Magazines to the address below.

Focus Magazines,
79-80 Petty France
London SW1H 9ED.

Please allow 28 days for delivery.

CUT PRICE RIBBONS AND DISCS

	Each	Ten		Each	Ten
Amstrad PCW 8256	£4.25	£3.99	Seikosha GP80	£2.75	£2.45
Amstrad DMP 2000	£4.25	£3.99	Seikosha CP80	£3.75	£3.25
Cannon PW 1080A	£2.99	£2.50	<i>Other ribbons all on request</i>		
Commodore MPF 801	£2.50	£1.99	Diskettes		
Epson CX/UX	£2.99	£2.50	3 1/2 in. Single Sided	—	£17.99
Epson MX/FX/RX180	£2.99	£2.50	3 1/2 in. Double Sided	—	£19.99
Epson MX/FX/RX100	£3.50	£2.99	Twenty-Five		
Juki J Micoms	£2.75	£2.25	5 1/4 in. S/S, D/D 48tpi	—	£12.99
Mannesmann Tally MT80	£3.75	£3.25	5 1/4 in. D/S, D/D 48tpi	—	£14.25
Ok Micro Line 80/82/83	£2.25	£1.15	5 1/4 in. D/S, D/D 96tpi	—	£15.50
Panasonic KXP-2091	£3.75	£3.25			

Buy 200 5 1/4 in. Discs and get free lockable box. All goods 100% guaranteed. V.A.T. included. Post cheque to:

CITY RIBBON SUPPLIES

85 Station Road, Cropston, Leicester. Hotline: 0533 365260

CUT-PRICE DISKS - LOWEST YET!



5.25" 'Universal'
suits all drives -
SSSD, SSDD, DSDD, DSQD-96.
£49.99 - 100 disks
£26.99 - 50 disks
£14.99 - 25 disks
*Life-time No Quibble Warranty!
*Hub-rings, full spec.
*No Extras - vat & delivery included

Lowest **3M**
& branded prices - Try us!
Official orders very welcome.

FREE! Buy 200 disks
and get a tub of
screen/computer wipes.

3.5" Hi-grade
Single or Double sided
SSDD or DSDD All ex-stock
£139.99 or £159.99 - 100 disks
£ 75.99 or £ 85.99 - 50 disks
£ 39.99 or £ 49.99 - 25 disks
Same day despatch -

Cheques or orders to:-
Dept YCOMP
Direct Disk Supplies Ltd
FREEPOST
29 Dagmar Road
Kingston, Surrey, KT2 6BR.



DIAL-A-DISK
01-541 1144

DRAGON'S LAIR

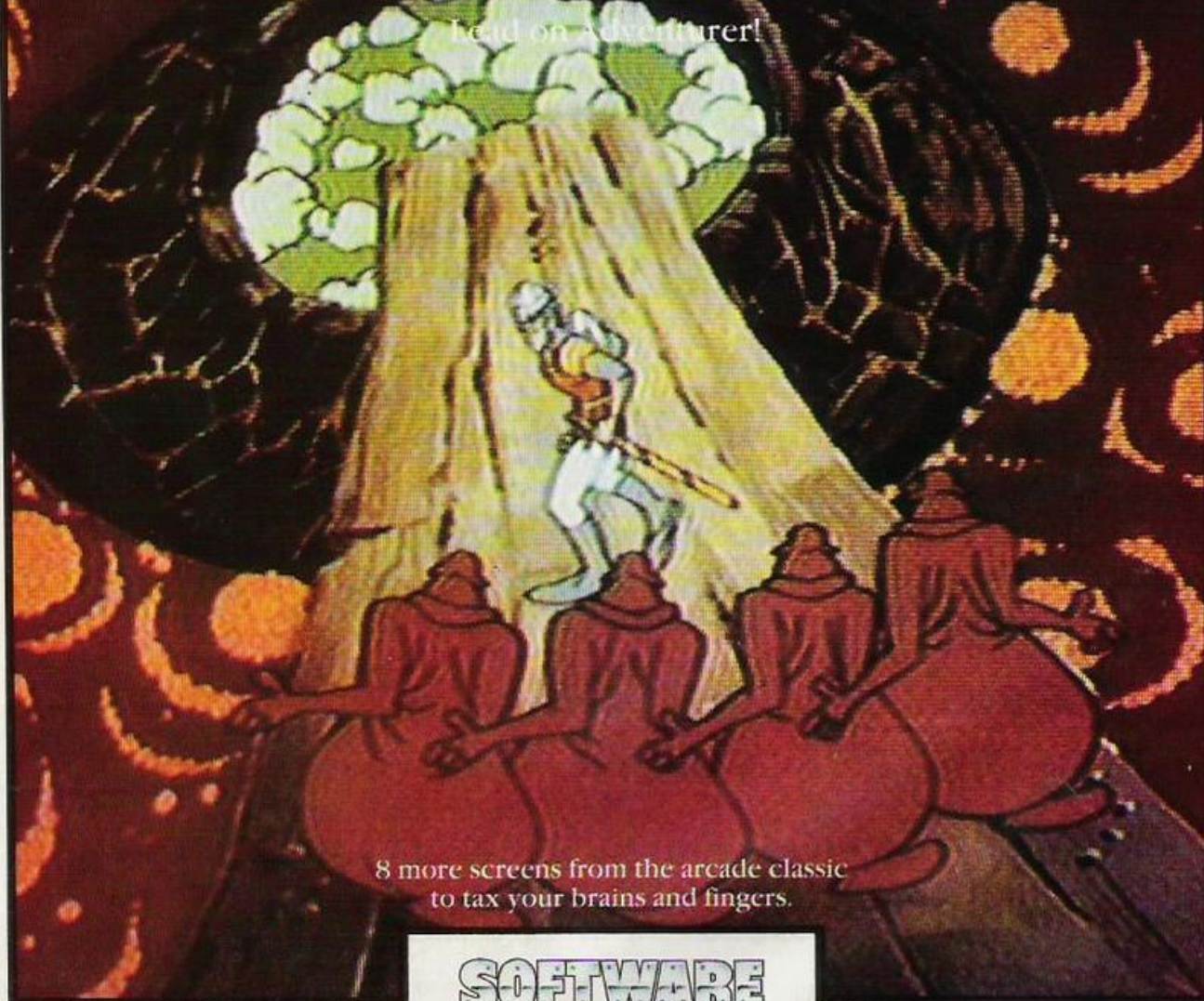
OWNED BY MAGICOM INC. AND USED BY PERMISSION

PART II

Escape From Singe's Castle

In this adaptation of the arcade classic, you continue where Dragon's Lair® part one finished. Daring Dirk, having rescued the fair Princess Daphne, decides to go back through the Dragon's Lair and relieve Singe of some of the gold that is in the castle, which is under the protection of the cunning and lethal Lizard King. You will need lightning reflexes and judgement to fight the Lizard King and avoid the giant rolling marbles. In this adventure you will be rushed down rapids in a barrel and sent down corridors on a magical flying horse and other dangerous deeds will present problems for you. Finally, direct Dirk to freedom through the realm of the mud monsters who come alive from the very earth itself to enslave Dirk and turn him into mud like themselves, navigate the dangerous terrain, jump across the chasm and freedom is yours.

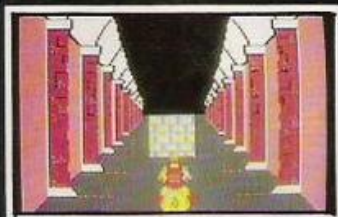
Lead on, adventurer!



8 more screens from the arcade classic
to tax your brains and fingers.

SOFTWARE PROJECTS

MAGICAL FLYING HORSE



MUD MONSTERS



AVAILABLE NOW ON
Commodore 64/128

TAPE £9.95 & DISC £13.95

AVAILABLE SOON FOR:

Spectrum 48/128 £7.95

Amstrad 464/664/6128

Tape £8.95 Disc £14.95

AVAILABLE FROM ALL GOOD COMPUTER RETAIL OUTLETS

DRAGON'S LAIR® Owned by Magicom Inc. and used by permission Copyright© All rights reserved
Character Designs Copyright 1983 Don Bluth.

Software Projects Ltd, Unit 7 Bearbrand Complex, Allerton Road, Woolton, Liverpool L25 7SE
Telephone: 051-428 9393 Telex: 627520

OFFICIALLY LICENSED HOME
COMPUTER VERSION OF
THE No.1 ARCADE HIT

Year's best – 1986

Looking back at 1986 it becomes obvious just what an exciting and innovative a year it was. In this feature Your Computer reminisces on what products made it a year to remember.

CATEGORY:

Simulation

WINNER:

TT Racer

SOFTWARE

HOUSE:

Digital Integration



There will probably be some controversy about this decision but, with all due respect, *TT Racer* was the clear winner of this category. Having seen and played simulations from all the top software houses, we returned again and again to it and that is the highest recommendation possible.

Everything about the game reflected the care and skill with which it was programmed and the ability to network eight Spectrums added greatly to the innovative nature of the game. Rod Swift, the programmer, can be justly proud of the game and the only thing left to say is roll on the Amstrad version.

CATEGORY:

Arcade game

WINNER:

Trailblazer

SOFTWARE

HOUSE:

Gremlin Graphics

It was getting very late in the year for this game to win this award but we feel, hav-



ing played the game at great length, that its innovation, gameplay and excellent graphics make it a worthy winner. Gremlin Graphics had an excellent year and games such as *Way of the Tiger* and *Jack the Nipper* have now established it as one of the top five software houses in the U.K. If it continues to produce games as good as these, 1987 could well be its year.



CATEGORY:

Game soundtrack

WINNER:

Sanxion/Miami Vice

SOFTWARE

HOUSE:

Thalamus/Ocean

The only shared honours, as no-one could decide which soundtrack was better. The general opinion was that the rendition of the *Miami Vice* theme tune produced by Martin Galway suited the game more but that the Rob Hubbard-

produced rendition of Prokofiev's *Romeo and Juliet* was more impressive. Either way, they both emphasised the importance of music in games.



CATEGORY:

Adventure game

WINNER:

The Pawn

SOFTWARE

HOUSE:

Rainbird



What can one say about this game? Released initially on the Atari ST, it combined a sophisticated parser with the most impressive still graphics seen on a home computer. Even only in ST format, the game was appreciated by everyone who saw it but the Commodore 64 version was in many ways more stunning.

Everyone expected the 64 version to be massively cut down, with poor graphics and restricted gameplay. That could not have been further from the truth. Bob Stevenson produced the best still graphics yet seen on the Commodore and *Magnetic Scrolls* did the rest, with stunning result. In many ways it was the easiest category to choose, because nothing really approached *The Pawn* closely.

CATEGORY:

Arcade adventure

WINNER:

Antiraid

SOFTWARE

HOUSE:

Palace Software



Stunning graphics, excellent music, good gameplay, annoyingly addictive, and a free cartoon book, too. What more could anyone ask for? With this game, Palace established itself as an absolute master of the art of good arcade adventures. *Cauldron* and *Cauldron II* may have been good – and, in fact, *Cauldron II* was the leading contender for this award if *Antiraid* had not appeared – but *Antiraid* was out of this world.

Dan Malone, the artist responsible both for the comic strip and the computer graphics, has created something really special. Palace says there are more games in the pipeline.

CATEGORY:

Most innovative

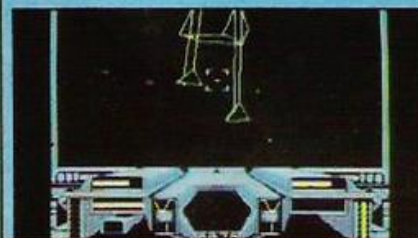
WINNER:

Starglider

SOFTWARE

HOUSE:

Rainbird



Released initially on the Atari ST and programmed by Jeremy San, this game really pioneered the ST as a games machine and has yet to be bettered in terms of playability and innovation. Released recently on the Amstrad and

Spectrum, it is the first Spectrum game to feature animated 3D vector graphics creations. What surprised everyone, even Rainbird, was the speed and quality of the conversions and, together with the original game, it will go a long way to establishing Rainbird.

CATEGORY:

Utility

WINNER:

Fleet Street Editor

SOFTWARE

HOUSE:

Mirrorsoft

Already a hit with users of the BBC range of computers, now that *Fleet Street Editor* is available for the PC a new group of people will be able to experience basic desk-top publishing at its best. When used with a laser printer, the results are outstanding and can approach professional quality. Even with a dot matrix, the quality is a great deal better than many of the home-produced efforts which seem to be so popular.

CATEGORY:

Overall

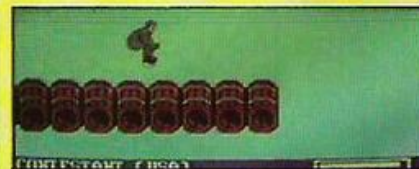
WINNER:

World Games

SOFTWARE

HOUSE:

Epyx/U.S. Gold



Yet again a game in the Games series has scooped the award. With eight events from round the world, including such novel ideas as barrel rolling, Sumo wrestling and caber tossing, together with some of the best graphics and sound on the Commodore 64, the game is the best yet to be imported from the U.S. and whether or not you are a fan of sports simulations, this is the game of 1986. The inevitable conversions for the Spectrum and Amstrad should enable *World Games* to continue selling well into 1987.

CATEGORY:

Graphics Package

WINNER:

Art Director

SOFTWARE

HOUSE:

Mirrorsoft



When the Amiga was launched, Electronic Arts, a U.S. company, released *Deluxe Paint*, intended to show just what could be done with a machine of this power. Until recently, however, there was nothing of this standard available for the Atari ST. With *Art Director*, Mirrorsoft has really shown what can be done.

Using the program is exceptionally simple and immediately it becomes obvious how powerful a package it is. In many ways, *Art Director* is comparable with *Deluxe Paint* and there cannot be higher praise.

CATEGORY:

Computer of the Year

WINNER:

Amstrad PC1512

There may be other clones but none will have the impact of this machine. Starting at around £450, with a basic specification for which IBM would be charging more than £1,200, the Amstrad PC can truly claim to be the machine which turned the PC clone into a home computer.

Whether or not the rumoured problems are more than gossip is yet to be proved. What is sure, however, is that 1986 certainly was the year of the Amstrad and it would be a brave man who would predict the end of the seemingly permanent Amstrad increase in sales and profit.





BULLSEYE

Millions enjoy this popular TV darts game, and now you can join Bully on the oche where you aim to win and throw to answer! A good arrow and you can pick your favourite topic ranging from Food to Pot Luck – a correct answer, and you're on your way! Do you want to gamble! £8.95

BLOCKBUSTERS

Sixty million people every week watch Blockbusters, Britain's most popular TV quiz game! Now, thanks to Macsen software, you can actually be a contestant, recreating the excitement of the TV studio in your own home. Our Question-master follow-up give you 500 more questions, plus the chance to insert your own – be your own Bob! £7.95

GOLD RUN

Can you beat a path through the hexagons to go for gold? The tension of this sister-game to Blockbusters is terrific, as the contestant struggles to complete his path against the clock. Adjust your own answering time to push yourself harder! £9.95

Macsen Software presents television's most popular programmes for your computer.

With our productions you can take part in your favourite programme and turn your living room into the television world of stars and sagas.



BLOCKBUSTERS & GOLD RUN
Now available for C16

Unit 1, Dafen Industrial Park, Llanelli, Dyfed. Tel: 0554 776684

COUNTDOWN

Countdown has come! The days of the simple crossword are numbered. Who in your family can find the longest word in a group of nine letters? Who is the quickest at crunching a three-figure number! Buy Countdown for hours of nail-biting enjoyment. £8.95

TREASURE HUNT

We give you a helicopter, a guide and your clues – the rest is up to you, as you search throughout England, Wales and Scotland, past castles, cathedrals and cottages to sniff out the hidden treasure. Thanks to our enclosed book, you won't need Kenneth Kendall to help you. Happy hunting! £9.95

EASTENDERS

Enter Albert Square and experience life among its inhabitants – taste their joys and woes, share their happiness and pain. See if you can survive the trials of this close community. Look out for Macsen EastEnders Software in your shops soon.

THE WINNING HAND THIS CHRISTMAS.



Blockbusters, Bullseye, Gold Run, Treasure Hunt and EastEnders available on: Commodore 64, Spectrum 48K, BBC Model B, Electron, Amstrad. Countdown on Commodore 64, Spectrum 48K, BBC Model B, Amstrad.

All games available from leading computer departments and computer stores.

YEAR'S BEST 1986 CONT.

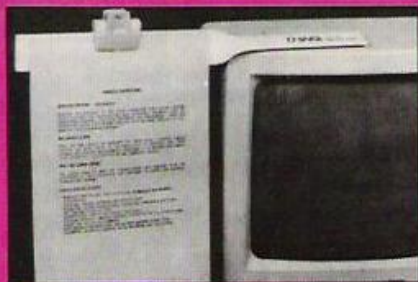
CATEGORY: Gadget of the Year WINNER: Psion Organiser II



Anyone who had used the original Organiser would never have believed that the same company could produce something so useful and well-engineered as Organiser II. Fast growing to be the next generation Filofax, and gaining popularity with BMW-driving stockbrokers, this pocket computer has the power to act as a mini terminal, although most people see it only as a glorified address book. With new software being produced all the time, the machine looks set for a rosy future.



CATEGORY: Peripheral of the Year WINNER: Thingi



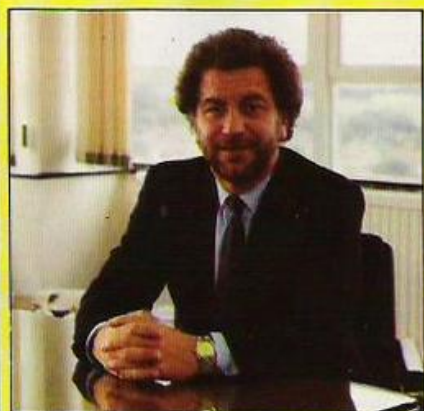
If the simplest ideas are best, then this award will be no surprise to anyone. One small piece of twisted plastic, two strips of Velcro and a great idea made this copy-holder a firm favourite with anyone who has to read while typing. Priced as they are at £6.99, it is not surprising that the company seems to have no difficulty in selling the product, especially considering more bulky objects to do the same job start at considerably more than £20.

CATEGORY: Joystick WINNER: Speed King

It may be odd to look at but once it is in your hand and you start using it the Speed King shines, whether you are using it for accurate CAD or blasting the latest aliens. With a left-handed model on the way, and more plans for innovational releases, Konix has established itself as one of the premier joystick manufacturers. If the *Your Computer* offices are a criterion, the Konix is the best joystick available at the moment.

CATEGORY: Personality WINNER: Alan Sugar

Alan Sugar is surely the only man who was even competing for this award. The year began with the launch of the PCW 8512, which further established the machine as the only computer to consider if writing was your main requirement. The purchase of Sinclair, for the much-publicised price of £5 million,



established him as the top dog of home computing and the subsequent launch of a much revamped Spectrum 128, called the 128+2, showed that he knew what to do.

The master stroke, however, was saved until later in the year when he released, as surely everyone in the U.K. must now know, the Amstrad PC. Sugar does not claim to be an innovator by nature but with the PC he has made IBM sit up and take notice and, with record profits, 1986 was surely his year.

CATEGORY: Software House WINNER: Hewson



It may have dropped the Consultants from the name but everything else has remained the same. Undoubtedly the most consistent software house, with a string of hits of which U.S. Gold would be proud, Hewson has established itself as one of the few software houses where you really can buy a game without having any thoughts of disappointment. To list all its hits of 1986 would take too much space but *Uridium*, *Quazatron*, *Pyracurse*, *Iridis Alpha* and *Firelord* to name five should indicate the overall quality of 1986.

With a team of programmers which includes Steve Turner, Andrew Braybrook and now Steve Crow, it can be assured of equal success in 1987, a fact which must make Andrew Hewson very proud.

Continuing from last month, Stephen Applebaum sees how you can animate art on this powerful Atari.

Filming with the ST

Film director is a program designed to aid in the generation of animated films. Its mode of operation is in many ways similar to that followed by professional animators, in that films are built as a sequence of individual frames. To create the illusion of movement, characters are drawn in a series of positions rather like in a child's flick-book. They are then linked in logical order so that stepping through them quickly produces the illusion of movement.

Creating a film using *Film Director* is a complicated process, too involved to be described in full. What follows is therefore an overview of the steps which have to be gone through to make a film, with some of the more note-

worthy features of the program indicated where necessary.

Film-making always starts in the Pattern Editor, where pictures can be selected from pre-programmed picture files for use either as foreground or background elements. An extensive array of detailed pictures is available, though new ones can be drawn using a simple design program in *Film Director*.

The Pattern Editor uses a toolbox similar in function to the one described in *Art Director*; it, too, can be slid across the screen and toggled on/off with the f10 key. Included in the toolbox is a pen and a zoom function, the tools forming the *Film Director* so-called drawing package. For more professional designs, you can transfer pictures painted with *Art Director* or *Neochrome*, using the *Film Director* file conversion program.

Polygons are created in a separate editor, where shapes comprising up to 64 straight lines can be defined. One of the most powerful features of the Polygon Editor, and indeed many of the others, is something called TWEEN. It generates the in-between stages between two polygons.

If in one frame you draw a triangle and in the next a square, using the TWEEN function will generate a series of polygons automatically showing the gradual metamorphosis from one figure to another. The number of polygons generated by the computer can be anything from one to 99; obviously the greater the number of in-between stages, the smoother and slower the animation.

When a number of patterns and polygons have been defined, they can all be collected into a single unit via the *Film Director* Group Editor.

An element residing in a group then becomes known as a fragment. Rather like sprites, fragments can have their priorities changed so that they either overlap or are

overlapped by other fragments.

When all the elements of the film have been defined, they can finally all be brought together in the Frame Editor.

That is where the real task of animating all the fragments begins.

Each frame can contain up to 64 objects. Again, fragments, no matter how complex they are, can be TWEENed, so eliminating most of the hassles of changing the positions of fragments between frames.

When all the individual frames have been set-up, they can be

sequenced and the film eventually run.

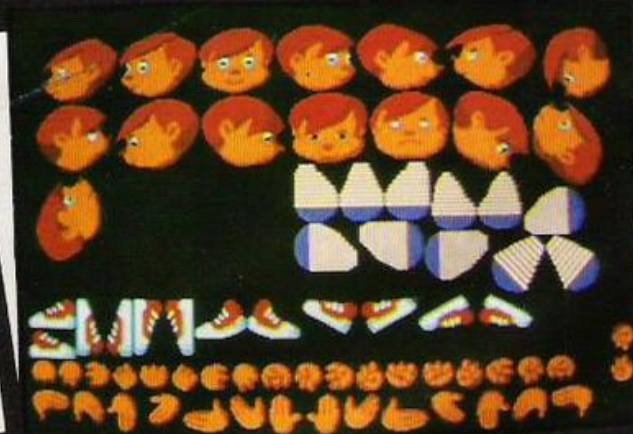
Films made with Art Director can contain sequences of up to 2,000 frames and be output to a video recorder. To do that, you will need to contact Mirrorsoft for details about a special adaptor to provide the link between an ST and a VCR.

Art Director and Film Director are two

of the most impressive design programs I have seen on any computer. If you are wavering between buying an Amiga or an Atari ST, I would advise you to look at the two dynamic packages. For me they are sufficient to warrant choosing an Atari over an Amiga, which, after seeing what is available for the latter, is not something I would normally suggest.

Information

Mirrorsoft Ltd,
Maxwell House,
74 Worship Street,
London EC2A 2EN.



For the COMMODORE, AMSTRAD, BBC MICRO, ELECTRON

REPTON

THE ULTIMATE CHALLENGE

3



The Screen Editor.



The Character Editor.



Being pursued by a Monster



The Time Bomb is located



The Poisonous Fungus grows insidiously



Collecting a Golden Crown

Are you ready for the ultimate challenge?

Our original Repton game was immediately acclaimed as a refreshingly new concept: a game requiring dexterity to complete its arcade-style elements, and clear logical thinking to solve its strategic puzzles. Repton involves retrieving treasure from cleverly-constructed traps of falling rocks whilst avoiding the fearsome monsters and haunting spirits. "This is an astounding game reaching new heights in BBC arcade adventures," enthused the Micro User magazine.

Last Christmas saw the release of Repton 2, larger and much more challenging than before. Acorn User's Technical Editor Bruce Smith wrote: "Repton 2 is better than anything I've played on the BBC Micro or Electron. Brilliant!"

Now, completely rewritten and improved for the Commodore, Amstrad, BBC Micro and Electron, we proudly present Repton 3. For the first time, a screen-designer is included: try to devise screens that will perplex your friends, then see if you can solve their newly-designed screens. Another innovation is the character-designer which enables you to design your own monsters, rocks, eggs, spirits, diamonds... any or all of the game's characters can be redefined as you wish.

Repton 3 is much larger than its predecessors — it has 24 fascinating screens, and players who are skilful enough to complete them all can enter our prize competition described below. All the favourite Repton characters have been retained, together with several new features: a creeping poisonous fungus which grows at an alarming rate; time bombs and time capsules (for puzzles in the 4th dimension); and golden crowns as well-deserved rewards for your endeavours. **Can YOU complete Repton 3?**

PRIZE COMPETITION

If you complete Repton 3, you can enter our competition. Prizes include over £200 in cash, with T-shirts, mugs, badges and pens for runners-up.

COMMODORE 64/128 • AMSTRAD CPC 464/664/6128

BBC MICROS: B, B+, MASTER, MASTER COMPACT • ELECTRON

Commodore Cassette.....	£9.95	BBC Micro Cassette.....	£9.95
Commodore Disc.....	£11.95	BBC Micro Disc.....	£11.95
Amstrad Cassette.....	£9.95	Master Compact Disc.....	£14.95
Amstrad Disc.....	£14.95	Electron Cassette.....	£9.95

SUPERIOR SOFTWARE
Limited

ACORNSOFT

The screen pictures above show the BBC Micro version of Repton 3.



24 HOUR TELEPHONE ANSWERING SERVICE FOR ORDERS

OUR GUARANTEE

- All mail orders are despatched within 24 hours by first-class post.
- Postage and packing is free.
- Faulty cassettes and discs will be replaced immediately.

Dept. R18, Regent House, Skinner Lane, Leeds LS7 1AX.

Telephone: 0532 459453.

GUIDE TO THIS MONTH'S REVIEWS

COMMODORE
The America's Cup
Red Max
BMX Simulator

VARIOUS
Trailblazer
Galvan
Starglider

SPECTRUM
Academy
Orbix the Terrorball
Dandy
Terra Cognita
Terminus

AMSTRAD
Dandy
Back to Reality
Terra Cognita

ATARI
Los Angeles Swat

Software Shortlist

Each of the games reviewed in Software Shortlist has been reviewed extensively by our team of reviewers.

We do not include reviews of unfinished products in this section of *Your Computer*; they are the games you can buy now or in the near future.

See the Software News and Preview features for advance news of games being developed.



Watch for the *Your Computer Soft Stars*. They are awarded to games which, in our opinion, offer outstanding value.

THE AMERICA'S CUP

► C64 ● U.S. Gold ● Simulation ● Francis Jago ● £9.95

Not many people can afford to fly to Perth to see how White Crusader – or for that matter any of the craft – are doing in this ultimate challenge of strength, resilience and tactics. At best we can



watch the amusing if uninformative Channel Four reports.

Now, owners of Commodore 64s or Amstrads can experience the thrills and spills – of which Harold Cudmore has had more than his fair share – of 12-metre yacht racing, courtesy of yet another U.S. Gold licensing deal, this time with Armchair Action, an Australian software house.

Once the game has loaded you are prompted to choose whether you will battle with a friend or the computer. Then



you must tie your allegiance to a particular country. Once those mundane options have been set, you are requested to choose at which level you wish to compete, between amateur, club and *America's Cup*. To start, amateur is the only level where you stand any chance. The wind is not too strong, it does not change direction, and the computer is as fallible as you are. Club is more reasonable and the computer makes life

difficult, though by no means impossible. For the experienced player, *America's Cup* is the level to play, with its 30-knot winds and constantly-changing direction.

To enable the player to make the most of his yacht, there are six sails from which to choose, three genoas and three spinakers. Using them correctly, it is possible to make the most of whatever wind you are in, ranging from very light gusts to a full-blown gale. In each race the course is the same and it requires a great deal of sail changing and not a few snazzy rigging moves.

To emphasise the reality of the game, all the original racing protocols have been maintained and 10-second penalties are incurred by any offenders. Care must also be taken when performing gybes or you could lose a man overboard. Overall, *America's Cup* is very enjoyable. A knowledge of racing would help but is by no means essential, especially as the manual has a detailed section of the dos and don'ts of sailing.



GALIVAN

► Various ● Ocean ● Arcade ● Francis Jago ● £7.95/£8.95

There is one simple rule of thumb to which all software companies thinking of obtaining an arcade licence should adhere – do not bother to license a game which was boring in the arcades, or the best for which you can hope is a boring conversion.



Unfortunately *Galivan* is a case in point. The conversion is, with a few

exceptions, of a very high standard. The game, on the other hand, is unimaginative and becomes boring quickly, especially if you are good at this type of walk-along, jump and shoot game.

As with most of the recent crop of Ocean/Image games, *Galivan* starts on a great note, Martin Galway's excellent loading music. After that, however, the game goes downhill rapidly. The first section is spent mastering the frustrating art of jumping the enemy. At the beginning of the game you are equipped with no weapons, so although some baddies can be punched to death, most must be avoided at all costs.

As you go further into each level, the baddies become progressively more



dangerous until, at the end of each level, you are confronted by a three-headed monster which requires you to kill each head individually. Unfortunately, once that is completed, the game gets no better.

Overall, *Galivan* is a well-converted game but it is still boring.

DANDY

► Various ● Electric Dreams ● Arcade ● Daniel McGrath ● £8.95

Druid may have been first but *Dandy*, the latest *Gauntlet* clone from Southampton-based Electric Dreams, will certainly take some beating for the accolade of the best rip-off of the arcade classic.



Released first on the Spectrum, with Amstrad and Commodore 64 versions to

follow, the game is based closely on the Atari game which inspired the coin-op.

Anyone who has played the arcade game will feel at home immediately with



Dandy. The graphics are similar and the gameplay allows for the same feeling of glorious mayhem. As with *Gauntlet*, *Dandy* allows two players to play

simultaneously, although on a Spectrum keyboard it can become very cramped.

There are 15 dungeons in all which can be played in any order. As you work your way through each level various treasures can be traded for energy, as well as literally hundreds of baddies to make life almost impossible.

It is a matter of whether you have already bought *Druid*. If not, whether it is because you are waiting for *Gauntlet*. If the answer is no to both, *Dandy* should be a definite part of your games collection. *Gauntlet* is unlikely to be any better and it could possibly be much worse.

Electric Dreams is really starting to get it together and if you read the company profile elsewhere in this issue, you can read about what it is planning for the future.

ORBIX THE TERRORBALL

► Spectrum ● Streetwise ● Arcade ● Francis Jago ● £7.95

Streetwise is a new label from Domark, the company that brought you *Trivial Pursuits*. Apparently it has been created to allow Domark to stick to releasing high-profile game such as *Trivial Pursuit*, which incidentally has just had 3,000



new questions released, and Streetwise will release games that have no tie-in, but are more arcade orientated.

Orbix the Terrorball was created by Domark's only in-house programmer, John Pragnell, with help from designer Mike Green and software manager Richard Naylor. With inspiration taken from a variety of games, ranging from basic shoot-'em-ups to Bobby Bearing type *Marble Madness* clones, *Orbix* is publicised as a 'bouncing shoot-'em-up, with some unique touches'.

Your mission is to rescue the stranded crew of a distressed space craft lying on a hostile planet, in this case Horca. The planet is literally littered (if you'll excuse the literal) with various menacing insect like aliens, who ate the spacecraft and forced the crew to flee. You must first rebuilt the craft, and then pick up the crew and escape.

With a powerful gun, and a great deal

of determination, you must blast these aliens and then pick up the little object they leave behind after death. Avoiding holes, as well as some very clever critters, you must fight to stay alive.

Graphically, *Orbix* is very pretty, and the joystick control is good, if a little difficult to get used to. When you compare it to games such as *Friday the 13th*, one of Domark and this industries worst ever games, it becomes obvious that Streetwise is a great improvement.



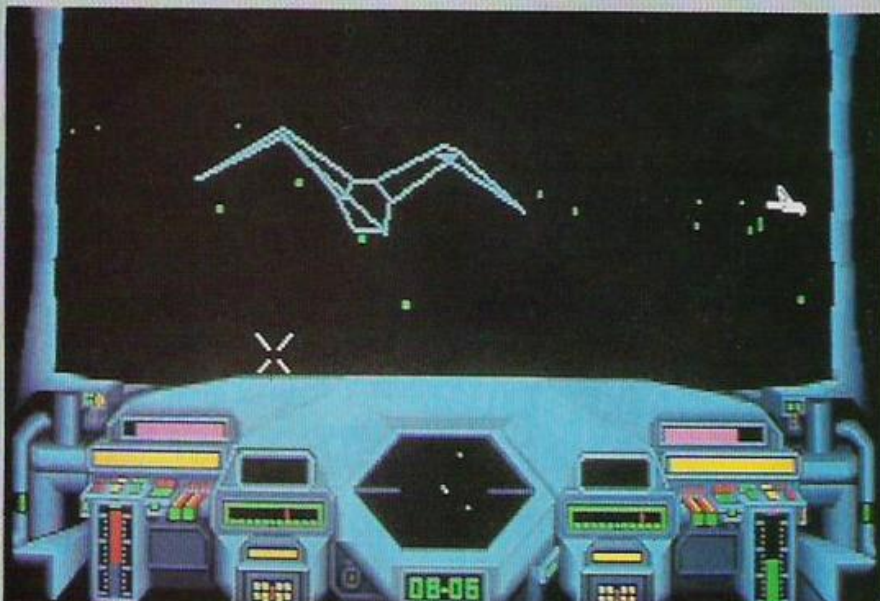
S TARGLIDER

► Various ● Rainbird ● 3D Arcade ● Jim McClure ● £24.95

Rainbird has done it again. After producing the best adventure, it has now released *Starglider* for the Atari ST and it will be available on other formats soon. Although the game was programmed by Jeremy San, he also plays Jan San the hero in the booklet supplied with the game. Programming a game like this, I am not surprised he is the hero.

The planet Novenia has been taken over by Herman Kruud, fleet commander of the Egron's invasion force. He drives one of the *Starglider* ships about which everyone is talking in terms of hi-tech nastiness. With all the odds stacked against an outdated fighter, the freedom of Novenia depends on it but after near nuclear destruction according to the booklet, is it worth rescuing?

Using the mouse to fly the airborne ground attack vehicle or AGAV gives a strange sensation of weightlessness.



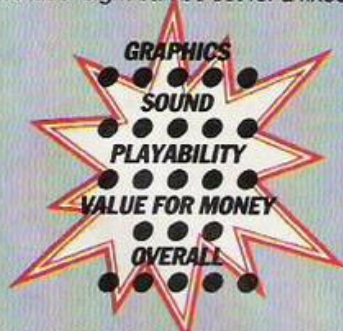
The fighter can be taken from standing to an exhilarating high speed almost immediately and will hover or gain altitude on the spot—useful in those tight situations with a skim fighter in pursuit. The laser sight can be set for a fixed

Repairs to the ship can be made, using one of the repair silos, which will repair damaged energy fields and re-fuel the laser cells on board the aircraft.

Refuelling the plasma drive on it is a different matter, as the silos were constructed originally to repair sentinels, ships which used to protect Novenia from invasion until Herman arrived.

The plasma drive powers the ship and can be re-fuelled by flying low over the energy tower power line, though severe action will be taken by the Novian air force, those you are trying to rescue. Also according to the manual, AGAV is fitted with a NetCell communications system; British Telecom better beware, as might IBM, which designed in conjunction with Draziw (wizard) Industries the on-board computer.

Herman's fleets of Bute fighters, skim fighters and *Stargliders* are challenging, with hot pursuits and dogfights providing the majority of the game play. The game bears some similarities to the Acornsoft *Elite* but in play surpasses it with the use of the mouse. There are only two words that I can say about this game—buy it.



viewpoint or a look-to-peek option.

The only other weapon is the guided missiles, with guided being the operative word. The missiles are launched as they are reminded by a digitised voice, with a tailgate television camera providing a clear view of the direction in which the missile is travelling. They will knock out anything you might encounter.



SOFTWARE SHORTLIST

TRAILBLAZER

► Various ● Gremlin Graphics ● Arcade ● Francis Jago ● £8.95

If I had to name one game which I would have said was a definite number one which never even got close, it would be *Boulder*, one of the best games released by Gremlin. It employs the concept of a



ball bouncing over a vertically-scrolling landscape, with various holes in the floor you must avoid. *Trailblazer*, the latest release from Gremlin, takes the idea a great deal further and in doing so it has produced one of the most playable games I have seen.

The idea is to race either another player, or the computer, and to hop, skip and jump your way through the various courses. That may sound easy but the ball you are controlling travels at such speed that it is all but impossible to avoid falling down holes left, right and centre.

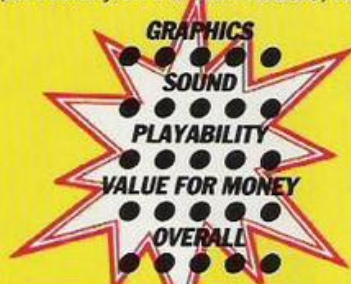
As you play the game you will notice that each colour on which you land affects your ball in a different way. Blue squares force you to jump – not always a good thing – and white squares put you

into an excellent hyperspace which, if used correctly, can increase your bonus fourfold.

Graphically, the game is exceptional, particularly on the Commodore, where it

uses a split screen for the two-player mode. Instead of having a particular direction of scrolling, the screen races towards you and in some places it is so fast that even the most dextrous hands will be lost.

Considering the music was not created by a well-known name, it is catchy and enjoyable, as are the sound effects, which suit the game perfectly. When I first saw the game some months ago I was struck by its originality but thought that it lacked some finesse. That problem has been sorted and the game is one of the best of 1986.



ACADEMY

► Spectrum ● CRL ● Simulation ● Daniel McGrath ● £8.95

Tau Ceti, the game pronounced in more ways than any other, came as a complete surprise. Pete Cooke, the author of the game, was not well known, but the game has been acclaimed by many, including me, as one of the games which makes it worth owning a Spectrum. When, therefore, *Room Ten*, Cooke's second game arrived I was slightly disappointed to find that it was completely different and was not what I had hoped for – *Tau Ceti II*.

Now, however, all is forgiven. *Academy*, the official follow-up to *Tau Ceti* is here and it was worth the wait. It is definitely as good as the original, although understandably the author has

created a new and exciting environment. Anyone who has played *Tau Ceti*, and judging by its sales there are many, will instantly feel at home.

Beginners, or rookies as they are known by the superiors in the Gal-Corp organisation, have not been particularly popular since one of them selected the wrong gear when docking into the main central reactor and reduced half the planet to molten lava. That horrific crash caused the organisation to decide that mandatory training was extremely necessary, prior to anyone becoming a recognised pilot.

The Galcorp Academy for Advanced Skimmer Pilots (GASP) was founded in



2213 to meet the new strict training requirements. To graduate, you must undertake on and complete 20 missions, grouped in five levels of four.

As with the original, the graphics and animation in *Academy* are stunning and if anything the game appears a little simpler to get into. It represents exceptional value, especially when you



consider the man-hours which must have gone into the creation of this masterpiece. If you miss this game you will be missing the chance to experience Spectrum games at their best.



AMSTRAD 18.95
ZX SPECTRUM 17.95
COMMODORE 64 18.95

LEGEND OF KAGE

TAITO

COIN-OP



*The name
of the game*

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

Licensed from © Taito Corp., 1986. Programmed for (Amstrad, Spectrum, Commodore)
by Imagine Software. Export outside Europe prohibited



TERRA-COGNITA

► Amstrad/Spectrum ● Code Masters ● Arcade ● Daniel McGrath ● £1.99

This game, by the author of the very impressive *Non Terraqueous*, is a fun game but it is so difficult to play on the Spectrum that it loses any appeal.

The Amstrad version is better, as you would expect, but it is only then that you realise the other shortcomings.

It is a budget game and therefore allowances should be made but the author has proved that he can do better, so let us hope that for whoever he writes his games in the future, they are as good as the first.

OVERALL ● ● ●



RED MAX

► C64 ● Code Masters ● Arcade ● Francis Jago ● £1.99

Even if you disliked it, *The Last V8*, the first release under the MAD label, was a milestone in budget games. It marked the point when it was no longer good enough to release any old rubbish – the games must have good graphics as well as a snappy tune.

Red Max is the follow-up to *The Last V8*. It, too, has good graphics and a snappy tune – courtesy of new wonder boy James Whittaker – and it is a great deal more playable than the original. Priced as it is, the game seems set to be a massive success.

OVERALL ● ● ●



BACK TO REALITY

► Amstrad ● Mastertronic ● Arcade/adventure ● Daniel McGrath ● £1.99

I hate games I cannot beat. Normally I give up in disgust and throw the game at the nearest bin. I then telephone the software house concerned and ask timidly for help. When playing *Back to Reality*, I was determined that, for once, the game would lose.

Needless to say, my ideals were shattered and the game won. The graphics are by no means outstanding, although the loading screen is excellent, but the game plays exceptionally well and should keep arcade adventurers happy for hours.

OVERALL ● ● ● ●



LOS ANGELES SWAT

► Atari 800 ● Mastertronic ● Arcade ● Peter Luke ● £2.99

Although there are not many games released for the Atari, most are priced at around the £14.95 mark. That is understandable, especially when you consider that they will not sell more than a few thousand units at best. *Los Angeles SWAT* should entertain anyone who has ever wished they could join T. J. Hooker on his rounds.

should entertain anyone who has ever wished they could join T. J. Hooker on his rounds.

You control the team leader and the game plays until your whole team has been destroyed. By no means a classic, the game represents good value and should be checked by anyone looking for a few hours' fun.

OVERALL ● ● ● ●



BMX SIMULATOR

► C64 ● Code Masters ● Arcade ● Francis Jago ● £1.99

Richard Darling, together with his brother and his father, obviously believe that innovation is something to be avoided at all costs. Code Masters, the label on which they are now releasing their budget games, will probably flourish but let us hope it is not riding purely on the

success Mastertronic brought.

BMX Simulator is a follow-up – or very nearly – to *BMX Racer*.

The graphics are crisp, the sound effects good, and the game boring to play. It looks much better than it plays. The Darlings can do a great deal better.

OVERALL ● ●



TERMINUS

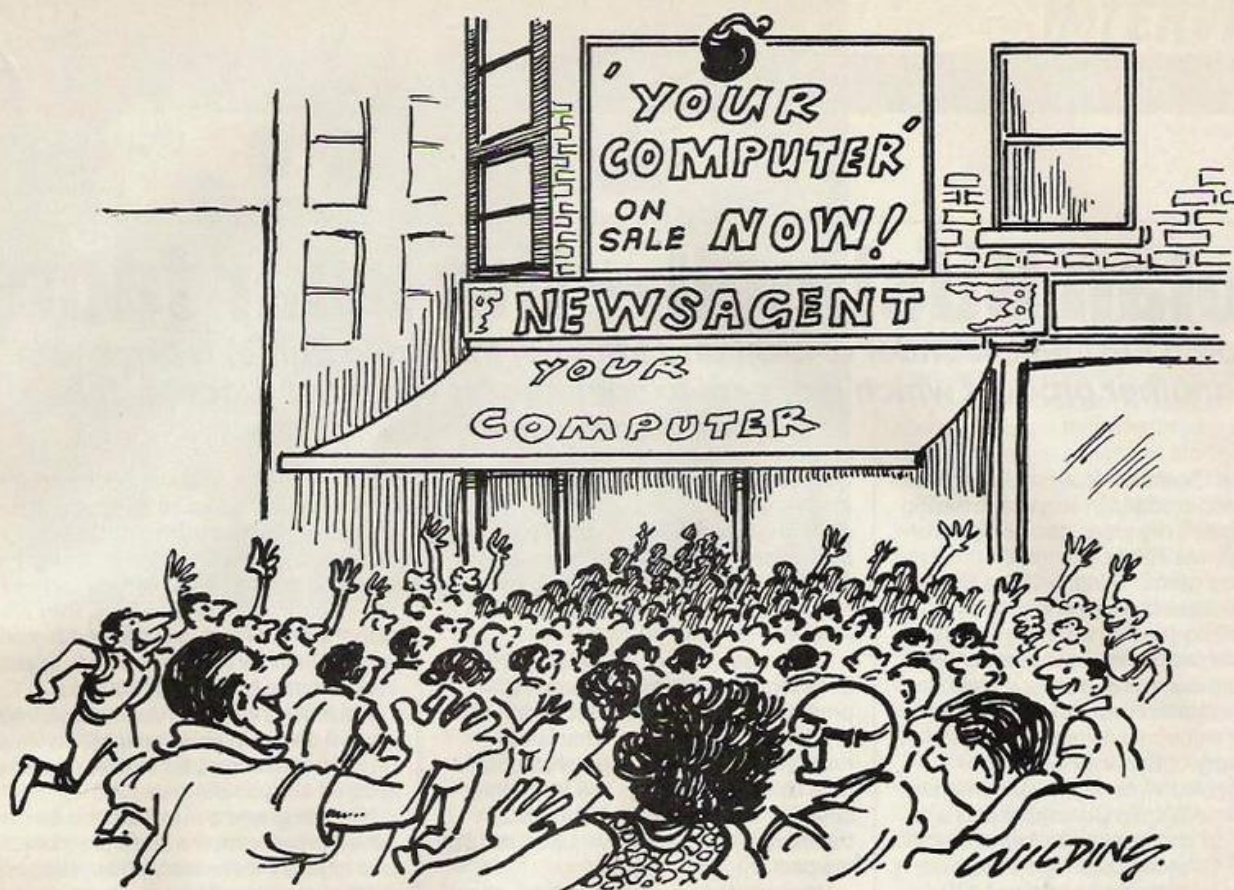
► Spectrum ● Mastertronic ● Arcade/adventure ● Francis Jago ● £2.99

Mastertronic has an uncanny knack of releasing excellent games very quietly. Of the last three or four games from Mastertronic, this rates as the best. Released on the MAD label, it is an arcade adventure which achieves something many full-price games cannot – playability.

Using very colourful graphics and not a little humour, the object is fairly standard – walk, fly and shoot your way through as many of the rooms as possible. Your character can be changed using a special teleporting unit and one of the characters is the cutest thing ever. If you own a Spectrum, do not miss it.

OVERALL ● ● ● ● ●





Stay ahead of the crowd subscribe to *Your Computer*

While the scenes at your local newsagent are unlikely to be so frantic as those depicted in our cartoon, it is a fact that copies of the latest issue of *Your Computer* disappear fast from the shelves. If you cannot go to the shops on our publication date, you could miss the mixture of news and practical features which make *Your Computer* one of the most popular home computer magazines.

The only way to avoid possible disappointment is to take a subscription to the magazine. In that way a copy will drop on to your doormat each and every month. Copies are sent direct by our printer

so by subscribing you should receive the magazine even before it reaches newsagents.

A subscription also makes an ideal present for a friend or relative. If you know someone who takes computing seriously, why not make them a present of a subscription?

To subscribe to *Your Computer*, complete the form and send it, together with cheque or postal order for £14, to the address shown. Do not delay. Send your order now and relax in the knowledge that you will never again miss a copy of *Your Computer*.

Your Computer
(Subscriptions)
Oakfield House,
Perrymount Road,
Haywards Heath,
RH16 3DH

Name _____

Address _____

Postcode _____

Nolan Bushnell – the Bear facts

Nolan Bushnell, founder of Atari and father of the video game, is back with another product which looks set to continue his record of success. John Barnes investigates.

Nolan Bushnell, founder of Atari, has been credited by many with having started the video games boom of the late 1970s. His tennis simulation game, *Pong*, was the first of many releases by Atari and is undisputedly the first video game to have been invented. He is a man who seems to specialise in starting crazes, as his record and latest product, the Petster range of electronic animals, testify.

The story of Bushnell's latest company, Axlon, starts in 1976 when he sold Atari to Warner Communications for \$28 million and went on to found the Chuck E Cheese Pizza Time Theater, a project which created a chain of 250 restaurants across the U.S. Those fast food restaurants serve as a further example of Bushnell's obsession with toys and games. The Pizza Time Theater aimed to combine fast food with electronic games, amusements and musical entertainment provided by computer-animated robot characters, thus creating a video arcade and restaurant under the same roof.

It proved to be a brilliant idea but a difficult business to run and was sold in 1985, a victim of falling interest in video games and heavy competition from the larger fast food chains.

Following that brief but relatively successful spell in the world of catering, Bushnell formed Catalyst Technologies, the organisation from which Axlon was born. Catalyst Technologies was a venture capital organisation which backed entrepreneurs financially, also providing business plan development and management guidance.

Described as "an incubator to mass-product small businesses", several successful companies grew and a number of projects were started by Bushnell, particularly in the field of robotics, work which was to be of use to Axlon.

It has been said of Bushnell that he finds technology while in search of products, while others search for products in technology. That is as relevant to his latest range of electronic pets as it was to *Pong*. The electronic family of animals looks set to make traditional living pets very much a thing of the past.

Who wants to carry heavy cans of cat or dog food from a supermarket when the Petsters do not need feeding and do not make one feel too guilty if they are locked indoors all through the weekend? Very much in keeping with the trend towards convenience products the video age has generated, Petsters are the first convenience pets which can be brought out when affection or company is needed.

To see the Axlon animals simply as toys is somewhat naive. In finding this particular product Bushnell has also increased the likelihood of domestic robots in our homes. While we can see the electronic animals as toys, they are also the first of a generation of domestic robots Bushnell thinks feasible to appear in our homes by the year 2000.

Your Computer interviewed Bushnell and we discussed his triumphs, his views on the home computer market and how Axlon is likely to develop.

YC: *Pong* was a major advance in the development of home computers but is it one of your most satisfying successes?

NB: I do not really run that way, as I like the things on which I am working on much better. When I invented *Pong* I thought that was the best and now its Petsters. I think I want to live in the future, as I believe it will be much better and I want to do everything in my power to make it happen faster.

YC: *Do you think computer games have changed in a good or bad way, not just technically but as entertainment?*

NB: That is difficult to answer. Obviously there are many good games – and a lot of trash – but I am very proud computer games are around and that I was involved when they began.

They are an essential part of the future and the way they have helped the technological advance of computers serves to prove that. The computer would be significantly behind now if it





had not been for the advent of the video game.

YC: You left Atari at what must have been its peak. How do you think it has developed since you left?

NB: I would say it peaked about 16 months to two years after I left but let me tell you about what happened with Atari. When I had left Atari it turned into a very good harvesting machine but forgot how to sow, releasing nothing which had not been in the laboratory when I was still with the company.

To have the technical talent I had assembled and let it fritter away and do nothing was in my view mismanagement. Then Jack Tramiel took over Atari 18 months ago and already he has the ST and the company is doing something again.

YC: What are your views on the state of the computer market?

NB: I think it is catching its breath. There is a very interesting thing happening now – and that is that PC clones are becoming so cheap. It is reaching the point, in the States at least, where you can buy an IBM XT with a monitor for about \$1,200 and if you want a regular PC you need pay no more than about \$600.

Those falling prices mean that people are suddenly considering PCs for use in the home but the IBM PC is a difficult machine to operate and therefore is not really suitable for casual use. At the same time we also have the Macintosh, which is the proper machine for most people to have in their homes, as they can sit down with it and do something useful after 30 minutes.

The Macintosh, however, costs in the region of \$2,000. So on the one hand there are the cheap machines which are difficult to operate, while on the other there are the easy machines which are expensive – a bizarre situation which must change.

YC: Do you think the Amiga will be the saviour of Commodore?

NB: I do not think it is the Commodore saviour but I believe that there is a place for it in the market. Whether Commodore

can slim itself down or not and live on it is another question.

YC: Do you think Commodore failed to learn the lessons it should have done from Atari?

NB: I believe that for the last two years Commodore has really stubbed its toe. It did exactly the same thing as Atari by not having a real new product – just a series of upgrades – except, of course, for the Amiga.

YC: There was a rumour that someone was to buy the Amiga. Do you think that there is any truth in that?

NB: I do not think there is such a thing as Commodore without Amiga.

YC: There was also speculation that Commodore would license the technology of Amiga. Is there any viability in that?

NB: It is extremely viable and is what JVC did with VHS video technology in the States. By licensing the technology there was greater market penetration and so VHS became the standard instead of Beta. If you did the same with the Amiga system it would probably generate sufficient software to support it for some time.

YC: There has been talk of you working with Steve Wozniak. What are you doing?

NB: We are going to try to do some work together but we do not really know what is going to happen; just watch this space.

YC: Do you see the Petsters, or rather the robotics on which they are based, as a continually upgrading market?

NB: Absolutely.

YC: You cannot therefore see limitations on how far they can be improved?

NB: I do not think so. It is like saying there is a limitation on technology.

YC: Can people afford them – they are not just toys for the wealthy?

NB: No; the price keeps going down and down.

YC: How do you see yourself going. You will not just stick with Petsters or animals. There must be more to Axlon than that?

NB: Well, when you start a company there are two things you want to do. The first is to get a reputation in the market and the second is to get a cashflow. You have to do it as quickly as possible, as there are some projects which take a long time and need to be financed. So as soon as you get things started you get a cashflow and can then get started on some of the projects which are exciting.

The company is only two years old so we could not possibly have done anything which is more than two years clever. You will soon be able to see some of the products on which we have been working. The thing in which you would be most interested is *Tech Force*, which was released in the States in November. It is the first truly three-dimensional video game.

It is really a series of computer-operated play pieces which are controlled independently by a computer console which can handle up to 16 separate units. We would both have eight players and by using the console we could control their movements.

There is also a thing called the audio link which, if placed near to a television set, will provide audio and video tapes which can set up a story and allow the TV to take control of the bad guys.

YC: How are these robots controlled?

NB: The console sends an encoded message and each play piece has its own address.

YC: Will it be possible to plug-in an existing home computer to the system, or is that supplied by you?

NB: We are selling the computer but it will be a stand-alone and the audio link means that you could plug it into an existing computer.

YC: Have you ever thought of writing software?

NB: I think we probably will be doing software at some point.

YC: If you were able to do it all again, do you think you would still have invented Pong?

NB: Absolutely. It was the natural thing to do. I do not think I could have stopped myself.



Sinclair and the 'Sunrise' Technology

Authors: Ian Adamson and Richard Kennedy

Publisher: Penguin

Price: £3.95

"Why does Sir Clive Sinclair merit our undivided attention?" Surely that is a poor start to a book which will then spend almost 300 pages talking about the countless rises and falls of this idiosyncratic English boffin. Everyone has heard, and lamented, the fall of Sinclair computers to the hands of Amstrad, for the pathetically small fee of £5 million, but this book takes the whole story a great deal further.

Starting with his early pursuits as a technical journalist, and later as an author of such titles as *Transistor Subminiature Receivers Handbook for the Home Constructor*, the book travels through the life and times of a man who has been described as "Margaret Thatcher's favourite entrepreneur".

One thing which becomes increasingly clear as you proceed further into the book is that by no means was Sir Clive the possessor of a Midas touch. In fact, a great deal of both his early and later ventures were doomed to failure in concept as well as execution.

If there is one criticism that should be made of the book, it is that the first half

seems to be spent criticising Sinclair Research, as the product of Margaret Thatcher's economic policy and the second half is a direct attack on Sir Clive. Neither section is justified – they seem to lack cohesion. Apart from that the book is compulsive reading and should be helpful for anyone wondering whether to invest in any new Sinclair ventures.

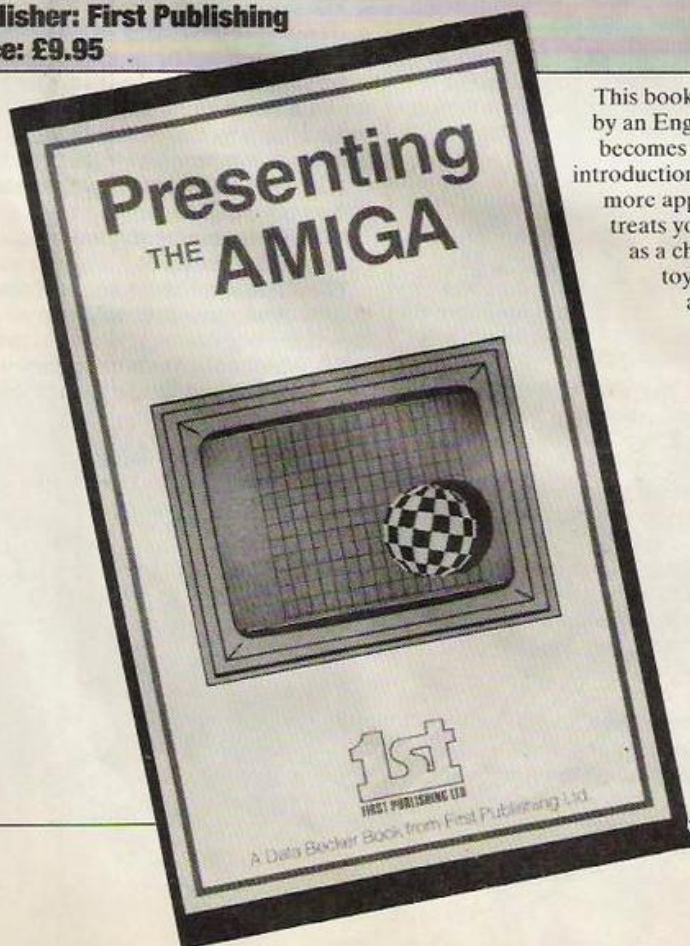


Introducing the Amiga

Author: Christian Spanik

Publisher: First Publishing

Price: £9.95



This book is not written by an Englishman. That becomes clear from the introduction and becomes more apparent later. It treats you, the reader, as a child with a new toy. Phrases such as "The mouse on its own is obviously not much use"

make the first few pages unhelpful unless you have no clue what a computer is, and in that case the Amiga is not the machine for you.

Once past the first chapter the book becomes a fairly standard Amiga book, of which there must have been five released immediately after the launch of the machine. The book covers the mouse environment, intuition, windows, and making the most of the provided workbench disc. One problem I found is the lack of colour, apart from four pages at the back. When explaining a machine which has the potential for 4,096 colours on-screen at once, it seems odd to have the book in black and white.

The next major section of the book consists of a detailed description of the Microsoft Basic provided with the Amiga. That section is probably the best and anyone who wishes to use Basic to harness the power of the Amiga will be thankful.

The rest of the book is a jumble of appendices, trouble-shooting and a few colour pictures. Overall, the book is a bit of a let-down. If it were written originally in English that would be a start but the problem is deeper-rooted than that. The section on the CLI, is painfully inadequate, and overall the book is just not good enough to act as a companion to a machine as powerful yet idiosyncratic as the Amiga.

Wargaming on the Amstrad

Authors: O. & A. Bishop

Publisher: Argus Books

Price: £8.95

Combining new technology with old has always been a pastime which creates odd though normally interesting results. As any historian would tell you, war-gaming has been an occupation for many centuries. On that time-scale, however, computers are distinct newcomers.

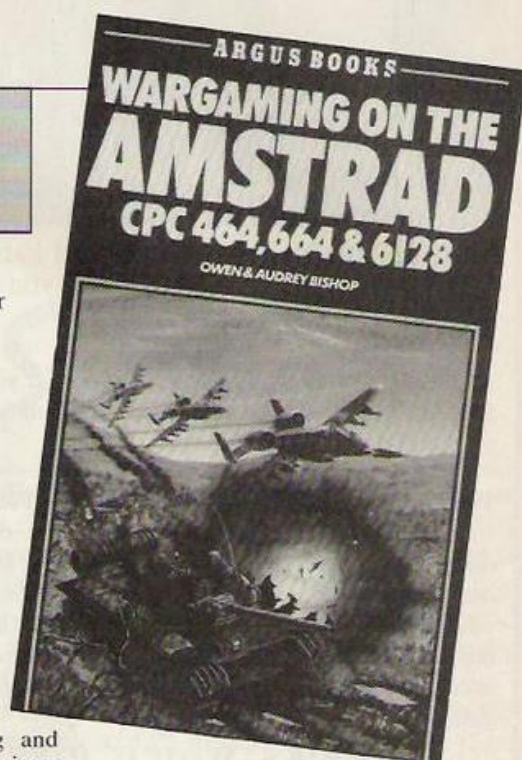
Owen and Audrey Bishop are, according to people who know a great deal more than I do on this subject, the originators of computer war-gaming. It is obvious that they have spent a great deal of time researching this book and making it appeal, not only to war-gaming buffs, but to anyone intent on finding alternative uses for an Amstrad.

Designed obviously to appeal to the dedicated hobbyist, the book is complete with three separate type-in programs which will provide war games to satisfy everyone from the War of the Roses to World War II. What must be said, however, is that the book is much more than just an explanation of how to war game. It takes the approach that everyone will want the computer to be an integral part of

any actions and the authors take every opportunity to show how their programs can be adapted and altered to suit the needs of each reader.

One of the most innovative and interesting sections describes how it is possible to connect two Amstrads to allow multi-player war-gaming. Also described is how to adapt the provided games to play using this method.

Taking the idea one stage further, the final chapter describes how to play wargames by telephone, using a modem. For Amstrad owners who want to try something completely different, the book is refreshing and interesting and the authors' enthusiasm adds a great deal to a book which might otherwise have failed to keep anyone interested beyond the first chapter.



An Introduction to 68000 Assembly Language

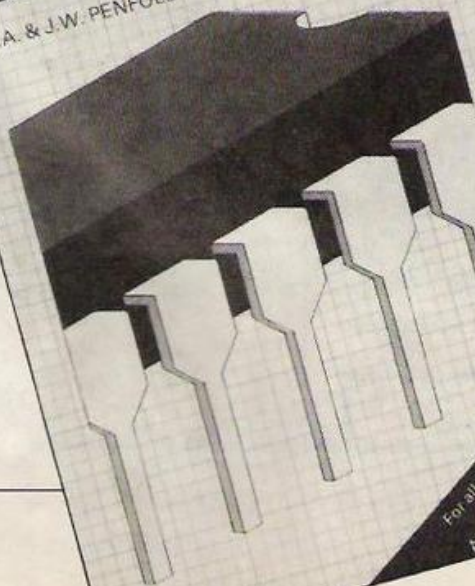
Authors: R. A. & J. W. Penfold

Publisher: Bernard Babani

Price: £2.95

An Introduction to 68000 Assembly Language

R.A. & J.W. PENFOLD



It is the ultimate aim of most competent Basic programmers to learn eventually to program in machine code. Although there is a certain kudos about assembly language programming, is it also a great deal faster, and once you have grasped the principles, not much more difficult than

some of the more common high-level languages, such as Forth and Pascal.

This book deals, as comprehensively as possible in fewer than 100 pages, with the main principles behind programming the extraordinarily powerful 68000 range of processors, including more basic relations such as the 68008. The first chapter is used to introduce the microprocessor and to familiarise the reader with the basics behind how this piece of hardware works. In the chapter the authors discuss binary, the stack, hexadecimal and flags.

Chapter two deals with the various addressing modes, or the means by which the processor determines the location of the data on which the instruction is to operate. As a reference guide, chapter three will prove useful to anyone interested in 68000, as it contains a full listing of the instruction set, including mnemonics and descriptions.

Later chapters discuss assemblers and then proceed to simple programming exercises, including addition, multiplication, division and loops. The authors have gone a long way towards making sure it contains sufficient to allow almost anyone to glean some useful information.

Any Atari ST, Amiga, Macintosh and QL owners who wish to make the most of those powerful machines should find justifying the cost very easy.

WOT?? JUST A LOUSY QUID??

Let's face it. You've spent a lot of hard-earned cash to get your computer, and it's a bit of a grind to discover you have to shell out a hell of a lot more for books!

And if you're after really powerful books for your machine, the prices all seem to be in the £8.00 to £15.00 range. Why on earth should you have to pay that much, just so you can make full use of your computer?

Well, now you don't have to. Interface Publications has decided to become all nice and gooey and generous, and give you the chance to build up an incredible library of computer books - for just one lousy quid per book. (Tim Hartnell, the person who started Interface must be going crazy! Too much 'appy New Year spirit, I'll bet - Ed.) Anyway, you'd better take advantage of his madness - before he gets cured. Send us your crooked coppers, your Christmas pudding silver, and your heavily-used notes (we'll also grudgingly accept cheques, book vouchers or money orders, if you insist) and we'll get your books to you, el pronto!

**Books which give you the power...
without the price!**



A warning to all young impressionable people. This is the dire result, as demonstrated graphically by Tim Hartnell, of getting too involved in celebrating New Year in darkest Shepherds Bush!

SPECTRUM/SPECTRUM+

- ☐ Exploring Artificial Intelligence on your Spectrum - Tim Hartnell
- ☐ Programming your Spectrum
- ☐ Delving Deeper into your Spectrum - Dilwyn Jones
- ☐ Putting your Spectrum to Work
- ☐ Mathematics on the Spectrum



- ☐ Spectrum Machine Code Made Easy - Volume One - James Walsh
- ☐ Spectrum Machine Code Made Easy - Volume Two - Paul Holmes
- ☐ Machine Code Programmers Reference Guide
- ☐ 20 Electronic Projects for your Spectrum - Stephen Adams
- ☐ 60 Games and Applications for the Spectrum
- ☐ Creating Arcade Games on the Spectrum

COMMODORE 64/128

- ☐ Exploring Artificial Intelligence on your Commodore 64
- ☐ Mastering Machine Code on your Commodore 64 - Mark Greenhields
- ☐ Mastering the Commodore 64 - Mark Greenhields
- ☐ Challenging Games for the Commodore 64
- ☐ Putting your C64 to Work
- ☐ How to Program the C64
- ☐ Creating Arcade Games on your Commodore 64
- ☐ Creating Adventures on your Commodore 64
- ☐ MEGABASIC for the C64

APPLE IIe/IIc/II+

- ☐ The 3-D Animated Apple
- ☐ How to Program the Apple II
- ☐ Outstanding Programs for Apple
- ☐ Challenging Programs for Apple

TEXAS TI 99/4A

- ☐ Dynamic Games TI 99/4A
- ☐ Making the Most of TI 99/4A

SINCLAIR QL

- ☐ Exploring the QL
- ☐ QL Games Companion
- ☐ The QL Handbook
- ☐ Exploring Artificial Intelligence on your Sinclair QL

**100 bent coppers=
One Interface book!**

BBC MICRO/ELECTRON

- ☐ Let your BBC Micro Teach You to Program
- ☐ Exploring Artificial Intelligence on your BBC Micro
- ☐ Putting your BBC Micro to Work
- ☐ Advanced Programming Guide to BBC
- ☐ Using the BBC Micro in Education
- ☐ 36 Challenging Games for the BBC Micro
- ☐ Creating Adventures on the BBC Micro
- ☐ 40 Best Machine Routines for BBC Micro
- ☐ Dynamic Games for the Electron

GENERAL TITLES

- ☐ How to Computerise your Business
- ☐ Practical Uses for Computer in the Home
- ☐ Using Computers in Education
- ☐ The Art of Structured Programming
- ☐ Creating Adventures on your Computer
- ☐ The Capital Radio Book of Simple Computer Programming
- ☐ Creating Political/Military Simulations

Interface Publications Ltd.,
9 - 11 Kensington High Street,
London W8 5NP
Please send me the indicated books.

Value of order (@ £1 a book) £ _____
PLUS 35p per book postage £ _____
Total for this order £ _____

*I enclose cheque/money order/
cold hard cash*

Name _____

Address _____

YCU/87

SOFTWARE EXCHANGE

January Sale!

The length and complexity of many computer programs makes it impossible to publish them without occupying valuable editorial space. In an attempt to combat this and to provide readers with more software, *Your Computer* has introduced Software Exchange, a service offering readers the opportunity to buy quality software at bargain prices. Each tape features two programs sent by readers and evaluated fully by our staff before being offered for sale.

If you have a program you would like to see published in *Your Computer*, please send it to

Software Exchange, *Your Computer*, 79-80 Petty France, London SW1H 9ED. Full instructions should be enclosed and the tape or disc must be marked clearly with your name, address and type of machine. It also helps considerably if contributors also mark on the envelope the type of machine for which it is intended.

A fee of £50 per program is paid after publication and royalties of 25 pence for each tape more than 100 sold is paid. We accept programs for all Commodore, Sinclair, Amstrad, Atari and Acorn machines.

SP 02

S P E C T R U M

Jum*Bert

Program type: Arcade
Author: Norbert Roescher

This program is a fast machine code version of the classic *Q-Bert* arcade game. It features a good title screen with two-channel sound, re-definable keyboard or joystick, plus animated graphics and game music. The object is to colour the pyramid green, avoiding all the nasties.

Castle Dracula

Program type: Adventure
Author: Graeme Poole

Your mission, should you choose to accept it, is to enter Dracula's realm, find the castle and destroy him. This weighty adventure recognises six directions, 11 other Basic commands, plus a save/load game feature. The program is well-written and documented, so it could easily form the basis for your adventure plots.

SP 03

Centypeed

Program type: Arcade
Author: Stuart King

This copy of the famous arcade game has all the features found in the original. Your snakeheads must survive in the mushroom patch but various things do their best to stop you. The program is 100 percent machine code, which gives plenty of fast action.

Frantic Day

Program type: Arcade
Author: John Weatherley

In this machine code platform game you must take the role of Fred and help him through his frantic day. There are nine screens, each with its own sprites, conveyors, scrolling platforms and the such like. The program can be played with a keyboard or Kempston joystick and features a cheat facility for you to try the later screens.

SP 04

Exbasic

Program type: Programming tool
Author: Dave Spagnol

Exbasic is an excellent Basic extension package for the Spectrum. Some of the numerous features are procedures, on-screen trace, clock, auto-line numbering, stack control, character re-definition, screen storage, an improved line editor and much more. Full instructions are included.

 **Windows****Program type:** Programming utility
Author: Paul Rhodes

With this window utility you can create up to 14 separate windows which can be shown simultaneously. They are accessed from the Basic PRINT statements and an extended command set. Features include pixel scroll and pan, window position and size, double-height characters, extended LIST, clear screen and fill commands. Full instructions for the new commands and error messages are included.

 **Pool****Program type:** Pool simulation
Author: A. Mehmood

Rather than the two-player game of *Pool*, this simulation gives you a certain number of shots in which you attempt to clear the table. With the use of only a few keys it is possible to simulate eight types of spin, speed and direction.

Cashflow Statement**Program type:** Home use
Author: A. Mehmood

This program helps you keep a record of your cashflow, which is a useful facility for many people. Full details of your cashflow are kept as a series of dated transactions, which can easily be added, deleted or amended. They can also be sorted by date, amount or transaction type and printed-out in the form of a statement.

 **Roadrunner****Program type:** Arcade
Author: C. D. Harden & R. Blundell

Sadly for loony tune fans, this program does not feature Wily Coyote but a car. The object is to drive your car, the Wally ZX, for 500 miles in a time trial, avoiding obstacles and the suicidal drivers who have entered the event.

 **Poker****Program type:** Card simulation
Author: Simon Chivers

This well-produced program plays the full game of draw poker and gives you £100 with which to start. Caution and plenty of luck may give you the satisfaction of winning and if you lose your lucky streak the computer, like the best casinos, will allow you to borrow money.

The Grid**Program type:** Arcade
Author: Graham Creasey

Set at the heart of the central processing unit which has been corrupted by images of the past and which is now protected by deadly hypertron-powered destruction machines, the objective is to escape to the outside world. To do so you have to battle through the 50 grids – very tiring but compulsive.

 **The Elmir****Program type:** Adventure
Author: Tycho Lamerigts

This is a machine code fantasy adventure. There are more than 90 locations, each with plenty of problems to solve. Some of the problems prove easy to solve but the fact that the game is played against the clock presents a real challenge.

Microcity**Program type:** Board game simulation
Author: Mark Henry

Microcity is Monopoly for the computer. All the features of the original game are included – gaol, chance and community chest, as well as houses, hotels, mortgaging and so on. The game can be played by up to four people and the computer will play as many roles as you wish.

 **HAL****Program type:** Programming utility
Author: Jonathan Dye

Hal is a new language for the Spectrum 48K. Once compiled, Hal programs can be used as extensions to your Basic programs by including LOAD, CODE and RANDOMIZE USR instructions.

Surround**Program type:** Two-player arcade
Author: Norwegian Software Design

A two-player version of the classic game *Surround*. Written entirely in machine code, the action is fast. Each player controls a roving point leaving behind a destructive light trail.



S P E C T R U M

Potty Postman

Program type: Arcade
Author: Mark Jones

You must guide Paul the *Potty Postman* round terror lane to complete your round and save his job. Various pests, such as aliens, trees and man-eating radios, hinder your task, as well as the inevitable dog, Gnashalot.

Databank

Program type: Business/Home use
Author: Christopher Lewis

This databank program can hold up to 55 pages of information, with each page able to hold up to 500 characters. It also includes all the necessary facilities to create, edit, save and load the fully-indexed pages.



Paracopter

Program type: Shoot-'em-up
Author: Alistair Webb

In charge of the last anti-aircraft gun, your task is to shoot down enemy helicopters and paratroopers trying to invade the country. Ninety-nine levels of action lie between you and victory, so only the best survive.

Balthazar Adventure

Program type: Text adventure
Author: Alex Andrews

You play the role of the kindly King Balthazar, who has been deposed and is in gaol. Your objective is to escape and recover your riches. The humorous dialogue makes the game highly enjoyable and the Quill database means that responses are very fast.



Tunnel of Love

Program type: Arcade
Author: James Brown

In this psychedelic rollercoaster ride you have to control a ship travelling down a multi-coloured tunnel and prevent it crashing into the side, a task which proves more difficult than you expect.

Jackpot

Program type: Simulation
Author: Andy Barrow

This version of the famous one-arm bandit game has all the features of the real thing, such as screen displays showing winning lines, the spinning reels and your total winnings or losses.



One Arm Bandit

Program type: Simulation
Author: Bruce Gant

Another fruit machine simulation for the Spectrum, this program includes features such as nudge, hold and the choice to gamble your winnings.

Fighting Forces

Program type: Strategy
Author: Lars Christensen

This two-player war simulation game puts you in command of an army. Set on an island divided by a river, the objective is to capture your opponents' flag. Positions can be saved, permitting you to return to the game when you wish.

ORDER FORM

To increase the efficiency of processing your orders, please complete both the panels on the order form below, with the same information in each. Please make cheques payable to Focus Magazines.

Please insert reference number(s) of tape(s) required.

Ref. No(s)

Send order to Software Exchange, 79-80 Petty France, London SW1H 9ED - please allow 28 days for delivery. I enclose a cheque/Postal Order value £..... (please remember to add 40p p&p per tape).

NAME

ADDRESS

Please insert reference number(s) of tape(s) required.

Ref. No(s)

Send order to Software Exchange, 79-80 Petty France, London SW1H 9ED - please allow 28 days for delivery. I enclose a cheque/Postal Order value £..... (please remember to add 40p p&p per tape).

NAME

ADDRESS

Transplant surgery – a great success

Richard Sargent takes us through the delicate procedures involved in the transfer of Basic and data programs from Spectrum to Amstrad.



Spectrum owners who find the memory and storage of their machines too limiting are likely to turn to one of the Amstrad micros as a replacement computer. With Spectrums, especially the rubber-key variety, having little or no second-hand value, the machine upgrade will probably result in there being two computers in the house.

Would it not be useful if data and Basic programs could be transferred from the Spectrum to the Amstrad, thus obviating the need to type thousands of characters into the Amstrad? The programs with this article will do that. Anything which a Spectrum can normally LPRINT or LLIST can be sent via cassette tape to an Amstrad. The Spectrum can be an old 48K machine, a Spectrum +, a Spectrum 128 or the new Spectrum 128+2; the Amstrad can be a CPC464, CPC664 or

CPC6128 and although it is more convenient to use the Amstrad disc system, a tape-only CPC464 system can be used if necessary.

Four programs are involved. At the Spectrum end, a single machine code program resides in high memory and provides the code for a special SAVE routine. The routine re-routes LPRINTs or LLISTs automatically to the cassette, writing the data in a way which can be read easily by the Amstrad. The other three programs fit into the Amstrad.

One is a machine-code LOAD routine based, naturally enough, on the Spectrum LOAD routine, which is explained expertly in Logan and O'Hara's book *The Complete Spectrum ROM Disassembly*. This routine is handled by a Basic program, either program three or program four, depending on the size of the file being transferred. The machine

code should be left severely alone. No knowledge of Z-80 machine code is needed to run the transfer program but the Basic program can be tinkered with and modified to meet individual needs.

There has to be a catch to all this, or course, and I suppose I should mention it now before anyone shouts "computer compatibility" and rushes to buy two CPC6128s. The programs are called File Transfer programs – note well the word is transfer, not translate. To put it bluntly, although the programs are guaranteed to move a Basic program from one machine to another, it is only the simple varieties of program which RUN immediately in the new machine.

Amstrad Basic is not Spectrum Basic and there are one-hundred-and-one things in Spectrum Basic to trip an unsuspecting Amstrad into syntax error. Translation, where necessary, is achieved

at the Amstrad end of the system by human intervention. Two methods are possible. If the Amstrad has no word processor fitted, you must LIST the Basic program and make the necessary changes using copy-cursor editing. That is faster than any editing you will have done on the Spectrum but still leaves much to be desired.

Loading the Basic program into a word processor such as the *Amnor Protext* is the second option, allowing fast alterations to be made with the global replace command. Programs which use fancy graphics will take some time to translate, whereas programs containing large proportions of ASCII text and ASCII data – such as an index of a record collection or an adventure game – should be easy to translate, especially once the differences between the eccentric Spectrum string slicing and the more normal RIGHT\$ LEFT\$ of the Amstrad are appreciated. Programs using extensive PEEKs and POKEs are probably not worth translating.

Spectrum program

The transfer requires an ASCII format of the Spectrum program, as opposed to an internal tokenised format to be recorded on tape. That is achieved by diverting the flow of ASCII bytes which normally would go to a printer after a LLIST command. Most Spectrum programs can be transferred in one session but particularly long ones will have to be split and transferred in two halves. That may seem strange since, at first sight,

both micros appear to have about the same amount of user RAM available for Basic programs – about 37,000 bytes.

The Spectrum Basic program, however, is compacted when it is resident in RAM and expands when LISTed. For example, the keyword RANDOMIZE is a one-byte token in RAM and a nine-byte character when LISTed. On the other hand, Spectrum numbers occupy less space when listed, shedding six bytes for every number. The transfer program is responsible for some further expansion. A block-graphic or user-defined shape occupies one byte in RAM but is transferred to the Amstrad as a three-digit code in brackets e.g., [131] thus gaining four bytes in the process.

Machine code

To LLIST a program on to a cassette it is necessary to store all or part of the listing in a RAM buffer, since LLISTing directly to cassette, byte by byte, is not possible. The machine code program – listing one – occupies high memory, F000H to F1DFH to be exact, and the Basic program is allowed to fill the remaining memory.

Priming the machine code is achieved by RANDOMIZE USR 61440 and the routine will lie dormant until a LLIST or a LPRINT command is given. There is no requirement to run the Basic program, so the Spectrum video RAM (VRAM) at 4000H to 5B00H can be used as a 6.75K buffer to store the output diverted from the printer. Thus the Basic is LLISTed to VRAM.

When the LLIST has finished or when the VRAM is full, whichever occurs first, the valid program segment in the VRAM is sent to the cassette tape as a binary file. Note that, although the binary SAVE is used, the material being saved is purely textual in nature. If the LLISTing has not finished, the VRAM will be cleared and more program lines will be sent there to be saved as a second program segment and so on.

The entire process can be seen in action and will consist of screen-creation/screen-save sequences. Either keep watch and count how many SAVES have been made or, after the LLIST has finished, implement PRINT PEEK(61506)-64 to find how many program segments have been put on the tape. The figure will be between 1 and 5 depending on the size of the program LLISTed.

What the screen shows while the LLIST is in action defies description – it looks remarkably like a fatal machine crash but do not be fooled – real English words and numbers are steadily filling the video RAM.

RANDOMIZE USR 61490 restores LLIST and LPRINT to their normal action. The tape cannot be verified but it can be played back into the Spectrum without corrupting any bytes and it is essential to do that since any bad recording will be revealed in the form of a "tape loading error" message. Each segment has a different file name – the first is A, the second B and so on – so LOAD "A"CODE will load the first program segment back on to the screen.

Now is the time to take the transfer tape and put it into a nearby Amstrad datacorder. Do not forget you are only one-third of the way towards achieving a working Amstrad program. Two transfer programs need to be in the Amstrad. The machine code – listing two – should be a &8000 which, believe it or not, is considered "high" memory on disc-based Amstrads. A Basic control program – listing three – should be resident in low memory.

Run the Basic program. The Amstrad will ask "How many segments are you loading?" and "What name do you wish to give the transferred program?" Let us assume two segments are to be loaded and the name chosen is "AM1.ASC" Two segments will fit into the remaining user RAM – a third, fourth or fifth

```
100 REM Spectrum - Amstrad transfer
110 REM Listing One (for Spectrum)
120 CLEAR 61439: RESTORE 500
130 LET a= 61440: LET d=499
140 LET s=0: LET d=d+1
150 FOR r=1 TO 8
160 READ v
170 LET s=s+v: POKE a,v: LET a=a+1
180 NEXT r
190 READ chk: IF chk<>s THEN PRINT "DA
  TA line ";d;" is not correct": STOP
200 IF a>61919 THEN GO TO 300
210 GO TO 140
300 PRINT "m/c now loaded"
310 PRINT "Saving to tape..."
320 SAVE "transfer"CODE 61440,488: STOP
500 DATA 42,79,92,17,15,0,25,94,364
501 DATA 35,86,0,0,0,0,17,37,175
502 DATA 241,43,115,35,114,221,33,82,884
503 DATA 240,221,54,0,0,221,54,1,791
504 DATA 0,221,54,2,0,221,54,3,555
505 DATA 255,221,54,4,63,221,54,240,1112
506 DATA 64,201,42,79,92,17,15,0,510
507 DATA 25,237,91,87,240,115,35,114,944
508 DATA 201,3,64,32,32,32,32,428
509 DATA 32,32,32,32,210,1,0,64,403
510 DATA 0,0,1,0,0,147,65,244,457
511 DATA 9,254,1,18,0,174,16,39,511
512 DATA 232,3,100,0,10,0,1,0,346
513 DATA 0,0,0,0,0,197,58,66,321
514 DATA 240,60,50,66,240,221,33,82,992
515 DATA 240,221,115,250,221,114,251,221,1633
516 DATA 33,65,240,213,17,17,0,175,760
517 DATA 205,194,4,209,6,50,118,16,802
518 DATA 253,221,33,0,64,62,255,205,1093
519 DATA 194,4,193,201,197,33,0,64,886
520 DATA 54,13,17,1,64,1,255,26,431
521 DATA 237,176,193,201,229,213,197,79,1525
522 DATA 58,82,240,254,0,32,8,205,879
523 DATA 156,240,62,1,50,82,240,58,889
524 DATA 83,240,254,1,40,54,42,85,799
525 DATA 240,35,34,85,240,124,254,91,1103
526 DATA 32,20,125,254,0,32,15,17,495
527 DATA 0,27,205,109,240,205,156,240,1182
528 DATA 33,0,64,34,85,240,121,254,831
529 DATA 127,40,54,119,58,84,240,254,976
530 DATA 1,40,20,121,254,127,40,8,611
531 DATA 175,50,84,240,193,209,225,201,1377
532 DATA 62,1,50,84,240,24,245,121,827
533 DATA 254,88,32,231,17,255,63,237,1177
534 DATA 82,235,205,109,240,62,1,50,984
535 DATA 83,240,6,24,205,68,14,24,664
536 DATA 219,62,99,24,198,245,254,13,1114
537 DATA 40,86,254,32,56,8,254,128,858
538 DATA 56,78,254,165,48,74,71,58,804
539 DATA 92,240,183,120,32,61,58,0,766
540 DATA 111,17,104,240,221,33,94,240,1060
541 DATA 62,47,221,78,0,221,70,1,700
542 DATA 198,1,237,66,48,250,9,18,827
543 DATA 221,35,221,35,19,13,32,232,808
544 DATA 62,91,205,152,241,58,106,240,1155
545 DATA 205,152,241,58,107,240,205,152,1360
546 DATA 241,58,108,240,205,152,241,62,1307
547 DATA 93,24,24,58,93,240,24,19,575
548 DATA 254,255,40,8,254,165,56,11,1043
549 DATA 254,255,48,7,214,165,205,95,1243
550 DATA 11,241,201,205,152,241,241,201,1493
551 DATA 229,111,58,89,240,60,103,58,948
552 DATA 91,240,60,50,91,240,188,32,992
553 DATA 14,205,198,241,175,50,91,240,1214
554 DATA 125,254,13,40,15,24,227,125,823
555 DATA 254,13,32,5,175,50,91,240,860
556 DATA 125,205,204,241,225,201,62,13,1276
557 DATA 205,204,241,201,245,205,172,240,1713
558 DATA 254,13,32,10,58,90,240,32,729
559 DATA 5,62,10,205,172,240,241,201,1136
560 DATA 0,0,0,0,0,0,0,0,0
```

Continued on page 66

```

100 ' LISTING 2 ; M/C LOADER (AMSTRAD)
110 MEMORY &3FFF:RESTORE 500
120 A=&8000:D=499
130 S=0:D=D+1
140 FOR R=1 TO 8
150 READ V$:V=VAL("&"+V$)
160 S=S+V:POKE A,V:A=A+1
170 NEXT R
180 READ V$:CHK=VAL("&"+V$)
190 IF CHK<>S THEN GOTO 220
200 IF A>&B12F THEN STOP
210 GOTO 130
220 PRINT "DATA line";D;" is wrong"
230 STOP
500 DATA CD,09,80,C9,00,40,00,00,025F
501 DATA 00,CD,A7,BC,CD,6E,BC,F3,051A
502 DATA AF,32,06,80,08,D9,F5,D5,0412
503 DATA 16,10,D9,01,0E,F4,ED,49,0338
504 DATA 01,D0,F6,ED,49,0E,10,ED,0408
505 DATA 49,01,92,F7,ED,49,01,58,0362
506 DATA F6,ED,49,DD,21,2B,81,DD,04B3
507 DATA E5,11,11,00,AF,CD,7F,80,0382
508 DATA DD,E1,30,EF,3A,2B,81,FE,04C1
509 DATA 03,20,E8,3E,FF,ED,5B,36,03C6
510 DATA 81,ED,53,07,80,DD,2A,04,0353
511 DATA 80,CD,7F,80,08,D9,D1,F1,04EF

```

```

512 DATA D9,08,01,82,F7,ED,49,01,0392
513 DATA 10,F6,ED,49,DD,22,04,80,03BF
514 DATA F0,F5,CD,71,BC,F1,38,01,0514
515 DATA C9,3E,01,32,06,80,C9,14,029D
516 DATA 08,15,3E,F5,DB,00,E6,80,0391
517 DATA D9,1E,4C,D9,4F,BF,C0,CD,04B7
518 DATA 02,81,30,FA,21,15,04,10,01F7
519 DATA FE,2B,7C,B5,20,F9,CD,FE,053E
520 DATA 80,30,EB,06,9C,CD,FE,80,0488
521 DATA 30,E4,3E,C0,B8,30,E0,24,03FE
522 DATA 20,F1,06,C9,CD,02,81,30,0360
523 DATA D5,7B,FE,D4,30,F4,CD,02,0512
524 DATA 81,D0,D9,1E,4A,D9,26,00,0391
525 DATA 06,80,18,18,08,20,05,DD,01F0
526 DATA 75,00,18,0A,CB,19,AD,C0,02E8
527 DATA 79,17,4F,13,18,02,DD,23,020C
528 DATA 1B,08,06,B2,2E,01,CD,FE,02D5
529 DATA 80,D0,3E,BF,B8,CB,15,06,03EB
530 DATA B0,30,F3,7C,AD,67,7A,B3,0490
531 DATA 20,D2,7C,FE,01,C9,CD,02,0405
532 DATA 81,D0,3E,16,3D,20,FD,A7,03A6
533 DATA 04,C8,3E,F4,DB,00,E6,04,03C3
534 DATA EE,04,C0,3E,F5,DB,00,A9,0469
535 DATA E6,80,2B,EC,79,2F,4F,D9,044A
536 DATA 7B,EE,1F,5F,ED,51,ED,59,046B
537 DATA D9,37,C9,00,00,00,00,00,01D9

```



segment will overfill the user RAM and so 3/4/5-segment loads still need to be handled by an alternative Basic control program - listing four. Since two-segment loads are simple, over-fill is a problem to be dealt with later.

The first segment loads from &4000 onwards and, because it is an entire Spectrum screenful - 1B00H bytes - will fill the Amstrad RAM up to &5AFF. The second segment will start loading at &5B00 and continue until the transfer is complete. If, by chance, this final segment also happened to be exactly a Spectrum screenful, the RAM end address would be &75FF. The control program knows how

much RAM has been used because it reads the segment length from the tape header during the loading process.

Notice that segment B has now been concatenated with segment A. The control program then proceeds to write the relevant RAM contents to disc or tape as an ASCII file. That is done in Basic and so disc users will notice an uncharacteristic delay while a FOR-NEXT loop is repeated some 16,000 times. If only Amstrad had

```

100 REM LISTING 3 -- BASIC CONTROL PROGRAM (AMSTRAD END)
110 :DISC: !NOKEYS: !BORDER 13: INK 0,23: INK 1,0: INK 2,0: INK 3,11
120 KEY 9,CHR$(174):MODE 2:MEMORY &3FFF:LOAD "zx.bin":!TAPE.IN
130 POKE &8004,0:POKE &8005,&40 : '&4000 IS DESTINATION
140 TL=0:S=1:INPUT "HOW MANY SEGMENTS ";N
150 PRINT "SUPPLY A NAME FOR THE TRANSFERRED FILE"
160 PRINT "THE NAME SHOULD NOT HAVE ANY EXTENSION"
170 INPUT "NAME ";A$:A$=UPPER$(A$):A$=A$+".ASC":PRINT
180 PRINT "SET CASSETTE TO PLAY":PRINT
190 :
200 FOR R=1 TO N
210 PRINT "LOADING SEGMENT";S;" FROM SPECTRUM TAPE":CALL &8000
220 F=PEEK(&8006):IF F=0 THEN PRINT "FAULTY LOAD":STOP
230 L=((PEEK(&8008))*256)+PEEK(&8007):TL=TL+L
240 PRINT "LENGTH OF SEGMENT";S;" LOADED TO RAM WAS ";HEX$(L,4);;"H"
250 S=S+1:PRINT:NEXT R
260 :
270 PRINT "PRESS ANY KEY WHEN DISC (OR TAPE) IS READY TO ACC"
280 PRINT "FILE ";A$
290 IF INKEY$="" THEN GOTO 290
300 PRINT:PRINT "SAVING -- PLEASE WAIT":OPENOUT A$
310 FOR A=&4000 TO &4000+TL-3
320 V$=CHR$(PEEK(A)):PRINT #9,V$;:NEXT A
330 CLOSEOUT: !DISC:STOP

```

produced its disc-firmware guide in time I could have written the ASCII SAVE in machine code. Tape users will not be aware of any extra delay, since saving 16,000 bytes to tape takes so long anyway.

The file "AM1.ASC" can now be loaded into Protext - ROM version - and edited. After editing, SAVE the new file as "AM1.EDT" and LOAD "AM1.EDT" into Basic. Alternatively, the Basic command LOAD "AM1.ASC" can be given to bring the file directly into Amstrad Basic and you must do that if you have no suitable word processor. In either case MEMORY should be set to &7FFF or an "out of memory" error message will be thrown up - the control program leaves MEMORY set to &3FFF.

If the LOAD is successful, editing can start. The load will fail if the Amstrad is presented with a Basic line more than

255 characters long. That, fortunately, is a rare event - the solution to the problem will be given next month.

This article will be concluded in next month's issue of *Your Computer*.

```
100 REM LISTING 4 -- ALTERNATIVE PROGRAM (AMSTRAD END)
110 !DISC:INOKEYS:=BORDER 13:INK 0,23:INK 1,0:INK 2,0:INK 3,11
120 KEY 9,CHR$(174):MODE 2:MEMORY &3FFF:LOAD "zx.bin":!TAPE.IN
130 INPUT "HOW MANY SEGMENTS ";N:T=64:S=1
140 PRINT "SUPPLY A FILE NAME (6 OR LESS CHARACTERS)"
150 PRINT "THE NAME SHOULD NOT HAVE ANY EXTENSION"
160 INPUT "NAME ";A$:A$=UPPER$(A$):CLS
170 IF LEN(A$)>6 THEN A$=LEFT$(A$,6)
180 :
190 FOR R=1 TO N:CLS
200 PRINT "PUT SOURCE TAPE IN DATACORDER (PLAYBACK)"
210 PRINT "PRESS ANY KEY TO CONTINUE"
220 IF INKEY$="" THEN GOTO 220
230 POKE &8004,0:POKE &8005,&40:T=T+1
240 PRINT "LOADING SEGMENT";S;"FROM SPECTRUM TAPE"
250 CALL &8000:F=PEEK(&8006):IF F=0 THEN PRINT "FAULTY LOAD":STOP
260 L=((PEEK(&8008))*256)+PEEK(&8007):B$=A$+"-"+CHR$(T)+".ASC"
270 S=S+1:PRINT "CHANGE TAPE IF SAVING TO TAPE (RECORD)"
280 PRINT "PRESS ANY KEY TO SAVE FILE <<";B$;">>"
290 IF INKEY$="" THEN GOTO 290
300 PRINT:PRINT "SAVING -- PLEASE WAIT":OPENOUT B$
310 FOR A=&4000 TO &4000+L-2
320 V$=CHR$(PEEK(A)):PRINT £9,V$;:NEXT A
330 CLOSEOUT:NEXT R
340 !DISC:STOP
```

★ ★ SPECIAL XMAS OFFER ★ ★



COMMODORE ART STUDIO

COMPLETE WITH CBM MOUSE

CASSETTE VERSION

£42.95

"The ART STUDIO is the best solution for C64 and 128 graphics applications, marvellous for creation of 'on screen' paintings combining ease of use with power and flexibility. ART STUDIO supports most Centronics printers and interfaces to make you own copies." PCW

DISC VERSION **£47.95**

£29.95 COMMODORE MOUSE ONLY

ORDERS TO: EEC LTD, 77A PACKHORSE ROAD, GERRARDS CROSS, BUCKS SL9 8PQ.
TEL: (0753) 888866/889055

ITEM REQUIRED

VISA NO EXPIRY DATE

Using six keys, each player can control the direction and velocity of the ball and the type of club to be used. Each of the nine holes is different and the degree of difficulty increases as you progress through the course. The game can be played by up to four players, which generates an element of competition, as lunch-times in our offices testify.

```

1 LET SCORE=SCORE+1: GO TO 250
2 IF PX1<3 THEN LET PX1=9: LE
T SCORE=SCORE+1: GO TO 250
3 IF G=1 AND PX1>124 AND PX1<
130 AND PY1>73 AND PY1<80 THEN L
ET SCORE=SCORE+1: GO SUB 3000: N
EXT 2: GO TO 3000
4 LET Y=ATTR (21-INT (PY1/8),
INT (PX1/8)): PLOT OVER 1,PX1,PY
1
221 REM POKE 22528+32+21-INT (
PX1/8)+INT (PX1/8):J
222 LET K=22528+32+21-INT (PX1
/8)+INT (PX1/8): POKE K,J
300 BEEP .01:C/S: PLOT OVER 1,5
X1,PY1: POKE K,J
400 NEXT C
500 LET PX=PX1: LET PY=PY1
600 PLOT OVER 1,PX,PY
700 POKE K,J
800 IF G=1 THEN GO SUB 1400+(1
0-ABS(HOLD)+50)
900 LET SCORE=SCORE+1
1000 IF G=2:1 THEN RETURN
1100 LET PX=PX-10 AND PX<FX-10 AN
D PY=PY-10 AND PY<FY+10 THEN GO
TO 500
200 BEEP .5:0: BEEP .7,-12: GO
TO 120
300 PRINT AT 10,7,"YOU ARE ON T
HE GREEN: PAUSE 300: PAUSE 100:
LET G=1: CLS
400 GO SUB SETUP
500 PRINT AT 1,23: INVERSE 1;HO
LDER STRENGTH=1
600 PRINT AT 1,5;"PUTTER" LET
CLUB=3
700 CIRCLE 127,77,60: CIRCLE 12
7,77,60
800 LET X1=FX-PX: LET Y1=FY-PY
900 PLOT (-X1+6)+127,-Y1+3)+77
1000 LET FX=(-X1+6)+127 LET PY=
(-Y1+3)+77
1100 IF INKEY$="O" THEN BEEP .01
1200 PLOT 15,160: DRAW INVERSE 1
1300 SIN ANGLE 1,9+COS ANGLE LET AN
GLE=1: PLOT 15,160: DRAW
1400 SIN ANGLE,9+COS ANGLE GO TO 5
00
1500 IF INKEY$="U" THEN BEEP .01
1600 PLOT 15,160: DRAW INVERSE 1
1700 SIN ANGLE 1,9+COS ANGLE LET AN
GLE=1: PLOT 15,160: DRAW
1800 SIN ANGLE,9+COS ANGLE GO TO 5
00
1900 IF INKEY$="P" AND STRENGTH>
10 THEN BEEP .01:60 LET STRENGT
H=STRENGTH-1: PLOT 169+STRENGTH,
169:GO TO 10
2000 IF INKEY$="O" AND STRENGTH>
1 THEN BEEP .01:60 PLOT INVERSE
1,169+STRENGTH,169: LET STRENGT
H=STRENGTH-1 GO TO 600
2100 IF INKEY$="O" THEN PLOT INV
ERSE 1,PX,PY: LET G2=1: GO SUB 2
00
3035 PRINT #3 AT 0,0: PAR "P
" SCORE: SCORE: "PLAYER
"
4000 IF PX<125 AND PX<129 AND PY
<80 AND PY>75 THEN GO SUB 3000:
NEXT X: GO TO 500
5000 STOP
6000 REM SETUP
6010 BORDER 4: BRIGHT 1 PAPER 4
6020 CLS
1020 PRINT AT 4,31: INK 2,"*": F
OR C=5 TO 21: PRINT AT C,0:"*": F
OR C=1 TO 31:"*" NEXT C: FOR C
=6 TO 31: PRINT AT 3,C: INK 2,"*
" AT 21,0:"*" NEXT C: PRINT AT
1,0: INK 2:"*****": PLOT 0,17
30,0: DRAW 0,30: DRAW 0,-30: DRAW
-30,0: DRAW 0,30: PLOT 30,175: DR
AW 225,0: DRAW 0,-20: DRAW -225,
0
1030 CIRCLE 15,160,11
1035 CIRCLE 30,145,2

```

YOUR COMPUTER, JANUARY 1987

```

1970 RETURN
2000 LET FX=50 LET FY=30
2010 CIRCLE FX,FY,10
2020 PLOT 30,155: DRAW 10,-10:
2030 PLOT 200,-30: DRAW -190,-105:
2040 PLOT 200,20: DRAW 20,30: DRAW 110,30
2050 PLOT 150,40: DRAW -10,10
2060 INK 8: FOR C=75 TO 110: PLOT
2070 C: DRAW 70,0: NEXT C: FOR C=
2080 90 TO 75: PLOT 30,0: DRAW 30,0: N
2090 EXT C: FOR C=8 TO 55: PLOT 150,0
2100 C: DRAW 30,0: NEXT C: INK 0
2110 INK 5: FOR C=48 TO 55: PLOT
2120 C: DRAW 20,0: NEXT C: INK 0
2130 INK 5: FOR C=8 TO 20: PLOT
2140 C: DRAW 70,0: NEXT C: INK 0
2150 RETURN
2160 IF PX<8 AND PX<78 AND PY<75
2170 AND PY<110 THEN LET PX=30: LET
2180 PY=145: FOR L=1 TO 5: BEEP .1,L:
2190 NEXT L: GO SUB 2030
2200 IF PX<50 AND PX<80 AND PY<4
2210 AND PY<55 THEN LET PX=30: LET
2220 PY=145: FOR L=1 TO 5: BEEP .1,L:
2230 NEXT L: GO SUB 2030
2240 IF PX<80 AND PX<150 AND PY<
2250 40 AND PY<55 THEN LET PX=30: LET
2260 PY=145: FOR L=1 TO 5: BEEP .1,L:
2270 NEXT L: GO SUB 2030
2280 IF PX<3 AND PX<83 AND PY<50
2290 AND PY<75 THEN LET SCORE=SCORE+
2300
2310 IF PX<150 AND PX<230 AND PY<
2320 5 AND PY<55 THEN LET PX=30: LET
2330 PY=145: FOR L=1 TO 5: BEEP .1,L:
2340 NEXT L: GO SUB 2030
2350 RETURN
2360 LET FX=220 LET FY=40
2370 CIRCLE FX,FY,10
2380 PLOT 30,155: DRAW 20,-20:
2390 PLOT 190,-10: DRAW 5,-100: DRAW -
2400 40,-5: DRAW 5,80: DRAW -190,20:
2410 PLOT 20,25
2420 INK 5: FOR C=136 TO 143: PLOT
2430 C: DRAW 150,0: NEXT C: FOR
2440 C=8 TO 15: PLOT 195,0: DRAW 45,
2450 0: NEXT C: FOR C=8 TO 95: PLOT 5
2460 C: DRAW 190,0: NEXT C: INK 0
2470 RETURN
2480 IF PX<3 AND PX<198 AND PY<8
2490 AND PY<95 THEN LET PX=30: LET P
2500 Y=145: FOR L=1 TO 5: BEEP .1,L:
2510 NEXT L: GO SUB 2130
2520 IF PX<80 AND PX<210 AND PY<
2530 136 AND PY<143 THEN LET PX=30: L
2540 ET PY=145: FOR L=1 TO 5: BEEP .1,L:
2550 NEXT L: GO SUB 2130
2560 IF PX<195 AND PX<240 AND PY<
2570 8 AND PY<15 THEN LET PX=30: LET
2580 PY=145: FOR L=1 TO 5: BEEP .1,L:
2590 NEXT L: GO SUB 2130
2600 RETURN
2610 LET FX=200 LET FY=50
2620 CIRCLE FX,FY,10
2630 PLOT 30,155: DRAW 200,-100:
2640 PLOT 10,-10: DRAW -10,-30: DRAW
2650 -200,90: DRAW -30,40
2660 INK 8: FOR C=80 TO 90: PLOT
2670 C: DRAW 40,0: NEXT C: FOR C

```

```

=33 TO 39: PLOT 210,0: DRAW 20,0
2680 NEXT C: INK 0
2690 RETURN
2700 IF PX<210 AND PX<230 AND PY<
2710 8 AND PY<39 THEN LET SCORE=500
2720
2730 IF PX<100 AND PX<140 AND PY<
2740 80 AND PY<90 THEN LET SCORE=300
2750
2760 RETURN
2770 LET FX=150 LET FY=50
2780 CIRCLE FX,FY,10
2790 PLOT 30,155: DRAW 50,-30:
2800 PLOT 0,-50: DRAW 55,0: DRAW 0,10:
2810 PLOT 30,0: DRAW 0,-50: DRAW -30
2820 0: DRAW -80,10: DRAW -10,80: DR
2830 AU -45,30
2840 PLOT 215,25: DRAW 30,0: DRA
2850 U -10,10: PLOT 245,25: DRAW -10,
2860 -10: PRINT AT 17,26,"HOME"
2870 INK 8: FOR C=8 TO 23: PLOT
2880 C: DRAW 70,0: NEXT C: FOR C=
2890 8 TO 120: PLOT 170,0: DRAW 30,0:
2900 NEXT C: FOR C=80 TO 120: PLOT 1
2910 0,0: DRAW 70,0: NEXT C: INK 0
2920 INK 5: FOR C=8 TO 100: PLOT
2930 C: DRAW 30,0: NEXT C: INK 0
2940 INK 8: FOR C=40 TO 60: PLOT
2950 C: DRAW 30,0: NEXT C: INK 0
2960 RETURN
2970 IF PX<100 AND PX<170 AND PY<
2980 8 AND PY<23 THEN LET SCORE=500
2990
3000 IF PX<170 AND PX<200 AND PY<
3010 8 AND PY<120 THEN LET SCORE=500
3020
3030 IF PX<100 AND PX<170 AND PY<
3040 8 AND PY<120 THEN LET SCORE=50
3050
3060 IF PX<8 AND PX<30 AND PY<8
3070 AND PY<100 THEN LET PX=30: LET P
3080 Y=145: FOR L=1 TO 5: BEEP .1,L:
3090 NEXT L: GO SUB 2030
3100 IF PX<100 AND PX<130 AND PY<
3110 40 AND PY<60 THEN LET SCORE=300
3120
3130 RETURN
3140 BEEP .5,0: BEEP .7,12
3150 IF Z=1 THEN LET A(HOLE)=300
3160
3170 IF Z=2 THEN LET B(HOLE)=500
3180
3190 IF Z=3 THEN LET C(HOLE)=500
3200
3210 IF Z=4 THEN LET D(HOLE)=500
3220
3230 LET H=10: LET SCORE=0: LET
3240 G=0: LET G2=0: LET STRENGTH=1: L
3250 ET CLUB=1: LET PX=30: LET PY=145
3260 : LET ANGLE=0
3270 IF Z=N THEN CLS: PRINT AT
3280 10,10,"SCORE CARD": PAUSE 150:
3290 GO TO 3050
3300 CLS: PRINT AT 10,10,"NEXT
3310 PLAYER...": PAUSE 0: PAUSE 0
3320 RETURN
3330 STOP
3340 LET H=10: LET SCORE=0: LET
3350 G=0: LET G2=0: LET STRENGTH=1: L

```

```

ET CLUB=1: LET PX=30: LET PY=145
3360 : LET ANGLE=0: LET HOLE=HOLE+1
3370 : BEEP .08,0: BEEP .08,0: BEE
3380 P .3,0: BEEP .08,4: BEEP .08,4:
3390 BEEP .3,4: BEEP .3,7: BEEP .3,4:
3400 BEEP .3,7: BEEP .3,4: BEEP .3,0
3410 : BEEP .05,3: BEEP .05,0: BEEP .
3420 3,0: BEEP .3,0: BEEP .3,4:
3430 P1: PRINT AT 0,0,"HOLE
3440 P2: P3: P4:" FOR
3450 C=1 TO AR
3460 PRINT C: TAB 7:P(C): TAB 13:A
3470 (C): TAB 18:B(C): TAB 23:C(C): TAB
3480 28:D(C)
3490 NEXT C: FOR C=1 TO AR: LET
3500 T=T+P(C): LET Q=Q+A(C): LET U=U+
3510 B(C): LET E=E+C(C): LET R=R+D(C)
3520 : NEXT C: PRINT "TOTAL": T: TAB
3530 13:0: TAB 18:0: TAB 23:E: TAB 28:A
3540 LET AR=AR+1
3550 INPUT "HARD COPY Y/N": Y$
3560 IF Y$="Y" THEN COPY
3570 INPUT "DO YOU WISH TO GO BA
3580 CK TO THE CLUB HOUSE (END) Y/N
3590 : Y$: IF Y$="Y" THEN INPUT "DO
3600 YOU WISH TO SAVE YOUR PRE
3610 SENT POSITION (Y/N)": D$: IF D$=
3620 "Y" THEN CLS: PRINT AT 10,10:"F
3630 LASH 1:"SAVING": SAVE "J" AND "F"
3640 "GOLF" LINE 9100: PAUSE 100: POK
3650 E 23736,131: SAVE "UDG" CODE USA
3660 "9": CLS: PRINT AT 10,10: FLA
3670 SH 1:"STOP THE TAPE": PAUSE 50
3680 FOR C=1 TO 50: BEEP .02,40: NEXT
3690 C: CLS: LET HCL=1: GO TO 3500
3700 9048 IF Y$="Y" THEN LET HCL=1: G
3710 O TO 3500
3720 9049 POKE 23756,0: POKE 23561,10
3730 : POKE 23582,1: POKE 23609,50: P
3740 OKE 23658,8: IF HOLE=10 THEN GO
3750 TO 3500
3760 9050 LET T=0: LET Q=0: LET U=0:
3770 LET E=0: LET R=0: GO TO 90
3780 9100 LOAD "CODE": GO TO 9049
3790 9500 CLS: PRINT AT 10,10:"END O
3800 F GAME.....": IF HCL=1 THEN GO T
3810 O 9505
3820 9501 IF Q<0 AND Q<CR THEN LET CR
3830 =Q
3840 9502 IF U<0 AND U<CR THEN LET CR
3850 =U
3860 9503 IF E<0 AND E<CR THEN LET CR
3870 =E
3880 9504 IF R<0 AND R<CR THEN LET CR
3890 =R
3900 9505 PRINT "THE COURSE RECO
3910 RD IS "CR: INPUT "ANOTHER GAME
3920 Y/N": Y$: IF Y$="N" THEN CLS: 3
3930 TOP
3940 9510 RESTORE: GO TO 1
3950 9980 DATA 24,60,126,125,24,24,24
3960 :
3970 9990 DATA 4,3,5,4,3,4,5,3,4
3980 :
3990 9999 SAVE "J" AND "F" GOLF" LINE
4000 1: PAUSE 100: POKE 23736,131: GO
4010 TO 9999

```

INBETWEENER

◆ Spectrum ◆ Paul Rhodes

This short machine code routine produces a form of simple animation which shows a set of lines moving from one position to another. As an example of animation the program is extremely good and careful study of the listing will reveal to interested programmers how the effects can be produced on the monitor.

```

10 PRINT "PLEASE WAIT..." RES
20 TORE 9000: LET X=80417
30 READ A: IF A=-1 THEN GO TO
100
40 POKE X,A
50 LET X=X+13: GO TO 20
60 CLS: RESTORE 9000
70 READ A: GO SUB
80 110 IF A=0 THEN PRINT AT 11,1
90 1:"THE" AT 12,15:"END":#0: RANDO
100 MIZE USR 1757
110 POKE 60006,A: 256+INT (A/256)
120 POKE 60007,INT (A/256)
130 POKE 60004,A: GO SUB 205
140 GO TO 105
150 FOR C=1 TO 30 STEP 3: POKE
160 60005,C: RANDOMIZE USR 564: NEXT
170 C: RETURN
180 POKE 60415,3: 1000: 60520: 3,1
190 60624,4,1010,60575,2,1010,60
200 702,4,1010,60754,3,1020,60700,60
210 9000 DATA 110,120,150,160,170,180,30
220 110,120,150,160,170,180,110,120,30
230 110,120,150,160,170,180,110,120,30
240 110,120,150,160,170,180,110,120,30
250 110,120,150,160,170,180,110,120,30
260 110,120,150,160,170,180,110,120,30
270 110,120,150,160,170,180,110,120,30
280 110,120,150,160,170,180,110,120,30
290 110,120,150,160,170,180,110,120,30
300 110,120,150,160,170,180,110,120,30
310 110,120,150,160,170,180,110,120,30
320 110,120,150,160,170,180,110,120,30
330 110,120,150,160,170,180,110,120,30
340 110,120,150,160,170,180,110,120,30
350 110,120,150,160,170,180,110,120,30
360 110,120,150,160,170,180,110,120,30
370 110,120,150,160,170,180,110,120,30
380 110,120,150,160,170,180,110,120,30
390 110,120,150,160,170,180,110,120,30
400 110,120,150,160,170,180,110,120,30
410 110,120,150,160,170,180,110,120,30
420 110,120,150,160,170,180,110,120,30
430 110,120,150,160,170,180,110,120,30
440 110,120,150,160,170,180,110,120,30
450 110,120,150,160,170,180,110,120,30
460 110,120,150,160,170,180,110,120,30
470 110,120,150,160,170,180,110,120,30
480 110,120,150,160,170,180,110,120,30
490 110,120,150,160,170,180,110,120,30
500 110,120,150,160,170,180,110,120,30
510 110,120,150,160,170,180,110,120,30
520 110,120,150,160,170,180,110,120,30
530 110,120,150,160,170,180,110,120,30
540 110,120,150,160,170,180,110,120,30
550 110,120,150,160,170,180,110,120,30
560 110,120,150,160,170,180,110,120,30
570 110,120,150,160,170,180,110,120,30
580 110,120,150,160,170,180,110,120,30
590 110,120,150,160,170,180,110,120,30
600 110,120,150,160,170,180,110,120,30
610 110,120,150,160,170,180,110,120,30
620 110,120,150,160,170,180,110,120,30
630 110,120,150,160,170,180,110,120,30
640 110,120,150,160,170,180,110,120,30
650 110,120,150,160,170,180,110,120,30
660 110,120,150,160,170,180,110,120,30
670 110,120,150,160,170,180,110,120,30
680 110,120,150,160,170,180,110,120,30
690 110,120,150,160,170,180,110,120,30
700 110,120,150,160,170,180,110,120,30
710 110,120,150,160,170,180,110,120,30
720 110,120,150,160,170,180,110,120,30
730 110,120,150,160,170,180,110,120,30
740 110,120,150,160,170,180,110,120,30
750 110,120,150,160,170,180,110,120,30
760 110,120,150,160,170,180,110,120,30
770 110,120,150,160,170,180,110,120,30
780 110,120,150,160,170,180,110,120,30
790 110,120,150,160,170,180,110,120,30
800 110,120,150,160,170,180,110,120,30
810 110,120,150,160,170,180,110,120,30
820 110,120,150,160,170,180,110,120,30
830 110,120,150,160,170,180,110,120,30
840 110,120,150,160,170,180,110,120,30
850 110,120,150,160,170,180,110,120,30
860 110,120,150,160,170,180,110,120,30
870 110,120,150,160,170,180,110,120,30
880 110,120,150,160,170,180,110,120,30
890 110,120,150,160,170,180,110,120,30
900 110,120,150,160,170,180,110,120,30
910 110,120,150,160,170,180,110,120,30
920 110,120,150,160,170,180,110,120,30
930 110,120,150,160,170,180,110,120,30
940 110,120,150,160,170,180,110,120,30
950 110,120,150,160,170,180,110,120,30
960 110,120,150,160,170,180,110,120,30
970 110,120,150,160,170,180,110,120,30
980 110,120,150,160,170,180,110,120,30
990 110,120,150,160,170,180,110,120,30

```

```

0,100
9020 DATA 110,80,150,80,130,100,
130,100,110,80,110,120,130,100,1
30,100,110,120,150,120,130,100,1
30,100,150,80,150,120,130,100,13
0,100
9030 DATA 130,70,100,100,100,100
130,100,100,100,130,130,130,100
130,100,130,130,150,100,130,100
130,100,160,100,130,70,130,100,
100,100
9040 DATA 0,0,0,0,0,175,255,0,25
175,255,175,0,175,255,0,0,175,
175,0,175,255,175,255,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
9050 DATA 0,175,255,0,175,255,0,128,96,128,96,128,96,128,96,128,96
9060 DATA 112,96,144,96,112,96,112,96,112,96,144,96,144,96,112,96,112,96
9070 DATA 112,96,144,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9080 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9090 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9100 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9110 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9120 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9130 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9140 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9150 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9160 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9170 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9180 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9190 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9200 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9210 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9220 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9230 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9240 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9250 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9260 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9270 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9280 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9290 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9300 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9310 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9320 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9330 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9340 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9350 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9360 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9370 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9380 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9390 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9400 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9410 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9420 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9430 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9440 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9450 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9460 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9470 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9480 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9490 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9500 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9510 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9520 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9530 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9540 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9550 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9560 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9570 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9580 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9590 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9600 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9610 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9620 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9630 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9640 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9650 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9660 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
9670 DATA 112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96,112,96
96
```

MICRO MARKET

SAVE

BEST PRICES IN UK?
WHY PAY MORE!

IBC		
MASTER 128K	£390 + VAT	
MASTER COMPACT (TV system)	£384 + VAT	
MASTER COMPACT (Mono system)	£454 + VAT	
MASTER COMPACT (Colour system)	£584 + VAT	

Plus EXTRA £10 voucher off our already discounted printer prices

Micro MP165 (Dot matrix printer)	£195 + VAT
STAR POWERTYPE (Daisywheel printer)	£195 + VAT
Philips TV1114 (TV-Monitor)	£170 + VAT
ATL Sideways Rom Boards	£36 + VAT

MINIMUM 10% off all printers Canon, Citizen, Epson, Memorex, MicroPeripherals, Sekosha, Shinwa, Star) Plus AKITEK/CUMAN/PACE Disc drives at discount

AMSTRAD		
CPC 6128	£325 + VAT	
PCW 8256	£379 + VAT	
PCW 8512	£475 + VAT	
PC range		
PC 1512 SD-MM	£369 + VAT	
PC 1512 DO-MM	£489 + VAT	
PC 1512 HD10-MM	£689 + VAT	
PC 1512 HD20-MM	£789 + VAT	

ADD £150 for COLOUR Monitor

All SAGE/CANTON software for 8256/8512 at 15% OFF
SAGE/DEM/SUPERCAL/WORDSTAR for PC1512 at 10% OFF

COMMODORE		
Compendium	£208 + VAT	
Commodore's Pack		

Ask for our discount prices

WILLOW SOFTWARE (YC2)
THE WILLOWS, WRINGTON LANE
CONGRESBURY, BRISTOL BS19 5BQ
Tel: (0934) 834056

Prices include
p&p
ADD 15% VAT

Many others available all at discount - ask for a quote

MSX

ALL AT £3.99 inc. post

MAXIMA, HOT SHOT, OH MUMMY, LES FLICS, BINARY LAND,
SPECIAL OPS, DRILLER TANKS, FIRE RESCUE, TIME BANDITS

MIRRORSOFT: 737, FLIGHT SIMULATOR £6.99

SPECTRUM, COMMODORE, BBC, AMSTRAD
TRIVIAL PURSUITS £12.99

SPECTRUM: GHOSTBUSTERS £5.99
COMMODORE: GHOSTBUSTERS £5.99

COMMODORE: INDIANA JONES £4.99

C16+4: GRAPHIC MASTER £2.99

C16+4: FLIGHT ZERO ONE FIVE £2.99

VIC 20: TOWER OF EVIL £2.99

VIC 20: COMPUTER WAR £2.99

VIC 20: SUB COMMANDER £2.99

ELECTRON: SHARK ATTACK £2.99

ELECTRON: CATAPILLA £2.99

AMSTRAD: GRAND PRIX RALLY £5.25

AMSTRAD: WAY OF EXPLODING FIST £7.29

AMSTRAD: Z80 ASS, PROGRAMMING £4.99

NOTE NEW ADDRESS:
MAIL ORDER, RETAIL, EXPORTS

FACULTY ENTERPRISES

7/7A, SHERWOOD CRESCENT,
MARKET DRAYTON, SHROPSHIRE

MICRO WORKSHOP

Games or business software
at

★ DISCOUNT PRICES ★

For Amstrad, Spectrum and Commodore

★ BARGAINS ★

on Peripherals and Computer Supplies

★ REPAIRS ★

Send 40p for price list (refundable from first
order) stating type of computer and quote
ref. no. YC0187

12 STATION APPROACH,
EPSOM, SURREY
Telephone: 03737 21533

FANTASMAGORICAL

◆ Amstrad CPC Range ◆ A. R. Walker

Perhaps the amount of space allotted to
this program listing is the best indication
of the quality of it.

Fantasmagorical is a platform
adventure where your quest is to return
one of the holy halos to the totem pole of
Torag. That sounds like fairly typical
adventure stuff but the platform element
of the game really lifts this particular
program above its contemporaries.

```

10 REM Fantasmagorical
20 REM
30 REM ANDREW WALKER
40 :
50 KEY 159,"paper 0:pen 1:ink 0,0:ink 1,20:
mode 2:list+CHR$(13)
60 KEY DEF 68,1,159
70 RANDOMIZE TIME
80 MEMORY &8FFF
90 DEFINT a-z:DEFREAL t
100 ENT 1,5,3,1,4,-3,1,5,3,1,5,-6,2
110 ENV 1,4,-3,2,2,-2,1
120 ENV 2,3,-2,1,2,-1,1,1,10,1
130 ENV 3,3,1,1,4,-1,2,3,1,2,5,-1,1
140 MODE 0:GOSUB 4110:GOSUB 410 ' Load
150 name$="Andrew":hs$="01000"
160 WHILE 1
170 MODE 0:ax=5:ay=0:gg=0
180 GOSUB 1020 ' Set Screen
190 RESTORE 11410:READ st$,st2$:st$=st$+nam
e$+" "+hs$+st2$:PEN 8:gg=1
200 WHILE INKEY$<>"" :WEND:LOCATE 3,23:PRINT
"Fantasmagorical!":l=0:PEN 2
210 n=0:WHILE INKEY$<>"" :n=(n MOD 15)+1
220 INK 8,n:SOUND 2,15,n,1
230 l=l+1:IF l=LEN(st$) THEN l=1
240 PEN n:LOCATE 20,25:PRINT MID$(st$,l,1):
FOR x=1 TO 4:ISCROLL:CALL &BD19:NEXT
250 WEND:WHILE INKEY$<>"" :WEND
260 GOSUB 700 ' Process Data
270 GOSUB 1020 ' Set Screen
280 t=FRE("")
290 WHILE playing
300 GOSUB 1100 ' Move You
310 GOSUB 2190 ' Move Monsters
320 WEND
330 IF win=1 THEN GOSUB 3700
340 GOSUB 3980
350 WEND
360 :
370 END
380 :
390 :
400 :
410 REM Load Data
420 :
430 RESTORE 9000:READ a$,s$:t=0:FOR l=0 TO
15:a=VAL("&"+MID$(a$,l+1,1)):
440 INK 1,a:t=t+a:NEXT: BORDER 0
450 IF VAL("&"+s$)<>t THEN MODE 2:PEN 1:INK
1,20:INK 0,0:PRINT "Error in Colour Data:"
:9000:END
460 DIM sc$(5,4),mo(4,4,3),vs(5,4)
470 RESTORE 11100:FOR ax=0 TO 4:FOR ay=0 TO
4:READ sc$(ax,ay),vs(ax,ay)
480 sc$(ax,ay)=UPPER$(sc$(ax,ay))
490 NEXT ay,ax:READ sc$(5,0),vs(5,0),sc$(5,
1),vs(5,1)
500 sc$(5,0)=UPPER$(sc$(5,0)):sc$(5,1)=UPPE
R$(sc$(5,1))
510 FOR ax=0 TO 5:FOR ay=0 TO 4
520 IF sc$(ax,ay)="" THEN GOTO 540
530 t=0:FOR l=1 TO 91:t=t+ASC(MID$(sc$(ax,a
y),l,1)):NEXT:IF t<>VAL("&"+vs(ax,ay)) THEN
MODE 2:PEN 1:INK 1,20:INK 0,0:PRINT "Error
in Screen Data Line:"+(ax+5+ay+1)*10+11090
:END
540 NEXT ay,ax
550 RESTORE 9020:l=0:ax=0:ay=0:FOR z=1 TO 6:
READ a$,s$:t=0:FOR m=1 TO LEN(a$) STEP 2:a=
VAL("&"+MID$(a$,m,2)):POKE 1,a:l=l+1:t=t+a:
NEXT:at=at+t:IF t<>VAL("&"+s$) THEN MODE 2:
PEN 1:INK 1,20:PRINT "Error in M/C Data Line
"+z*10+9010:END
560 NEXT
570 READ a$:IF at<>VAL("&"+s$) THEN MODE 2:
PEN 1:INK 1,20:PRINT "Error in checksums in
lines 9020 to 9080":END
580 RESTORE 9100:l=0:ax=0:ay=0:FOR z=1 TO
25:at=0:FOR m=1 TO 6:t=0:READ a$,s$:FOR n=
1 TO LEN(a$) STEP 2:a=VAL("&"+MID$(a$,n,2)):
POKE 1,a:l=l+1:t=t+a:NEXT:IF t<>VAL("&"+s$
) THEN MODE 2:PEN 1:INK 1,20:PRINT "Error in
Sprite Data Line":ln=END
590 at=at+t:ln=ln+10
600 NEXT z
610 READ a$:IF at<>VAL("&"+s$) THEN MODE 2:
PEN 1:INK 1,20:PRINT "Error in checksums, g
roup "+(z-1)*80+9100"to"+(z-1)*80+9170"of spri
tes 1":END

```

You play the part of Fanto Freddie,
whose task it is to find the various halos
littered about the realms of the castle
fantasmagorical. His movements are
controlled by either the cursor or a
joystick and due to the high risks
involved he has three lives. Despite the
length of the program it is well worth the
effort of typing-in all the data, but once
you begin to play beware of the spiders.

```

620 ln=ln+20
630 NEXT z
640 CALL &A000
650 :
660 RETURN
670 :
680 :
690 :
700 REM Process Data
710 :
720 RESTORE 11100:FOR ax=0 TO 4:FOR ay=0 TO
4:READ sc$(ax,ay),a$
730 sc$(ax,ay)=UPPER$(sc$(ax,ay)):NEXT ay,a
x
740 RESTORE 11300:ax=0:ay=0:FOR n=1 TO 2
750 READ a$,s$:t=0
760 FOR l=1 TO LEN(a$) STEP 4
770 k$=MID$(a$,l,4)
780 FOR m=1 TO 4
790 g=VAL("&"+MID$(k$,m,1)):t=t+g:IF g=15 T
HEN g=-1
800 mo(ax,ay,m-1)=g
810 NEXT m
820 IF mo(ax,ay,0)<-1 THEN mo(ax,ay,0)=mo(
ax,ay,0)+6
830 IF mo(ax,ay,1)<-1 THEN mo(ax,ay,1)=mo(
ax,ay,1)+24
840 IF mo(ax,ay,2)<-1 THEN mo(ax,ay,2)=mo(
ax,ay,2)+6
850 IF mo(ax,ay,3)<-1 THEN mo(ax,ay,3)=mo(
ax,ay,3)+24
860 ay=ay+1:IF ay=5 THEN ay=0:ax=ax+1
870 NEXT l
880 IF VAL("&"+s$)<>t THEN MODE 2:PEN 1:INK
1,20:PRINT "Error in Monster data, Lines 1
1300 to 11390":END
890 NEXT n
900 RESTORE 11440:READ ax,sy,x,y
910 playing=1:score=0:energy=99:lives=4:poc
ket=-1:yloc=&9000:score$="00000":win=0
920 DEF FNoffscr=(yinc=1 AND y1)=6*24) OR (
yinc=-1 AND y1<0) OR (xinc=-1 AND x1<0) O
R (xinc=1 AND x1>12*6)
930 x1=x*6:y1=y*24:osylloc
940 MODE 0:LOCATE 1,23:PEN 4:PRINT "ENERGY":
LOCATE 2,24:PEN 2:PRINT energy:CHR$(0)+" "
950 LOCATE 13,23:PEN 4:PRINT "SCORE":LOCATE
13,24:PEN 2:PRINT score$
960 FOR c=26 TO 26+7*(lives-1) STEP 7:SPRI
TE,&9000,6,24,175,c:NEXT:GOSUB 2330
970 :
980 RETURN
990 :
1000 :
1010 :
1020 REM Set Screen
1030 :
1040 ORIGIN 0,0,0.639,400-7*48,400:CLG
1050 FOR l=0 TO 90:a=ASC(MID$(sc$(ax,ay),l+
1,1))-65
1060 IF a<0 THEN GOTO 1090
1070 loc=&9000+a*24*6
1080 !SPRITE,loc,6,24,24*(1\13),6*(1 MOD
13)
1090 NEXT
1100 IF gg=1 THEN !SPRITE,yloc,6,24,y1,x1
1110 IF gg=1 THEN IF mo(ax,ay,0)<-1 THEN !
SPRITE,&9000+17*144,6,24,mo(ax,ay,1),mo(ax,
ay,0)
1120 IF gg=1 THEN IF mo(ax,ay,2)<-1 THEN !
SPRITE,&9000+16*144,6,24,mo(ax,ay,3),mo(ax,
ay,2)
1130 :
1140 RETURN
1150 :
1160 :
1170 :
1180 REM Move You
1190 :
1200 xinc=0:yinc=0:jx=2:yy=8
1210 a=JOY(0)
1220 IF a=16 OR INKEY(10)=0 THEN a=0:yloc=&
9000:GOSUB 2730
1230 IF UPPER$(INKEY$)="A" THEN playing=0
1240 IF INKEY(47)=0 THEN WHILE INKEY$<>"" :W
END:WHILE INKEY$="" :WEND
1250 IF a>7 OR INKEY(1)=0 THEN a=a-8:xinc=1
:yloc=&9000+280
1260 IF a>3 OR INKEY(8)=0 THEN a=a-4:xinc=-
1:yloc=&9000+144

```

PROGRAM LISTINGS

```
1270 IF a>1 OR INKEY(2)=0 THEN a=a-2:yinc=1
:IF xinc=0 THEN yloc=80000
1280 IF a>0 OR INKEY(0)=0 THEN a=a-1:yinc=-1
:IF xinc=0 THEN yloc=80000
1290 :
1300 IF Fnoffect THEN GOSUB 2050:RETURN
1310 :
```

```
1320 IF xinc=-1 THEN GOSUB 1430
1330 IF xinc=1 THEN GOSUB 1550
1340 IF yinc=-1 THEN GOSUB 1670
1350 IF yinc=1 THEN GOSUB 1790
1360 :
1370 IF xinc<>0 OR yinc<>0 THEN GOSUB 1920
1380 :
1390 RETURN
1400 :
1410 :
1420 :
1430 REM Go left
1440 :
```

```
1450 a1=ASC(MID$(sc$(x,y),((x1-jx)\6)+1+(y1\24)+13,1))-65
1460 a2=ASC(MID$(sc$(x,y),((x1-jx)\6)+1+(y1+23\24)+13,1))-65
1470 IF a1=19 OR a1=24 OR a2=19 OR a2=24 THEN xinc=0:GOSUB 2480:RETURN
1480 IF a1>2 AND a1<7 THEN xinc=0
1490 IF a2>2 AND a2<7 THEN xinc=0
1500 :
```

```
1510 RETURN
1520 :
1530 :
1540 :
1550 REM Go right
1560 :
```

```
1570 a1=ASC(MID$(sc$(x,y),((x1+jx+5)\6)+1+(y1\24)+13,1))-65
1580 a2=ASC(MID$(sc$(x,y),((x1+jx+5)\6)+1+(y1+23\24)+13,1))-65
1590 IF a1=19 OR a1=24 OR a2=19 OR a2=24 THEN xinc=0:GOSUB 2480:RETURN
1600 IF a1>2 AND a1<7 THEN xinc=0
1610 IF a2>2 AND a2<7 THEN xinc=0
1620 :
```

```
1630 RETURN
1640 :
1650 :
1660 :
1670 REM Go up
1680 :
```

```
1690 a1=ASC(MID$(sc$(x,y),((x1\6)+1+(y1-jy)\24)+13,1))-65
1700 a2=ASC(MID$(sc$(x,y),((x1+5)\6)+1+(y1-jy)\24)+13,1))-65
1710 IF a1=19 OR a1=24 OR a2=19 OR a2=24 THEN yinc=0:GOSUB 2480:RETURN
1720 IF a1>2 AND a1<6 THEN yinc=0
1730 IF a2>2 AND a2<6 THEN yinc=0
1740 :
```

```
1750 RETURN
1760 :
1770 :
1780 :
1790 REM Go down
1800 :
```

```
1810 a1=ASC(MID$(sc$(x,y),((x1\6)+1+(y1+jy+23\24)+13,1))-65
1820 a2=ASC(MID$(sc$(x,y),((x1+5)\6)+1+(y1+jy+23\24)+13,1))-65
1830 IF a1=19 OR a1=24 OR a2=19 OR a2=24 THEN yinc=0:GOSUB 2480:RETURN
1840 IF a1>2 AND a1<7 THEN yinc=0
1850 IF a2>2 AND a2<7 THEN yinc=0
1860 IF a1=6 AND a2=6 AND pocket=7 THEN poc
```

```
ket=-1:MID$(sc$(x,y),((x1\6)+1+(y1\24)+13,1))-65
1870 :
1880 RETURN
1890 :
1900 :
1910 :
1920 REM Print man
1930 :
```

```
1940 !SPRITE,os,6,24,y1,x1
1950 x1=xinc*x1+y1+yinc*y1
1960 !SPRITE,yloc,6,24,y1,x1
1970 os=yloc
1980 SOUND 1,0,10,5,0,0,30
1990 :
```

```
2000 :
2010 RETURN
2020 :
2030 :
2040 :
2050 REM Change screen
2060 :
```

```
2070 os=yloc
2080 IF y1=0 THEN sy=sy-1:y1=6*24:GOTO 2130
2090 IF y1=6*24 THEN sy=sy+1:y1=0:GOTO 2130
2100 IF x1=0 THEN sx=sx-1:x1=12*6:GOTO 2130
2110 IF x1=12*6 THEN sx=sx+1:x1=0:GOTO 2130
2120 :
```

```
2130 yinc=0:xinc=0:GOSUB 1010
2140 :
2150 RETURN
2160 :
2170 :
```

```
2180 :
2190 REM Move monsters
2200 :
2210 mx1=mo(x,y,0):my1=mo(x,y,1)
2220 mx2=mo(x,y,2):my2=mo(x,y,3)
2230 IF mx1<>-1 THEN !SPRITE,&90000+17*144,6,24,my1,mx1
2240 IF mx2<>-1 THEN !SPRITE,&90000+16*144,6,24,my2,mx2
2250 IF mx2<>-1 THEN !SPRITE,&90000+16*144,6,24,my2,mx2
2260 IF (x1+3)\6=(mx1+3)\6 AND (y1+12)\24=(my1+12)\24 THEN energy=energy-3:SOUND 1,100,2,15,1,1,1:LOCATE 2,24:PRINT energy:CHR$(8);" "
2270 IF (x1+3)\6=(mx2+3)\6 AND (y1+12)\24=(my2+12)\24 THEN energy=energy-1:SOUND 1,255,2,15,1,1,1:LOCATE 2,24:PRINT energy:CHR$(8);" "
2280 IF energy<1 THEN LOCATE 2,24:PRINT energy:CHR$(8);" "
2290 RETURN
2300 :
2310 :
```

```
2320 :
2330 REM Lives
2340 :
2350 FOR c=26 TO 26+7*(lives-1) STEP 7
2360 !SPRITE,&90000,6,24,175,c
2370 NEXT
2380 lives=lives-1:IF lives<1 THEN playing=0:GOTO 2440
2390 FOR c=26 TO 26+7*(lives-1) STEP 7
2400 !SPRITE,&90000,6,24,175,c
2410 NEXT
2420 PEN 2:energy=99:LOCATE 1,24:PRINT " 9 9 "
2430 :
```

```
2440 RETURN
2450 :
2460 :
2470 :
2480 REM Lost life
2490 :
2500 gap=90
2510 IF mo(x,y,0)<-1 THEN !SPRITE,&90000+17*144,6,24,mo(x,y,1),mo(x,y,0)
2520 IF mo(x,y,2)<-1 THEN !SPRITE,&90000+16*144,6,24,mo(x,y,3),mo(x,y,2)
2530 !SPRITE,os,6,24,y1,x1
2540 !SPRITE,&90000+10*144,6,24,y1,x1
2550 t=TIME+gap:WHILE TIME<t:WEND
2560 !SPRITE,&90000+10*144,6,24,y1,x1
2570 !SPRITE,&90000+11*144,6,24,y1,x1
2580 t=TIME+gap:WHILE TIME<t:WEND
2590 !SPRITE,&90000+11*144,6,24,y1,x1
2600 !SPRITE,&90000+12*144,6,24,y1,x1
2610 t=TIME+gap:WHILE TIME<t:WEND
2620 !SPRITE,&90000+12*144,6,24,y1,x1
2630 !SPRITE,os,6,24,y1,x1
2640 SOUND 1,0,20,7,1,1,30
2650 IF mo(x,y,0)<-1 THEN !SPRITE,&90000+17*144,6,24,mo(x,y,1),mo(x,y,0)
2660 IF mo(x,y,2)<-1 THEN !SPRITE,&90000+16*144,6,24,mo(x,y,3),mo(x,y,2)
2670 GOSUB 2330
2680 :
```

```
2690 RETURN
2700 :
2710 :
2720 :
2730 REM Pickup/Drop
2740 :
```

```
2750 IF ASC(MID$(sc$(x,y),((x1\6)-(x1 MOD 6+3))+1+13*((y1\24)-(y1 MOD 24+12))))-65=19 AND ASC(MID$(sc$(x,y),((x1\6)-(x1 MOD 6+3))+1+13*((y1\24)-(y1 MOD 24+12))))-65=24 THEN GOSUB 3530:RETURN
2760 IF pocket=10 AND ASC(MID$(sc$(x,y),((x1\6)-(x1 MOD 6+3))+1+13*((y1\24)-(y1 MOD 24+12))))-65=15 THEN playing=0:score=score+1000:win=1:RETURN
2770 IF ASC(MID$(sc$(x,y),((x1\6)-(x1 MOD 6+3))+1+13*((y1\24)-(y1 MOD 24+12))))-65=13 THEN SOUND 1,100,50,12,3,0:energy=99:LOCATE 2,24:PRINT energy:CHR$(8);" "
2780 IF pocket=14 OR pocket=18 THEN GOSUB 2
```

```
970:IF f1=0 THEN RETURN
2790 ch=ASC(MID$(sc$(x,y),((x1\6)-(x1 MOD 6+3))+1+13*((y1\24)-(y1 MOD 24+12))))-65
2800 IF ch=6 OR ch=8 OR ch=9 OR ch=13 OR ch=15 OR (ch>18 AND ch<25) THEN RETURN
2810 sumpocket
2820 IF pocket<-1 THEN !SPRITE,&90000+pocket*144,6,24,175,71
2830 IF pocket<-1 THEN !SPRITE,&90000+pocket*144,6,24,((y1\24)-(y1 MOD 24+12))*24,((x1\6)-(x1 MOD 6+3))*6
2840 pocket=ch
2850 IF pocket<0 THEN pocket=-1
2860 IF pocket<-1 THEN !SPRITE,&90000+pocket*144,6,24,175,71
2870 IF pocket<-1 THEN !SPRITE,&90000+pocket*144,6,24,((y1\24)-(y1 MOD 24+12))*24,((x1\6)-(x1 MOD 6+3))*6
2880 IF sumpocket<-1 THEN MID$(sc$(x,y),((x1\6)-(x1 MOD 6+3))+1+13*((y1\24)-(y1 MOD 24+12))))=CHR$(65+sumpocket)
2890 IF sumpocket=1 THEN MID$(sc$(x,y),((x1\6)
```

```
2900 :
2910 :
2920 :
2930 :
2940 :
2950 :
2960 :
2970 :
2980 :
2990 :
```

```
3000 :
3010 :
3020 :
3030 :
3040 :
3050 :
3060 :
3070 :
3080 :
3090 :
```

```
3100 :
3110 :
3120 :
3130 :
3140 :
3150 :
3160 :
3170 :
```

```
3180 :
3190 :
3200 :
3210 :
3220 :
3230 :
3240 :
3250 :
```

```
3260 :
3270 :
3280 :
3290 :
3300 :
3310 :
3320 :
3330 :
```

```
3340 :
3350 :
3360 :
3370 :
3380 :
3390 :
3400 :
3410 :
```

MICRO MARKET



FLOPPY DISKS

All prices plus VAT
Free delivery

		PRICE EACH UNIT			
		10+	50+	100+	250+
8"	DS DD	2.24	2.12	1.99	1.87
	SS DD	1.20	1.13	1.06	1.00
5 1/4"	DS DD	1.41	1.32	1.24	1.17
	DS DD 96TPI	1.67	1.59	1.49	1.40
	DS DD 1.6MB	2.65	2.51	2.36	2.21
3 1/2"	SS DD 500K	2.14	2.02	1.90	1.79
	DS DD 500K	2.14	2.02	1.90	1.79
	DS DD 1000K	2.56	2.42	2.28	2.14

Polanka Video Limited
Unit X5 · Acton Business Centre
School Road · London NW10 6TD
01 965 4413

SINCLAIR REPAIR SPECIALISTS

SPECTRUM/+ REPAIRS £12.00
KEYBOARD FAULTS £9.00 - £13.00
PERIPHERALS Price on application

ALL PRICES FULLY INCLUSIVE OF LABOUR, PARTS, VAT + P&P

3 MONTHS GUARANTEE

I. T. (WESTERN) ELECTRONICS
UNIT F2A + F3
AVONSIDE ENTERPRISE PARK
NEW BROUGHTON ROAD
MELKSHAM, WILTSHIRE
Telephone: 0225 705017

SPECTRUM REPAIRS

From £3-£19 incl. all parts, labour and 3 month Guarantee.

From Bristol's Sinclair Specialists

MICRO FARE

296 Gloucester Road,
Horfield, Bristol
Tel: 0272 46575

MICRO MARKET

BITS AND PCs

VAST RANGE OF EX STOCK COMPUTERS
AVAILABLE INCLUDING:

- Amstrad CPC464 and CPC6128
- BBC B
- Spectrum 48K+ Starter Packs
- Atari 800 XL with disc drive
- Acorn Electron
- Commodore C64
- Vic 20
- C16

Send S.A.E. for full price lists

Computers start from £30

Telephone enquiries welcome on **(0536) 516709**

Also available:

5.25in. discs from £4.00

3.50in. DDS set of ten with Library Case from £25

BITS AND PCs

6 Alness Close, Kettering,
Northamptonshire NN15 5BJ

DUST COVERS

AMSTRAD PCW 8256 £11.95

Light grey 3 piece set, monitor and printer piped in green,
name on keyboard.

AMSTRAD CPC 6128/464/664 £6.95

Matching proofed nylon, treated with anti-static inhibitor.
Red Piping on monitor cover.
AMSTRAD CPC on keyboard cover.
Please state model, Colour or Mono.

Tatung Einstein £7.50

One piece cover for monitor and keyboard in proofed light
grey nylon. Piped in red with name on keyboard.

BBC MASTER £5.95

Made from beige proofed nylon, piped in brown, with
BBC MASTER hot-foil printed on keyboard.

Matching covers for Printers

DMP2000 Amstrad, Brother HR5, M1009, Canon PW
1090A, Epson FX 80, FX 80, LX 80, Minnesmann MT-80,
Shinwa CP 80, CPA-80, Taxan KP810, Tatung TP100. All
£4.50. Brother HR15, Juki 6100 at £5.50. Large range of
other covers also available on request.

Dept YC

BBD COMPUTER DUST COVERS

THE STANDISH CENTRE, CROSS STREET,

STANDISH, WIGAN WN 9RP

Telephone: 0257 422968

BRANDED DISKS (BOX of 10)

3" MAXELL CF2 £29.95

3.5" SONY MF2-2DD 135tpi £29.95

5.25" MAXELL MD2-D 48tpi DSDD £15.00

5.25" MAXELL MD2-DD 96tpi DSQD £19.95

5.25" MAXELL MD2-HD (IBM AT) £27.50

C.W.O. PRICES INCLUDE CARRIAGE & V.A.T. (C.O.D. ON REQUEST)

★ QUANTITY DISCOUNTS ★

e.g. 10 Boxes SONY MF2-2DD £22.95/BOX

**JOHN HOLMES
COMPUTERS**

FULBECK, GRANTHAM, Lincs. NG32 3LD.

TEL: (0400) 72818

OFFICIAL GOVERNMENT & EDUCATIONAL ORDERS WELCOME

```

-(x1 MOD 63)+1+13*((y1\24)-(y1 MOD 24\12)
),1)=-0"
2900 swp=0
2910 SOUND 1,100,30,7,0,1
2920 :
2930 RETURN
2940 :
2950 :
2960 :
2970 REM Shoot ?
2980 :
2990 fl=0
3000 IF pocket=10 AND (mo(sx,sy,2)<-1 OR m
o(sx,sy,3)<-1) THEN SOUND 1,0,20,7,1,0,30:
GOTO 3120
3010 IF pocket=14 AND (mo(sx,sy,0)<-1 OR m
o(sx,sy,1)<-1) THEN SOUND 1,0,20,7,1,0,30:
GOTO 3030
3020 fl=1:RETURN
3030 !SPRITE,09000+14*144,6,24,175,71:pocke
t=-1
3040 mx1=mo(sx,sy,0):my1=mo(sx,sy,1):sy1=y1
:ax1=x1
3050 !SPRITE,09000+14*144,6,24,sy1,ax1
3060 WHILE ax1<mx1 OR sy1<my1
3070 !SPRITE,09000+14*144,6,24,sy1,ax1
3080 ax1=mx1+SGN(mx1-ax1):sy1=sy1+SGN(sy1-m
y1)
3090 !SPRITE,09000+14*144,6,24,sy1,ax1:FOR
gap=1 TO 30:NEXT
3100 WEND: !SPRITE,09000+14*144,6,24,sy1,ax1
:score=score+200:GOSUB 3440:mo(sx,sy,0)=-1:
mo(sx,sy,1)=-1:mf=17:GOSUB 3300:RETURN
3110 :
3120 !SPRITE,09000+18*144,6,24,175,71:pocke
t=-1
3130 mx1=mo(sx,sy,2):my1=mo(sx,sy,3):sy1=y1
:ax1=x1
3140 !SPRITE,09000+18*144,6,24,sy1,ax1
3150 WHILE ax1<mx1 OR sy1<my1
3160 !SPRITE,09000+14*144,6,24,sy1,ax1
3170 ax1=mx1+SGN(mx1-ax1):sy1=sy1+SGN(sy1-m

```

```

y1)
3180 !SPRITE,09000+14*144,6,24,sy1,ax1:FOR
gap=1 TO 30:NEXT
3190 WEND: !SPRITE,09000+18*144,6,24,sy1,ax1
:score=score+100:GOSUB 3440:mo(sx,sy,2)=-1:
mo(sx,sy,3)=-1:mf=16:GOSUB 3300
3200 x2=RND*3:x3=RND*12:y2=RND*3:y3=RND*6
3210 WHILE x2=mx OR y2=sy OR MID$(sc*(x2,y
2),x3+1,y3*13,1)<>"0"
3220 x2=RND*3:x3=RND*12:y2=RND*3:y3=RND*6
3230 WEND
3240 MID$(sc*(x2,y2),x3+1,y3*13,1)=CHR$(10+
65)
3250 :
3260 RETURN
3270 :
3280 :
3290 :
3300 REM Sink into floor
3310 :
3320 !SPRITE,09000+mf*144,6,24,my1,mx1
3330 FOR l=0 TO 22
3340 !SPRITE,09000+mf*144,6,23-1,my1+1,mx1
3350 CALL @BD19:CALL @BD19
3360 SOUND 1,10*mf*(mf-15),1
3370 !SPRITE,09000+mf*144,6,23-1,my1+1,mx1
3380 NEXT
3390 :
3400 RETURN
3410 :
3420 :
3430 :
3440 REM Score
3450 :
3460 LOCATE 13,24:PEN 2:MID$(score*,7-LEN(S
TR$(score*)):MID$(STR$(score*),2)
3470 PRINT score*:
3480 :
3490 RETURN
3500 :
3510 :
3520 :
3530 REM Tardis
3540 :
3550 m=32*(x1\40)-32*(x1\40):xinc=-SGN(m)
3570 !SPRITE,09,6,24,y1,x1+m
3580 FOR l=0 TO 23
3581 !SPRITE,09,6,24-1,y1+1,x1: !SPRITE,09+6
*(23-l),6,1+1,y1,x1+m
3602 FOR d=1 TO 40:NEXT
3603 SOUND 1,200-1*5,3,10:SOUND 3,200+1*5,3
,10
3604 !SPRITE,09,6,24-1,y1+1,x1: !SPRITE,09+6
*(23-l),6,1+1,y1,x1+m
3610 NEXT:xl=x1+m
3620 !SPRITE,09,6,24,y1,x1
3630 energy=energy-35:IF energy<1 THEN p=99
:energy:GOSUB 2480:energy=p
3640 LOCATE 2,24:PEN 2:PRINT energy:CHR$(0)
:"%"
3650 :
3660 RETURN
3670 :
3680 :
3690 :
3700 REM win
3710 :
3720 ex=5:sy=1:GOSUB 3440:gg=0:GOSUB 1020
3730 gg=1
3740 PEN 4:LOCATE 3,7:PRINT "Congratulation
s!"
p=energy

```

```

3750 WHILE lives>0:FOR l=p TO 0 STEP -1:ene
rgy=1
3760 SOUND 1,255,2,15,1,1:LOCATE 2,24:PEN
2:PRINT energy:CHR$(0):"%"
3770 score=score+10:GOSUB 3440:NEXT:GOSUB 2
330:energy=99:WEND
3780 t=TIME:WHILE t+300>TIME:WEND: BORDER 9
3790 MODE 0:p=4
3800 FOR l=0 TO 640 STEP 8
3810 MOVE 1,0:DRAW 1,p-2,9:PLOT 1,p,2:MOVE
1+4,0:DRAW 1+4,p-2,9:PLOT 1+4,p,2
3820 p=p+SGN((RND*6)-3):p=p-(p<1):p=p+(p>0)
3830 NEXT
3840 !SPRITE,09000+200,6,24,191-24,2
3850 PEN 3:LOCATE 4,5:PRINT "Press Any Key."
3860 PEN 6:LOCATE 4,7:PRINT "You Are Free !"
3870 WHILE INKEY#<>"":WEND:l=632
3880 WHILE INKEY#=""
3890 !SCROLL
3900 MOVE 1,0:DRAW 1,p-2,9:PLOT 1,p,2:MOVE
1+4,0:DRAW 1+4,p-2,9:PLOT 1+4,p,2
3910 p=p+SGN((RND*6)-3):p=p-(p<1):p=p+(p>0)
3920 WEND: BORDER 0
3930 :
3940 RETURN
3950 :
3960 :
3970 :
3980 REM high score
3990 :
4000 IF score<=VAL(hs*) THEN GOTO 4070
4010 hs*=score:FOR l=1 TO 40:PRINT:NEXT
4020 PEN 2:PRINT "You have the Highest scor
e":PRINT
4030 PEN 7:PRINT "Enter your name"
4040 PEN 4:INPUT ">".name$:IF name$="" OR L
EN(name$)>10 THEN GOTO 4040
4050 IF LEFT$(UPPER$(NAME$),6)=""ANDREW" THE
N name$="Mr. Skill!"
4060 :
4070 RETURN
4080 :
4090 :
4100 :
4110 REM Instructions
4120 :
4130 FOR l=1 TO 15:INK 1,1:NEXT
4140 as="FANTASAGORICAL!":p=1:FOR l=1 TO L
EN(as):LOCATE 1+2,2:PEN p
4150 p=p+1:IF p=8 THEN p=p+1
4160 IF p=16 THEN p=1
4170 PRINT MID$(as,1,1):NEXT
4180 LOCATE 1,1:PRINT STRING$(20,"="):PRINT
STRING$(20,"=")
4190 PEN 15:PRINT:PRINT SPC(8)"KEYS":PEN 1:
PRINT SPC(7)"*****"
4200 PEN 2:PRINT:PRINT SPC(2)"USE:Cursor Ke
ys"
4210 PEN 3:PRINT:PRINT SPC(9)"OR"
4220 PEN 4:PRINT:PRINT SPC(1)"Joystick to
move"
4230 PEN 5:PRINT:PRINT SPC(6)"A N D"
4240 PEN 6:PRINT:PRINT "ENTER OR FIRE BUTTON
"
4250 PEN 7:PRINT:PRINT SPC(1)"To Pickup / D
rop /"
4260 PEN 10:PRINT:PRINT SPC(3)"Use An Objec
t"
4270 PEN 11:PRINT:PRINT:PRINT SPC(4)"PLEASE
WAIT"
4280 :
4290 RETURN
4300 :
4310 :
4320 :
9000 DATA 000119030b11141a000907000d040215,
a7
9010 :
9020 DATA 010ea0211fa0c3d1b0c912a0c323a0c36
ca05350524954c55343524f4ccc,d51
9030 DATA 001fa00a002100:0dd460078fe0020042
33d20fcd3460278fe00200d0100,95c
9040 DATA 000930040150c0093d20f3dd4e04dd460
6dd5609dd5e00c5e51aa0772313,aa5
9050 DATA 10f9e10100080930040150c009c10d20e
8c92100c716011e01cd19b0237e,9cb
9060 DATA 2b7723147afe5020f53a007701b107093
0040150c00916011c7bfe09200,930
9070 DATA c9,c9
9080 DATA 3516
9090 :
9100 DATA 00003c3c000000146094200003cc0c03
c0000608d49400,660
9110 DATA 0060c0c09400003cc0c03c00001460942
0000103c3c2000,654
9120 DATA 006030307000050b0303070a0503030303
0a050b0303070a0,810
9130 DATA 15f0e0d0f02a007ae0d0b50000353a3f3
a000035303a3500,86e
9140 DATA 003a353035000030353030000303a303
a00003530303a00,341
9150 DATA 003a303530001030609030203030c0c03
030102040001020,5af
9160 DATA 261e
9170 :
9180 DATA 0000143c000000003c3c200000143c3c3
c000014943c3c00,2d0
9190 DATA 0040c03c3c000040c03c3c000040943c3
c0000143c3c2000,4f0
9200 DATA 00003c3c000000003020000001030300
0000030f03a0000,292
9210 DATA d0f0f03a0000d0f0f50302a003f3fa302
a00001030302a00,765
9220 DATA 001030352a00003030353f00003030353
f00103030353f00,32b

```

MICRO MARKET

Advantage

MS DOS SOFTWARE
FOR AMSTRAD PC1512 AND
OTHER PCs

We supply a comprehensive range of MS DOS software from as little as £6.95 per disc. For example:-

COMPLETE UTILITIES	£6.95
APPLICATIONS PROGRAMS	£6.95
GAMES COMPENDIUM	£6.95
MIX-C COMPILER AND MANUAL	£39.50
C ASM UTILITY	£11.95

Prices include post, packing and V.A.T.

Overseas please add £1.00 per item

Send Stamped Addressed Envelope for our latest catalogue

CP/M software also available

Join our User Group, supporting all Amstrad computers and PCs for only £8.95 per year U.K. (£13.95 overseas). Members get monthly newsletter and £2 discount on the above items.

ADVANTAGE

**33 Malyns Close, Chinor,
Oxfordshire OX9 4EW**

ACCOUNTS + PAYROLL

for

- IBM
- Amstrad PC
- WANG
- Commodore
- Etc.

E.A. SOFTWARE

**62, High Street, Evesham,
Worcestershire WR11 4HG
Telephone: (0386) 49339**

FLOPPY DISKS

VERBATIM DATALIFE 3½in.

SS DD 135tpi MF350 £21.75 per 10

MEMOREX 3½in.

DS DD 135tpi MMXD £24.00 per 10

VERBATIM DATALIFE 5¼in.

SS DD 48tpi MD525 £12.75 per 10

DS DD 48tpi MD550	£15.35 per 10
-------------------------	---------------

VERBATIM VEREX 5 1/4 in.

SS DD 48tpi MD200 £11.00 per 10

DS DD 48tpi MD250	£12.45 per 10
-------------------------	---------------

MAXELL 5¼in.

DS DD 48tpi MD2-D £15.00 per 10

DS PD 96tpi MD2-DD £19.90 per 10

DS HD 96tpi MD2-HD	£27.50 per 10
--------------------------	---------------

All inclusive prices. No extra to pay.

Send cheques or postal orders to:

ORIOLE LTD

PO Box 297, London N3 2TS

```
9230 DATA 183030356a2a30303035c0e01030206ac
00000200000c=000,660
9240 DATA 1b52
9250 :
9260 DATA 00003c20000000143c3c0000003c3c3c2
000003c3c682000,2d4
9270 DATA 0003c3cc000000003c3c0000003c3c680
0000143c3c2000,504
9280 DATA 00003c3c000000001030000000030302
00000003f5f03000,20d
9290 DATA 000035f0f0e00015307af0e00015303f3
f30f15303022000,711
9300 DATA 000153a302000003f3a303000003f3a303
000003f3a303200,34a
9310 DATA 15953a30320c0c03a30303040c095103
0200c000001000,673
9320 DATA 1bb3
9330 :
9340 DATA 0c000c0c0030433333304333333043333
304330433333304,2bc
9350 DATA 33043333330433043333330433043333
304000000000000,200
9360 DATA 040c000c0c00193304332200193304332
200193304332200,237
9370 DATA 193304332200193304332200193304332
200193304000000,257
9380 DATA 1933000c0c00193304333304193304333
304193304333304,29a
9390 DATA 193304333304193304333304193304333
3040000000000,23e
9400 DATA ea2
9410 :
9420 DATA 0c000c0c00304333304333304333304
3333304333304,2bc
9430 DATA 33043333304333304333304333304333
304333304333304,289
943000000000000,27c
9440 DATA 040c0c0c0c0c19333333332219333333
3322193333333322,355
9450 DATA 19333333332219333333332219333333
332200000000000,31d
9460 DATA 040c000c0c0c19330433332219330433
332219330433332,2c4
9470 DATA 19330433332219330433332219330433
332200004000000,294
9480 DATA 1102
9490 :
9500 DATA 040c000c0c04193304332219193304332
219193304332219,266
9510 DATA 193304332219193304332219193304332
2190000000000,242
9520 DATA 000c0c0c040c043333221922043333221
922219221922,209
9530 DATA 043333221922043333221922043333221
92200000001922,290
9540 DATA 040c040c04192219221922192219221922
1922192219221922,266
9550 DATA 1922192219221922192219221922192219
2219220000000,22b
9560 DATA e62
9570 :
9580 DATA 10303030320000000c0c0c0000000040
4000000000400,144
9590 DATA 00040400000000004040800000000c0c0
0000000c0c0000,60
9600 DATA 00000c0c0000000004080000ccc0408c
ccc33668c4c9933,59d
9610 DATA 33330044333336608449933ccc0000c
ccc002000001000,729
9620 DATA 002000001000002000001000100000000
0010000000000,c0
9630 DATA 1000000000702000000001020000000
0102000000000,c0
9640 DATA fea
9650 :
9660 DATA 000033cc0000003333660000113333330
000220033333333,363
9670 DATA 0000993333320000993333220000cc333
3000000c333330,4a6
9680 DATA 0044cc33220004406332220004406330
000004406330000,404
9690 DATA 00cc002200000cc002200000cc000000
00000c0000000,374
9700 DATA 44800000000044080000000044080000
0004408000000,330
9710 DATA cc000000000c0000000000cc00000000
000c000000000,330
9720 DATA 1661
9730 :
9740 DATA fcfcfcfc000cfca08a854545400fcfa8a8a
800fc545454000,elc
9750 DATA fc00a080000fcfa8a80000fc5454000
00008fc54500000,8dc
9760 DATA a0a080000fcfa8a800000a0f000000
000fc540000000,738
9770 DATA af0c0000000fc540000000a000000a00000
000fca80000000,50e
9780 DATA a0a0000000a0a00000000000000000000
000f000000000,490
9790 DATA fc0000000a0000000a0000000a0000000
000a000000000,274
9800 DATA 2ba4
9810 :
9820 DATA 54fcfcfcfc000a08a805454fc000545454
fc0000a0a0fc,e70
9830 DATA 0000545400fc0000545454fc000000a0
8fc000000a0fc54,700
9840 DATA 0000000540000005454fc0000000fc
540000000a0fc,594
9850 DATA 00000000fc5400000000a0fc000000005
45400000054fc,4cc
9860 DATA 0000000054540000000545400000000
0fc00000000fc,348
9870 DATA 00000000fc000000000000000054000000
0000000000000,200
```

[illegible]

This program to be continued next month.
**FEBRUARY
ISSUE**

SPECIALS

AMSTRAD PCW8256/8512
Hardware
RS232/Centronics £56.95
CF2 Disks each £3.90
CF2 Disks box of 10 £36.25
Dust Cover Set £7.98
Printer Ribbons 2 for £10.85
Modems (BT Approved) from £95.00

Software
ADVICE ON SELECTION AND SET UP
OF SOFTWARE IS AVAILABLE

DBASE II £99.95
DELTA £91.00
Cambase 2 £40.44
Cracker 2 £42.88
Pocket Wordstar delux £59.10
Newword 2 & Word+ £60.38
Prospell £24.29
Chitchat Combo £87.99
NEW INFOCOM Games from £21.00

SINCLAIR QL
Super Q Board 512k
(with toolkit 2) £239.00
512k Expanderam £115.00
10 3 1/2" DS/DD disks £25.00

SEE PRESTEL FOR LATEST (1258880061)
Prices include VAT & POSTAGE
THESE ARE JUST A SELECTION
PHONE FOR FURTHER DETAILS
Subject to availability

PERIPHERY
117 GAINSBOROUGH AVE.,
OLDHAM OL8 1AJ
TEL: 061 626 5802

SOFTWARE CREATIONS

ARE LOOKING FOR PROGRAMMERS!

★ HAVE YOU THE ABILITY AND COMMITMENT TO MAKE A CAREER IN THE COMPUTER INDUSTRY?

★ HAVE YOU WRITTEN ANY HIGH CALIBRE GAMES OR UTILITIES FOR YOUR HOME COMPUTER AND WOULD LIKE TO RECEIVE TOP ROYALTIES OR OUTRIGHT PAYMENTS?

For immediate evaluation contact:

SOFTWARE CREATIONS

061 766 5053

6 Parklands, Whitefield, Manchester M25 7WT

MEGA BYTE

Commodore CBM 64, C16/+4,
CBM128, Amiga
Atari 800XL, 130XE, ST.
Amstrad CPC, PCW, PC1512
Sinclair SPECTRUM, SPECTRUM+, +2

★ IBM LEISURE SOFTWARE ★

Suppliers of Software
and Hardware

**12, ETRICK SQUARE
CUMBERNAULD
G67 1ND**

TEL: 0236 738 398

SINCLAIR REPAIR SPECIALISTS

SPECTRUM/+ REPAIRS £12.00
KEYBOARD FAULTS £9.00 - £13.00
PERIPHERALS Price on application

ALL PRICES FULLY INCLUSIVE OF LABOUR,
PARTS, VAT + P&P

3 MONTHS GUARANTEE

I. T. (WESTERN) ELECTRONICS

UNIT F2A + F3

AVONSIDE ENTERPRISE PARK

NEW BROUGHTON ROAD

MELKSHAM, WILTSHIRE

Telephone: 0225 705017

MPC SOFTWARE ST Software

LEADERBOARD	£20.50
LITTLE COMPUTER PEOPLE	£28
COLOURSPACE	£17
THE PAWN	£21
STARGLIDER	£20
TIME BANDIT	£25
SUNDOG	£26
K-WORD	£42
HITCH HIKERS GUIDE	£26
BLACK COULDRON	£33
K-SPREAD	£42
HACKER II	£21
MINDSHADOW	£21
ZORK I	£26
ST KARATE	£21
ST SPACE STATION	£21
MAJOR MOTION	£17
ELECTRONIC POOL	£17
PINBALL FACTORY	£21
TRIVIA CHALLENGE	£17
STRIP POKER	£17
THAI BOXING	£17
TRIVIA ST	£11.50
WANDERER	£20
TRIMBASE	£73

Many more items of software and hardware available
for the QL, ST and Amiga.
Postage and Packing free.

M.P.C. SOFTWARE

72, JULIAN ROAD, WEST BRIDGFORD,
NOTTINGHAM. NG2 5AN. TEL: (0602) 820106

All prices correct at time of going to press. E&OE.

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 £18.95 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 discounts 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

(Ask for Derek)

7 days a week, 24-hour Answering Service

SPECTRUM — AMSTRAD — COMMODORE

SAVE

BEST PRICES IN UK?
WHY PAY MORE!

BBC	MASTER 128K	£390 + VAT
	MASTER COMPACT (TV system)	£384 + VAT
	MASTER COMPACT (Mono system)	£454 + VAT
	MASTER COMPACT (Colour system)	£384 + VAT

Plus EXTRA £10 voucher off our already discounted printer prices

MicroP MP165 (dot matrix printer)	£195 + VAT
STAR POWERTYPE (daisywheel printer)	£195 + VAT
Philips TV114 (TV-Monitor)	£170 + VAT
ATPL Sideways Room Boards	£36 + VAT

MINIMUM 10% off all printers (Canon, Citizen, Epson, Minolta, MicroPeripherals, Seiko, Shiva, Star) Plus AKHTER/CUMANA/PACE Disc drives at discount

AMSTRAD	CPC 6128	£325 + VAT
	PCW 8256	£379 + VAT
	PCW 8512	£475 + VAT
PC range	PC 1512 SD-MM	£389 + VAT
	PC 1512 DD-MM	£489 + VAT
	PC 1512 HD10-MM	£589 + VAT
	PC 1512 HD20-MM	£709 + VAT

ADD £150 for COLOUR Monitor
All SAGE/CAYTON software for 8256/8512 at 15% OFF
SAGE/GEM/SUPERCALC/WORDSTAR for PC1512 at 10% OFF

COMMODORE	Compendium	Ask for our discount prices
	Commeur's Pack	£208 + VAT

Prices include p&p
ADD 15% VAT
Many others available all at discount - ask for a quote

WILLOW SOFTWARE (YC2)
THE WILLOWS, WRINGTON LANE
CONGRESBURY, BRISTOL BS19 5BQ
Tel: (0934) 834056

Many others available all at discount - ask for a quote

S. P. ELECTRONICS

Amstrad 6128 Green £299.00	Colour £399.00
Amstrad 8256	£458.00
BBC B	£299.00
BBC BD	£350.00
CPC 80 Printer (inc. cable)	£199.00
Full Cumana range	From £89.00
ACORN 1770 DPS	£49.95
G3 WHO RITTY PROGRAM (TAPE)	£7.50
G3 WHO RITTY PROGRAM (EPROM VERSION)	£20.00
Circuit board for RTTY decoder Mk. 3 (inc. instructions)	£7.00
CANNON Dot Matrix 160cps NLO	£299.00
Joysticks (pair) self centering + analogue	From £17.95
Printer Cable (Centronics)	£12.90
Speech Synthesis	£55.00
Disc Doctor	£33.00
WORDWISE Word Processor	£39.00
Cumana CD8005 40/80 psu	£250.00

FULL REPAIR SERVICE AVAILABLE

Wide selection of software, books, leads, plugs, etc.
SAE for full list. All available Mail Order
All prices apply while stocks last - carriage extra

48 Linby Road, Hucknall, Notts.

NG15 7TS

Tel: 0602 640377

All prices include VAT

GOEL COMPUTER SERVICES

45 Boston Road, London W7 3SH
01 579 6133

MAIL ORDER PRICES

R.R.P.	OUR PRICE
£14.95	£10.75
£9.95	£7.20
£8.95	£6.60
£7.95	£6.00
£6.95	£5.40

AMSTRAD, ATARI, BBC, ELECTRON,
COMMODORE, SPECTRUM, MSX

Send 40p for list, refundable on first order.

Over 1000 titles in stock. Just write the title required with a 2nd choice and enclose cheque/P.O. and you shall have your game by return. Or call in at the shop.

SPECTRUM + FROM £84

U.K. Soft Centre

COMMODORE 64/128			
		Tape	Disc
Age of Ages	NEW	£ 8.50	£12.95
Alter Ego (Male or Female)			£22.50
Art Studio		£12.75	£25.95
Colossus Chess 4.0		£ 8.50	£12.95
Crystal Castles	NEW	£ 8.50	£12.95
Cut & Paste (Word Processor)			£22.50
Decision in the Desert		£12.75	£18.00
ELITE		£12.75	£15.75
Flight Simulator II		£35.00	£44.00
F58 Scenery discs			£19.50
Graphic Adventure Creator		£22.00	£27.00
Hot Wheels	NEW	£ 8.50	£12.95
Infiltrator	NEW	£ 8.50	£12.95
JET (F16 Flight Simulator)			£42.00
Jewels of Darkness		£12.75	£12.95
Leader Board (Golf)		£ 8.50	£12.95
Scrabble		£11.50	£13.50
Solo Flight Plus		£ 8.50	£12.95
The Pawn	NEW		£18.00
Tigers in the Snow		£ 8.50	£12.95
Trial Pursuit		£12.75	£18.00
Ultima III	Special	£15.00	
Ultima IV			£18.00
World Games	NEW	£ 8.50	£12.95
747 Flight Simulator		£10.75	£13.50
COMMODORE C16/Plus 4			
		Tape	Disc
European Games	NEW	£ 8.00	
Paintbox (Drawing Utility)		£ 8.50	
Mercenary (Plus 4 only)		£ 8.50	
Monty on the Run	NEW	£ 8.25	
Trialblaze	NEW	£ 8.00	
AMSTRAD CPC 464/664/6128			
		Tape	Disc
Amiga Accolades	NEW	£ 8.50	£12.95
Accolade	NEW	£ 8.50	£12.95
Amnesia Cup	NEW	£8.50	£12.95
Beach Head II	NEW	£ 8.50	£12.95
Colossus 4 Bridge	NEW	£10.50	£12.95
Desert Fox		£ 8.50	£12.95
ELITE		£12.75	£18.00
Quicks & Goblets		£ 7.75	£12.95
Graphic Adventure Creator		£21.00	26.00
Infiltrator	NEW	£ 8.50	£12.95
Kung Fu Master		£ 8.50	£12.95
Night Gunner		£ 8.50	£12.95
Pacific		£ 8.50	£12.95
Prodigy	NEW	£ 8.50	£12.95
PSI 5 Trading Company	NEW	£ 8.50	£12.95
Quill + Illustrator		£16.50	£19.50
Revolution	NEW	£ 8.50	£12.95
Silent Service		£ 8.50	£12.95
Tomahawk (Helicopter sim)		£ 8.50	£12.95
AMSTRAD PCW256/512			
		Tape	Disc
Condor 1 (Data Manager)			£15.00
Colossus Chess + Joystick & Interface			£27.50
Cracker II (Spreadsheet)			£43.50
French Mistress			£17.50
Lord of the Rings			£22.50
Prospect for Locoscript			£25.50
Tomahawk (Helicopter sim)	NEW		£17.50
INFOCOM ADVENTURES			
		Tape	Disc
BALLY MOO			
Out-throats			
Deadline			
Enchanter			
Witch-Hikers Guide			
Leather Goddesses (Adult)			
PLANETFALL			
Sorcerer			
Spellbreaker			
Starcross			
Suspended			
Wishbringer			
Witness			
Zork I, II or III			

Full DISCOUNT CATALOGUES available for:
C128, C64, C16, Plus 4, Amstrad PCW - Send a stamp -
state which computer.

Post Free U.K. - Otherwise 75p per item.

PO BOX 36 - DUNSTABLE - BEDS - LU6 2NP

TEL: DUNSTABLE (0582) 607929

**FOR DETAILS
ON HOW TO
ADVERTISE
IN THIS SECTION
CALL
PAUL MONAF
ON
01-222 9090**

HOME & BUSINESS COMPUTER REPAIR AND MAINTENANCE

SPECTRUM	£19.50
CBM C64+4	£29.50
CBM C128 + 1541	£35.00
AMSTRAD COMPUTERS	£35.00

Other Computers phone for prices

All prices fully inclusive
Returned by insured COD Post

Carry in repairs from £12.50 + parts + VAT
Printers, Monitors, Disc Drives also repaired

SHILD COMPUTER SERVICES

Freepost,
Urmston, Manchester M31 2HX
Telephone: 061 747 3185

REPAIRS SPECTRUM BBC DRAGON

There is only one company that
can offer you:

- A written 6 month guarantee
on the WHOLE computer -
not only on the repair done.
- Full overhaul and update with
each repair.
- 24 hour turnaround - most
faults.
- Over 15 years computer
maintenance expertise.
- We repair ALL computers
received, not only the
profitable ones - if they have
not been interfered with by
another repairer and
returned to you as
unrepairable - many are!
- All inclusive price of £20 or
£15 without upgrade and
warranty.

The above applies to Spectrums
only.

BBC (not DFS) and Dragon £30 all inclusive.
Government and Educational orders accepted.
Use the professionals that the professionals use.

M.P. Electronics

The Laurels YC
Wendling, Dereham
Norfolk NR19 2LZ
Tel: 036287 327

HSV COMPUTER SERVICES LIMITED DISKETTES UNBRANDED LIFETIME GUARANTEE

		Quantity	10	20	30	40	50	100
3 1/2"	SS/DD	135 TPI	15.50	30.50	45.50	60.50	75.50	149.50
	DS/DD	135 TPI	17.50	34.50	51.50	68.50	85.50	169.50
5 1/4"	SS/DD	48 TPI	5.95	11.50	16.95	22.50	27.95	54.95
	DS/DD	48 TPI	6.95	13.50	19.95	26.50	32.95	64.95
	DS/QD	96 TPI	7.95	15.50	22.95	30.50	37.95	74.95

All disks supplied in cardboard boxes with write protect tabs, labels and envelopes and come with our no
quibble money back or replacement guarantee.

AMSTRAD AMSOFT/MAXELL 3" CF2 1-£3.40 5-£17.95 10-£30.95

ALL OUR PRICES
INCLUDE CARRIAGE & VAT
NO EXTRAS TO PAY!



CREDIT CARD HOT LINE (0256) 463507



Also best prices for:
Disk Boxes, Ribbons,
Paper, Labels

HSV COMPUTER SERVICES LIMITED
40-42 New Market Square, Basingstoke, Hants RG21 1HS

HSV

Now! Really tap the power of your Amstrad!

At last! A library of professionally-written and produced books, to enable you to really tap the potential power of your Amstrad computer.

☐ THE AMAZING AMSTRAD OMNIBUS

The UK's best-selling Amstrad book, for 464, 664 and 6128. More than 400 pages. The ultimate programming resource for your Amstrad. **ARTIFICIAL INTELLIGENCE**; creating and playing **ADVENTURES**; a huge collection of stunning, pre-packaged **GRAPHICS** to include in your own programs; complete **LOGO** implementation and tutorial; **ENTERTAINMENT and EXPLORATION** (games and more); the **AMSTRAD DISC COMPANION**; and much, much more. Mountains of ideas for you and your Amstrad to explore in the coming months.

FREE! The book is just £7.95. A cassette of all the major programs from the book (to save you hours and hours and hours and hours of typing) is available, and usually it is £4.00 for the cassette. But to make life easier, we'll throw in the cassette for free. So, for just £7.95, you get THE AMAZING AMSTRAD OMNIBUS, plus the cassette!

☐ MASTERING MACHINE CODE ON YOUR AMSTRAD

Now you can really get to grips with machine code on your Amstrad, with this book, a certain path to machine code mastery. The book also includes an invaluable collection of machine code routines (including pixel by pixel scrolling in four directions) which you can incorporate into your BASIC programs, even if you don't have a clue how they work! These 'pre-packaged' machine code routines are designed to make creating arcade and animated games as simple as possible. A complete arcade game is also included in the book to show these routines in action. £8.95

☐ AMSTRAD PENTACLE ADVENTURE CREATOR - Clive Gifford

Just type in the program in this book and use it to create an infinite number of exciting programs on your Amstrad. The PENTACLE program does all the hard work. As well as the PENTACLE, this book includes full data for an adventure set in medieval times, CASTLE OF DOOM, and a full graphical adventure. You can sell programs created with PENTACLE, without restriction. £2.99

☐ DYNAMIC GAMES FOR THE AMSTRAD - Clive Gifford

Fifty masterful games for your Amstrad, including arcade, adventure, board games, brain-twisters and more. A great investment in entertainment. Just £5.95 - for fifty games!

☐ ADVANCED Z80 MACHINE CODE PROGRAMMING - Nitschke

This book fills a serious gap in the literature on programming the Z80, examining advanced, serious and practical Z80 machine language programming. The core of the book looks at popular programming applications. Starting with the basics of organising information, generating arrays and tables, block moving, shifting and erasing, string manipulation, data compression and command tables, it moves to advanced applications like word and sentence decoding. The book then turns to binary sorts and block searching, machine language editing, break-pointing, single-stepping, disassembling and speech synthesis. This book was £12.95. It is now just £5.95!

☐ **USING A MODEM WITH YOUR COMPUTER** Here's the complete guide to going on-line to the world, using your computer and the telephone lines. How to select the right modem for your needs, how to get it working, and who to contact once you're up and running! £7.95



Free books!

Wacky doo! In a mad burst of generosity, we've decided to give you a free book, from the list below, for each book you buy. Just tick the book or books, from this list, that you want us to send you at no extra cost with your order:

- ☐ Creating Adventures on your Micro
- ☐ Art of Structured Programming
- ☐ Computerise your Business
- ☐ Practical Uses for Micro in the Home
- ☐ Using Computers in Education
- ☐ Beginner's Guide to FORTH
- ☐ Big Fat Book of Computer Games
- ☐ Easy Way to Program your New Computer
- ☐ Capital Radio's Book of Programming
- ☐ Creating Political/Military Simulations
- ☐ Making the Most of your HX20

Interface Publications Ltd.,
9 - 11 Kensington High Street,
London W8 5NP

Please send me the indicated books.

Total for this order £ _____
I enclose cheque/money order/
cold hard cash

Name _____

Address _____

Yc/187

You're about to be seduced by money and power!



Let's face it. You've spent a lot of hard-earned cash to get your computer, and it's a bit of a grind to discover you have to shell out a hell of a lot more for books!

And if you're after really powerful books for your machine, the prices all seem to be in the £8.00 to £15.00 range. Why on earth should you have to pay that much, just so you can make full use of your computer?

Well, now you don't have to. Interface Publications has decided to do a warehouse clear-out, and give you the chance to build up an incredible library of computer books - for just one pound per book. Send us cold hard cash (we'll also grudgingly accept cheques, book vouchers or money orders, if you insist) and we'll get your books to you, el pronto!

Books which give you the power... without the price!

☐ Mastering Machine Code on your Commodore 64

Mark Greenshield's
best-selling guide to give
you machine-code control
over your Commodore 64

BBC/ELECTRON

- ☐ Let your BBC Micro Teach You to Program
- ☐ Exploring Artificial Intelligence on your BBC Micro - Hartnell
- ☐ Putting your BBC Micro to Work
- ☐ Advanced Programming Guide to BBC - Jeremy Ruston
- ☐ Using the BBC Micro in Education - Clive Gifford
- ☐ 36 Challenging Games for the BBC Micro
- ☐ Creating Adventures on the BBC Micro
- ☐ 40 Best Machine Routines for BBC Micro - Ian Hutt
- ☐ Dynamic Games for the Electron - Neal Cavalier-Smith

ATARI

- ☐ Mastering the Atari 400/600/800
- ☐ Making the Most of 400/600/800

COMMODORE 64/128

- ☐ Exploring Artificial Intelligence on your Commodore
- ☐ Mastering the Commodore 64 - Mark Greenshields
- ☐ Challenging Games for the Commodore
- ☐ Putting your C64 to Work
- ☐ How to Program the C64
- ☐ Creating Arcade Games on your Commodore 64
- ☐ Creating Adventures on your Commodore 64
- ☐ MEGABASIC for the C64

APPLE IIc/IIc+/II+

- ☐ The 3-D Animated Apple
- ☐ How to Program the Apple II
- ☐ Outstanding Programs for Apple
- ☐ Challenging Programs for Apple

TEXAS TI 99/4A

- ☐ Dynamic Games TI 99/4A
- ☐ Making the Most of TI 99/4A

SINCLAIR QL

- ☐ Exploring the QL
- ☐ QL Games Companion
- ☐ The QL Handbook
- ☐ Exploring Artificial Intelligence on your QL

EDUCATION

- ☐ Using Computers in Education
- ☐ Art of Structured Programming
- ☐ Exploring Expert Systems
- ☐ Replicating Reality: Exploring Computer Simulations
- ☐ Easy Way to Program your New Computer

SPECIAL TITLES

- ☐ Dynamic Games for the Oric
- ☐ Creating Political & Military Simulation Games
- ☐ Beginner's Guide to FORTH
- ☐ Practical uses for the Micro in Home
- ☐ Capital Radio's Book of Simple Computer Programming

Interface Publications Ltd.,
9 - 11 Kensington High Street,
London W8 5NP

Please send me the indicated books.

Value of order (@ £1 a book) £ _____

PLUS 35p per book postage £ _____

Total for this order £ _____

*I enclose cheque/money order/
cold hard cash*

Name _____

Address _____

YC2/87

Big trouble in

Activision may not be enjoying the success to which it has been accustomed but Electric Dreams, its U.K. sister, promises to take the lions' share of the market in 1987. Francis Jago visited Southampton to see what is afoot.

In a year there are many changes in the software industry. One year ago Activision, one of the top three software houses in the world, decided to establish a small off-shoot in the U.K. to produce software suitable for the European market. Seeking a man to control the company, the obvious choice seemed to be Rod Cousens, ex-supremo of Quicksilva.

Now Cousens is handling the complete U.K. and European network for Activision as well as Electric Dreams has become one of the top eight U.K. software houses. Another major change is that software produced by Electric Dreams is being exported to Activision's home country where, by all accounts, it is doing well.

Another change is the introduction of Software Studios. Set up last April and run by John Dean and Dave Cummins, it is the development centre for all Electric Dreams and Activision products destined for countries other than the U.S. By introducing this concept, the consensus of opinion is that the whole process of software development

will be simplified considerably. Instead of many individual projects, many of which will overlap in terms of ideas and resources, all projects are routed directly through Software Studios.

To ensure success in the next few months, Electric Dreams has two film tie-ins which should, provided they are as good as the previews I saw, dominate the market. The first is based on a film which for me was the most enthralling of 1986. Directed by James Cameron, and starring the delectable Sigourney Weaver, *Aliens* was a follow-up to the all-time classic *Alien*.

The film was intended to be much more than just a sequel, however, and the game reflects that, with plenty of new and innovational features. Although the film was released in September, Electric Dreams believes that the impact will have lasted long enough to ensure that the game benefits from the cult following of the film.

One mistake the programmers will not be making is to make the game unplayable by anyone who did not see the film and one member of the



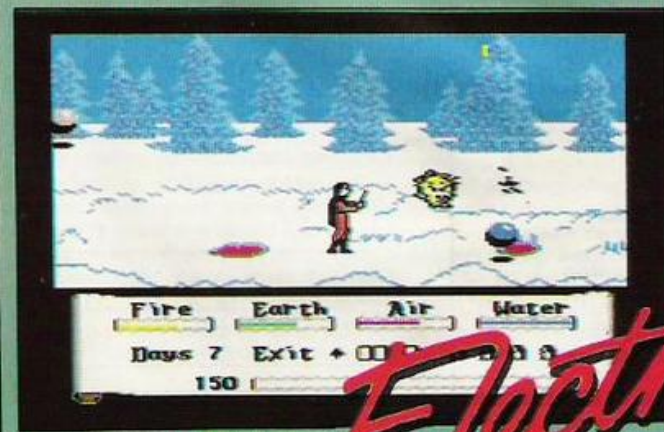
development team avoided seeing the film deliberately to test how playable the game really is.

In the game, you control Ripley, the star of both films, and five other marines - Hicks, Burke, Gorman, Bishop and Vasquez - simultaneously. The game starts with you and your comrades in the Mobile Tactical Operations Bay (MTOB) in the armoured personnel carrier. This is considered safe ground and the aliens cannot get you there. On the split screen you can see the faces of the characters at the bottom, with the top of the screen being used to display the view from the portable video camera strapped to the head of whichever crew member you are controlling at the time.

In the action screen, there are also joystick-controlled sights which are the smart guns of the crews. The object is to retain control of the base by fighting back the Alien war-

riors and shooting away the bio-mechanical growth which appear in rooms where the Aliens have been.

If you do not shoot away the growth, the room will fill gradually with Face Huggers and Eggs. For those who have not seen the film, Face Huggers are alien beings which lay



Electric Dreams
SOFTWARE

eggs inside human carriers and should be avoided at all costs, a fact for which John Hurt will vouch.

As you travel round the maze two approaches can be taken. First, you can send away each marine, one at a time, and hope that they can clear some

instructions, such as go five rooms west. The latter is not as precarious as it sounds, as each marine carries a proximity meter indicating when an alien is nearby and the computer immediately puts you in control of that marine.

When you are controlling a

months to complete and even then I am informed by the designer that, as with the film, there is more than one twist in its tail. The graphics and sound are excellent and its ability to involve the player seems to assure its success.

Aliens may be the most-

as a storyline a man who can align himself to different elements, the game is colourful and intriguing.

Explorer is a combination of an arcade adventure and a complicated simulation. With approaching 40 billion locations, although I have no inten-

Little Hampshire



marine who is confronting an alien warrior, it is necessary to be quick and accurate. To kill the warriors you must either shoot them one in the head, or three times in the body, but an injured alien is definitely worth avoiding. Another point to note is that dead warriors leave behind a pool of deadly acid, so if you shoot an alien by a door, that door is impassable. If one of your marines is captured by the aliens it is possible to rescue him, so long as you are fast; otherwise he will be impregnated and you will be forced to kill him.

Throughout the maze there are rooms which must be kept open, such as the armoury, general, and control rooms; without them the game will be unplayable, as the general and control rooms activate the lighting. If by chance you manage to get through the maze you will be confronted by one - for there is more than one in

talked-about of Electric Dreams releases but it certainly is not the only high-quality game it has up its proverbial sleeve. The other licensing deal is with a film which is, at this moment, cleaning-up at the box offices. *Big Trouble In Little China*, for that is its name, is another multi-character game which allows you to take the role of three men, all of whom have completely different fighting styles.

Staying, as with *Aliens*, closely to the film without making the game unplayable for people who have not seen it, the programming team has made the game fun as well as complicated, and the ability to choose which fighting method you want to use should widen the appeal.

As if to prove that a game can be great without any form of licensing deal, Electric Dreams is set to release

tion of counting them. Explorer is programmed by the Ram Jam Corporation, so it should be good.

If what I have seen is a criterion, Electric Dreams has software which should stun everyone for 1987. *Aliens*, *Big Trouble*, *Chameleon* and *Explorer* are only the start - just wait to see the twist in the tale.

• Your Computer would like to thank Electric Dreams and in particular Mark Eyles for help in the preparation of this article.



of the way through the maze. One tip I was given was that teamwork seems to work a great deal better.

To travel round the maze you can control one player and move him from room to room, or you can give each marine

this version - of the Queen *Aliens* and that means real trouble.

Electric Dreams is rightly proud of *Aliens*. It is a game which will take someone

Chameleon and *Explorer*. *Chameleon* is certainly popular in the Electric Dreams office and Cummins has managed to amass a score upwards of 300,000 - no mean feat. Using

THETFORD MICROS

21 GUILDHALL STREET,
THETFORD,
NORFOLK.
IP24 2DT
(0842) 61645

SERVICE DEPARTMENT
2 LEYLAND CLOSE,
FISON INDUSTRIAL ESTATE,
THETFORD, NORFOLK.
(0842) 65897

SPECIALIST COMPUTER REPAIR SERVICE

WE'VE LEAD OTHERS HAVE FOLLOWED. Thetford Micros offers you their experience and a fast efficient repair service with our guarantee that your computer is being diagnosed by the best and most up-to-date test equipment.

WE ALSO OFFER YOU:

- ★ ON THE SPOT SPECTRUM & COMMODORE 64 REPAIRS
- ★ SAME DAY REPAIRS ON MAIL ORDER
- ★ THREE MONTH WARRANTY ON ALL REPAIRS
- ★ ALL FAULTY COMPONENTS RETURNED TO CUSTOMER SO YOU THE CUSTOMER CAN SEE WHAT'S WRONG
- ★ ALL ICs REPLACED ON CARRIERS — Makes life easier
- ★ ALL COMPUTERS RETURNED POST PAID AND INSURED IF POSTED IN THE U.K.
- ★ **FREE** — ON-OFF SWITCH FITTED TO ANY SPECTRUM REPAIR (fitted in Spectrum Casing — Please state if required)

- ★ SPECTRUM REPAIRS — £16.00
- ★ KEYBOARD REPAIRS — £10.00
- ★ INTERFACE I — £19.50
- ★ MICRODRIVE — £19.50
- ★ ZX PRINTER — £19.50
- ★ SPECTRUM 128 — £19.50

(Prices inclusive of Parts, VAT and Postage)

Repairs undertaken on Commodore, BBC, Amstrad, IBM, and Atari — We are an approved **ATARI SERVICE CENTRE**.

Quotes given on repairing any Printers and Disk Drives.

SORRY NO FREE SOFTWARE — YOU'VE PROBABLY GOT IT ANYWAY! — ON-OFF SWITCH IS HANDY THOUGH.

For fast delivery service — Securicor £6.90

Payments can be made by Cheque, Postal Order, Barclaycard, Access or American Express.

Subscribe to *QL World*

Copies of the latest issue of *QL World* disappear fast from the shelves. If you cannot go to the shops on our publication date, you can miss the mixture of news, reviews and features which make *QL World* the only magazine for serious QL users.

The only way to avoid possible disappointment is to subscribe to the magazine. In that way, a copy will drop on to your doormat each and every month. Copies are sent direct by our printer, so by subscribing you should receive the magazine even

before it reaches newsagents.

A subscription also makes an ideal present for someone who takes the QL seriously. Why not make a present of a subscription?

To subscribe to *QL World*, complete the order form and send it, together with a cheque or postal order for £15 for the U.K. and £30 for Europe, to the address shown. Do not delay. Send your order now and relax in the knowledge that you will never again miss a copy of *QL World*.

Sinclair/QL World
(Subscriptions)
Oakfield House,
Perrymount Road,
Haywards Heath,
RH16 3DH.

Name _____
Address _____
Postcode _____

WIN AN ALIENS SWEATSHIRT, TOGETHER WITH A COPY OF THE GAME AND A POSTER

PRESENTED IN CONJUNCTION WITH ELECTRIC DREAMS

The film *Aliens* has dominated the box office both in London and the rest of the U.K., and seems set to become just as much of a classic as its Ridley Scott-created predecessor. Electric Dreams has produced an excellent game to link with the film which exploits some of the best aspects of the film to create an eerie and exciting arcade/adventure.

The first 10 winners will receive a copy of the game together with an Aliens sweatshirt and poster. The 15 runners-up will receive a copy of the game and a poster. To enter, answer the three simple questions below and send your answers, together with your chest size, to *Your Computer*, 79-80 Petty France, London SW1H 9ED. The winners will be the first correct entries drawn by the closing date of the competition, February 28, 1987.



QUESTIONS

1. Which game did Paul Shirley write for *Electric Dreams*?
2. *Electric Dreams* is owned by another large software house. Which is it?
3. On what film tie-in, apart from *Aliens*, is *Electric Dreams* close to completion?

COMPETITION RULES

- ★ The winners of the competition will be the persons who send the first all-correct entries drawn from all those received before the closing date of the competition.
- ★ The names of the winners will be announced in the April 1987 issue of *Your Computer*.
- ★ All entries must arrive at the *Your Computer* offices by the last working day in December, 1986.
- ★ Each person may enter the competition only once.
- ★ Entries to the competition cannot be acknowledged.
- ★ No employees of Focus Magazines nor their agents or close relatives may enter the competition.
- ★ The decision of the Editor in all respects of the competition will be final.
- ★ No correspondence with regard to any aspect of the competition will be entered into.
- ★ Focus Magazines assumes no responsibility or liability for any complaints arising from this competition.

ELECTRIC DREAMS COMPETITION

Do not forget to enclose this coupon, or a photocopy of it, when you send your entry, marked Electric Dreams Competition, to the *Your Computer* editorial offices at the address shown at the front of the magazine.

Answers 1

2

3

Name _____

Chest Size _____

Address _____

POSTCODE _____

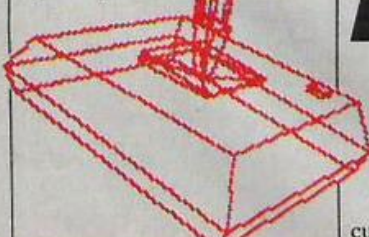
Computer owned _____

Through the years, the power of the microchip has increased considerably, having now reached a stage where machines small enough to fit on top of a desk can perform tasks which would once have required the efforts of something the size of a wardrobe – or bigger.

Real-time, three-dimensional, interactive graphics, for example, could, until recently, be constructed only on machines costing tens of thousands of pounds. Today, micros as basic as the Amstrad CPC 464 can execute incredibly complex operations which not so long ago were the preserve of the mainframe computer.

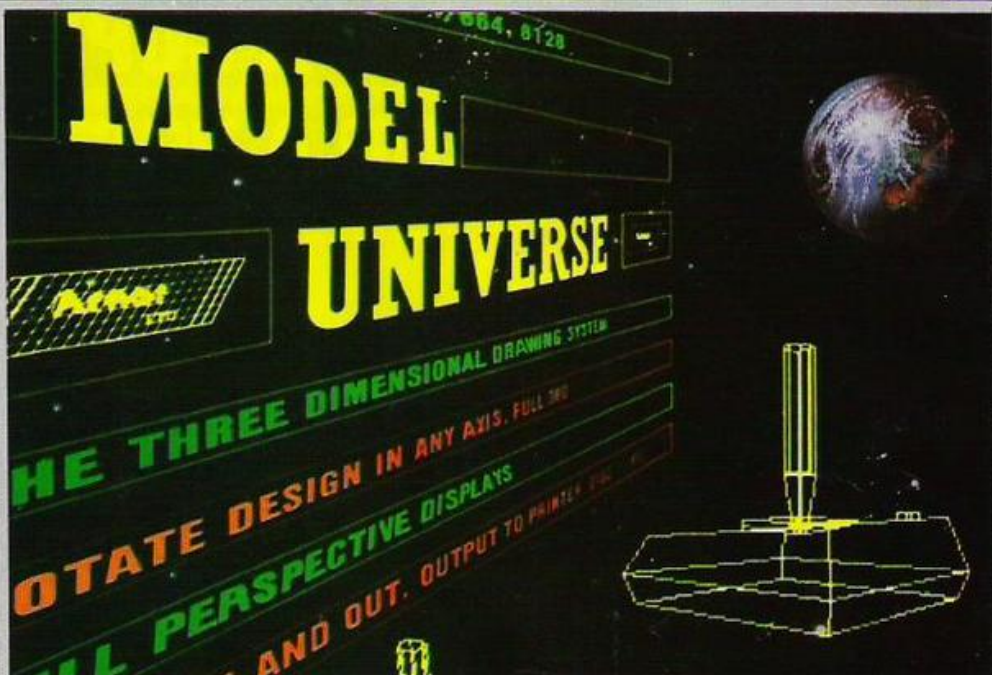
With all that power at your finger-tips, programming real-time 3D graphics is almost impossible without a sound understanding of the way the computer works – or at least it was before Arnor published *Model Universe: A 3D Design System*, for the complete range of Amstrad CPC machines.

Real-time graphics, and especially 3D ones, demand a



great deal not only from the user but the micro as well, because unlike flat, two-dimensional figures which exist only in the horizontal and vertical – x and y – planes, three-dimensional shapes extend to a third, the so-called z plane.

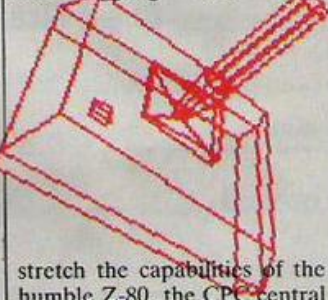
Suppose you were to draw a cube using only the horizontal and vertical axes, as you would on a piece of paper. Moving it round the screen would pose little problem for the computer because, as far as it is concerned, the object is flat and can therefore be rotated only left or right or moved to another position on the screen; the mathematics behind any of those actions is relatively simple.



Arnor has just published a three-dimensional, real-time, interactive graphics package. It certainly sounds like a good idea. Stephen Applebaum tells us whether it fulfils its promise.

A Model Universe is formed

When you draw the same cube in 3D, so utilising the z axis, which is interpreted as a line going into and out of the screen, the computer has much more work to do. Not only can the cube be rotated as before but it can also roll in and out of the screen, and through any angle. The calculations necessary to perform such a feat are mind-boggling and even



stretch the capabilities of the humble Z-80, the CPC central processor.

Model Universe provides a graphics environment in which three-dimensional graphics can be drawn, rotated and even zoomed into, with scarcely any effort from the user. To make that possible, Arnor has rewritten many of the Amstrad operating system commands and, in particular, those dealing with screen-handling, so that the computer can manipulate graphics several times faster than normal.

Model Universe is on either a disc or a cassette, each of which arrives complete with a demonstration program and an arcade game called *Gate-crasher*. The former uses a collection of pre-drawn figures to demonstrate the capabilities of the program. As for the latter, it is too dire to warrant more than a passing acknowl-

ment of its presence.

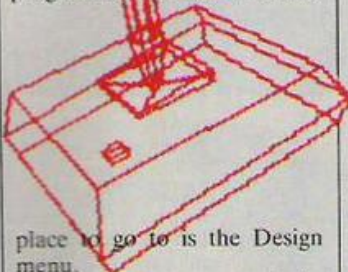
Compared to the plethora of art packages on the market, Model Universe is extremely primitive in appearance. It has



no pull-down menus as such, or even icons. Instead of clicking on a small picture to select something, the program modes are accessed by moving a highlighted strip over options crammed into a few small boxes.

The first menu you encounter on loading Model Universe is the Main menu. It is the doorway to the remainder of the program, as well as being the key to operations presiding over the saving and loading of

picture files. Unless you want to load a pre-defined shape, which of course you will not want to do if you are using the program for the first time, the



place to go to is the Design menu.

Contained there are all the commands necessary to define a shape. Because of the nature of wire frame graphics, figures can be composed only of lines and vertices. As many as 255 lines and 255 vertices can be supported by the program at any time but the speed of the program decreases greatly as the number of lines used increases.

Pictures are drawn by moving an arrow to the position on the screen where you want the line to end and then pressing key 7 on the Amstrad numeric keypad to draw it. The end of a line is taken as the starting-point for the next, unless you want it to begin somewhere else, in which case you must press key 8. Lines can be deleted by pressing key 9.

Objects composed of many lines rotate at much slower speeds than those using only a few. The Model Universe manual points out that fact, although it rather understates just how dramatic the speed difference can be - "As you can image an object using 255 lines will rotate rather more slowly than one using 3". For "rather more slowly", read "so much more slowly, in fact, that you might wonder whether it was really worth drawing such a complicated figure in the first place".

Drawing in three dimensions is a strange experience after working in two, because horizontal and vertical lines can be drawn but perpendicular ones as well. Arnor has overcome any confusion that situation might cause by equipping Design mode with a command window which displays the cursor position constantly in terms

of its x, y and z co-ordinates. When the z co-ordinate is positive, it means that the cursor is on a line pointing out of the screen, whereas when it is minus, it means it is on one going into the screen.

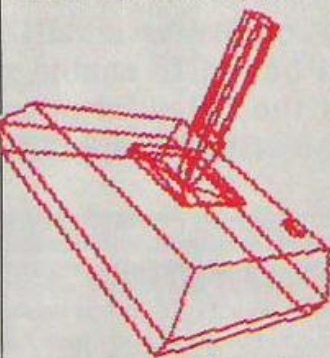
Having the extra dimension extends the range of design possibilities enormously. Reverting to the cube, for instance, it can be drawn as normal and then, using a command called Viewpoint, be rotated so that a picture can be drawn on each of its six faces.

Although shapes are described to the program as lines and vertices, that convention does not eliminate completely figures like circles. They, too, can be drawn using a Circle command found in the Design menu. It goes without saying that a circle does not incorporate one straight line but, even so, it must still be described in a way which follows the line/vertex rigour.

When drawing a circle, you first have to decide whether

and as many as 30. The smaller number produces an equilateral triangle, while the higher one an accurate circle.

Once a shape has been completed, it can be rotated about the x, y and z axes, via commands found in the Display menu. Rotation is one of two types of 3D transformations supported by the package. The other kind, translation, allows



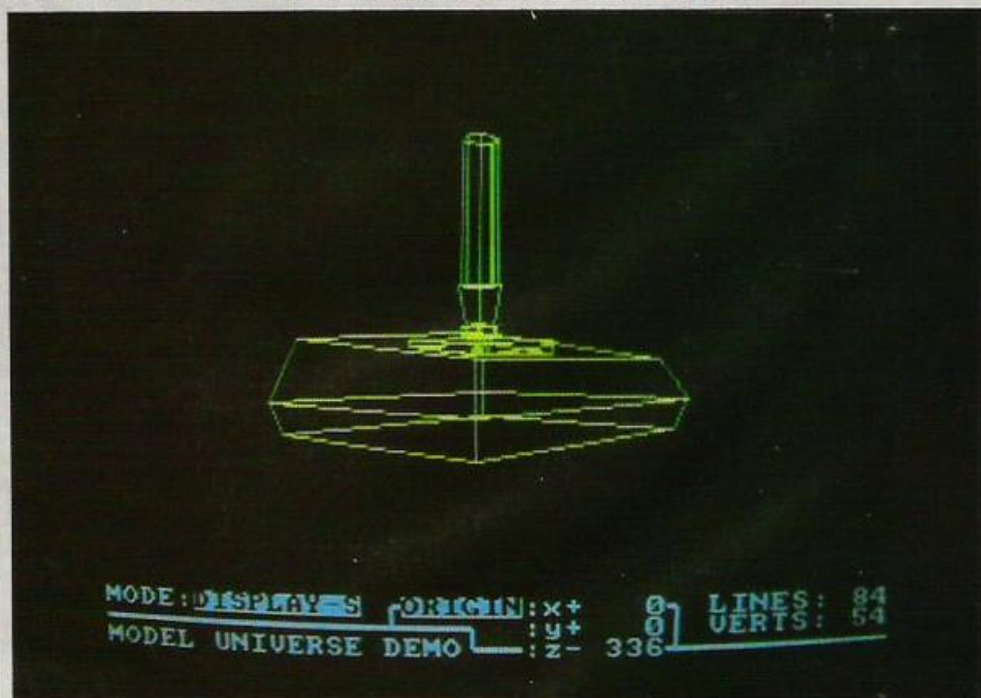
objects to be moved in and out of the screen.

Different effects can be obtained with translation by changing the form the origin

Finally, any Model Universe screen can be output to a variety of external devices, making it possible for you to include your work in future programs. As well as having routines to save screens to tape and disc and print them on an Epson printer, there is also a Basic output facility which allows you to customise the Model Universe program, so that screens can be used in almost any way.

Model Universe is a package which promises much but, in the end, delivers very little. Arnor says that its product is merely an introduction to 3D graphics. If that is the case, it is a very slight introduction which can only leave the user feeling that there must be much more to this fascinating area of programming than is even spoken of here.

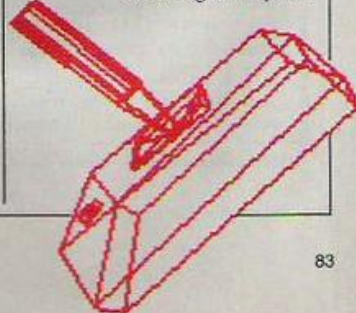
Some of the effects which can be produced are impressive but I cannot see people buying the package, except perhaps as a curio.



you want to draw it in the xy, xz or zy plane. If you choose the first the finished circle lies flat on the screen, while the other two draw it parallel to the x and y axes respectively. Next you input the radius, followed by the number of sectors. There can be as few as three sectors

takes. There are three types of origin - static, dynamic and viewpoint. They rotate an object about a fixed point with the co-ordinates 10,0,-336; spin it about its own axis; and change the display so that it is as if you are moving round the object respectively.

3D images in space.



Amstrad Users Only!

At last! A library of professionally-written and produced books, to enable you to really tap the potential power of your Amstrad computer.



☐ THE AMAZING AMSTRAD OMNIBUS

The UK's best-selling Amstrad book, for 464, 664 and 6128. More than 400 pages. The ultimate programming resource for your Amstrad. **ARTIFICIAL INTELLIGENCE**; creating and playing **ADVENTURES**; a huge collection of stunning, pre-packaged **GRAPHICS** to include in your own programs; complete **LOGO** implementation and tutorial; **ENTERTAINMENT** and **EXPLORATION** (games and more); the **AMSTRAD DISC COMPANION**; and much, much more. Mountains of ideas for you and your Amstrad to explore in the coming months.

FREE! The book is just £7.95. A cassette of all the major programs from the book (to save you hours and hours and hours and hours of typing) is available, and usually it is £4.00 for the cassette. But to make life easier, we'll throw in the cassette for free. So, for just £7.95, you get THE AMAZING AMSTRAD OMNIBUS, plus the cassette!

☐ MASTERING MACHINE CODE ON YOUR AMSTRAD

Now you can really get to grips with machine code on your Amstrad, with this book, a certain path to machine code mastery. The book also includes an invaluable collection of machine code routines (including pixel by pixel scrolling in four directions) which you can incorporate into your BASIC programs, even if you don't have a clue how they work! These 'pre-packaged' machine code routines are designed to make creating arcade and animated games as simple as possible. A complete arcade game is also included in the book to show these routines in action. £8.95

☐ AMSTRAD PENTACLE ADVENTURE CREATOR - Clive Gifford

Just type in the program in this book and use it to create an infinite number of exciting programs on your Amstrad. The PENTACLE program does all the hard work. As well as the PENTACLE, this book includes full data for an adventure set in medieval times, CASTLE OF DOOM, and a full graphical adventure. You can sell programs created with PENTACLE, without restriction. £2.99

☐ DYNAMIC GAMES FOR THE AMSTRAD - Clive Gifford

Fifty masterful games for your Amstrad, including arcade, adventure, board games, brain-twisters and more. A great investment in entertainment. Just £5.95 - for fifty games!

☐ ADVANCED Z80 MACHINE CODE PROGRAMMING - Nitschke

This book fills a serious gap in the literature on programming the Z80, examining advanced, serious and practical Z80 machine language programming. The core of the book looks at popular programming applications. Starting with the basics of organising information, generating arrays and tables, block moving, shifting and erasing, string manipulation, data compressions and command tables, it moves to advanced applications like word and sentence decoding. The book then turns to binary sorts and block searching, machine language editing, break-pointing, single-stepping, dis-assembling and speech synthesis. This book was £12.95. It is now just £5.95!

☐ USING A MODEM WITH YOUR COMPUTER Here's the complete guide to going on-line to the world, using your computer and the telephone lines. How to select the right modem for your needs, how to get it working, and who to contact once you're up and running! £7.95

FREE BOOKS!

Wacky doo! In a mad burst of generosity, we've decided to give you a free book, from the list below, for each book you buy. Just tick the book or books, from this list, that you want us to send you at no extra cost with your order:

- ☐ 3D Animated Apple
- ☐ Creating Adventures on your Micro
- ☐ Art of Structured Programming
- ☐ Computerise your Business
- ☐ Practical Uses for Micro in the Home
- ☐ Using Computers in Education
- ☐ Beginner's Guide to FORTH
- ☐ Big Fat Book of Computer Games
- ☐ Easy Way to Program your New Computer
- ☐ Capital Radio's Book of Programming
- ☐ Creating Political/Military Simulations
- ☐ Dynamic Games for the Oric

Interface Publications Ltd.,
9 - 11 Kensington High Street,
London W8 5NP

Please send me the indicated books.

Total for this order £ _____
I enclose cheque/money order/
cold hard cash

Name _____

Address _____

Yc/2/87

Your COMPUTER CLASSIFIED

01- 222 9090

Contact: Paul Monaf

COPY DATES: FEBRUARY ISSUE: 19th December; MARCH ISSUE: 25th January

ADVERTISEMENT RATES QUOTED BELOW ARE SUBJECT TO THE ADDITION OF 15% VAT.

CANCELLATIONS, THREE WEEKS PRIOR TO COPY DATE

Lineage: 60p per word
(Min 20 words)

Box No: £7.00 extra

Lineage advertisements are
prepayable and the order form
published in this section should
be completed and returned
with remittance.

Display — rates per scc (Min. 2scc)

One insertion £10.00

Three insertions £9.70

Six insertions £9.50

Twelve insertions £9.00

Display advertisers should
preferably reserve space by phone.

Post to:

Your Computer,
Classified Department,
79-80 Petty France,
London SW1 9ED.

Britain's Biggest Selling Home Computer Magazine

ASTROLOGY for beginners only £11.50

A Starter Pack comprising a simple
program to calculate a horoscope,
an introductory booklet & 2 self-
teaching programs (how to
interpret the horoscope).

No previous
knowledge required

Spectrum, BBC/Electron, Oric, Dragon,
Tandy/Genie, Commodore 64/PET, Atari,
Sharp, Amstrad/Schneider, Colour Genie,
MSX, IBM, Apricot, etc.

many more programs for
experienced astrologers
also other micros

Cash with order (add 50p
outside UK) or large sae for free
catalogue to: —

ASTROLCALC (Dept YC)
87 Peasecroft Road,
Hemel Hempstead, Herts HP3 8ER
Tel: 0442 51009 537

SINCLAIR SERVICE CENTRE

Fast repair service for Spectrum, ZX81
interface 1: microdrive. All units repaired to
original standard by our H.N.C. qualified
staff average repair cost £15.00. But for free
estimate send £1.95 return postage with a
brief description of your fault: turnaround
approx. 24 hours: established international
service: our work is fully guaranteed. Per-
sonal callers welcomed.

QUANTUM 33 City Arcade,
Coventry CV1 3HX Tel: (0203) 24632

SPECTRUM SOFTWARE

Each of below microdrive cartridge £9.75
FREE TEXT DATABASE & INFORMATION SYSTEM
Easy to use, multi-purpose, address book, diary, letters lists, tables,
Random access, input, edit, search, print.

MICRODRIVE MANAGEMENT AND RECOVERY
PACKAGE
Copy any type of files or cartridges, even on one drive. Sensible
CAT, analysis problems, recover corrupt files.

MACHINE CODE SYSTEM (also on tape £7.95)
Assembler, Dis-assembler, test, debug, trace features. On line
machine code monitoring, teach yourself booklet.

ROYBOT YC6, 45 HULLBRIDGE ROAD
RAYLEIGH, ESSEX S50 9NL
Write or tel: (0268 771663 for leaflets)

FREE MEMBERSHIP

Here CRIM4, Spectrum, Vic20 software. Top titles and low
prices. SAE for Free Information pack to:

COMPUTERSOFT (YC),
PO Box 28, North PDO,
Nottingham NG5 2EE.
(Please state machine)

FAST COMPUTER REPAIR CENTRE — LONDON

- ★ BBC Micro, Commodore, Spectrum
- ★ Amstrad, Others
- ★ We sell spare parts
- ★ Used Micro Bought and Sold

PHONE 01-863 7166

PROMPT ELECTRONICS
Unit 4, 15 Springfield Road,
Harrow, Middx, HA4 1QF

AMSTRAD 3" DISKETTES

1 £4.70
10 £45.00

Also Dysan, Precision 3M diskettes.
Printer ribbons a speciality.

PEARLDECK
TRADING LTD.
FREEPOST, Billington, DISS, Norfolk
IP21 4BR

STOP PLAYING GAMES

Use your computer to make money. Turn your hobby
into a home-based income. Full and part time
opportunities to cash in on this tremendous market.
High earnings easily possible. Open to any amateur
micro user and gamer. Write for free details.

Westlink Promotions (CV1)
108 George Street
Edinburgh EH2 4LH

Spectrum Repairs

£14.90 inclusive of labour, parts
+ p&p. Fast reliable service by
qualified engineers. Average repair
24 hrs. 3 mths guarantee. For help
or advice ring:

HS Computer Services
2 The Orchard, Warton
Preston, Lancs. PR4 1BE
Tel: 0772 632686 327

RE-USE YOUR OLD PRINTER RIBBONS!

We will re-ink your old fabric ribbon cassette for more cheaply
than the price of a new one. Send your dry fabric ribbon (storing
printer make & model) with £2 and we'll re-ink it & quote for
future re-inkings.

ALADDINK, (Dept. YC),
4 Hurkur Crescent, Eyemouth,
Berwickshire TD14 5AP.
Tel: 08907 50965

TAPE and DRIVE SPECTRUM and AMSTRAD UTILITIES

We offer on all our programs (not
updates) a money back guarantee +
update service.

★ ★ SPECTRUM ★ ★

NEW TAPE UTILITY 9

This program gives a tape back-up of
most software! Even converts most
jerky loaders to normal for reliable load-
ing. Manages v.long programs (even
51K!), fast loaders, etc. etc. 48K
Spectrum only.
£6.99 on tape (£4.99 if updating).

NEWTRANSFER PACK 3 — FOR TAPE TO DRIVE

A software system to convert many
TAPE based programs to your DRIVE
(no matter what type) + OTHER USE-
FUL utilities. Most jerky loaders are EAS-
ILY converted to drive. Pack has at least
7 programs! Only 48K Spectrums.

State name of your drive when order-
ing. £11.99 on tape OR £12.99 on m/
drive cartridge. (£5.50 if updating).

INFORMATION SHEETS — £1 each —
approx 8 transfers of popular programs,
per sheet — needs TP3. Up to No. 25
available. Special offer — No's 1 to 20
only £4.50!

MICROTRANS — for m/drive to m/drive
back-up + tape to m/drive (incl header-
less) — does NOT convert programs. £3
on tape, £4 on m/drive cartridge.

THE PRICES QUOTED ARE ALL INCLUSIVE EXCEPT overseas: add £1 within Europe, £1.50 others. SAE for more
information

LERM, DEPT YC, 11 BEACONSFIELD CLOSE, WHITLEY BAY, TYNE AND WEAR.

★ ★ AMSTRAD ★ ★

TAPE SPEED TWO (TS2) — ESSENTIAL FOR ALL
AMSTRAD OWNERS

Convert your slow loading software from 1000 to a max
of 3600 baud. Stop and study programs.

- ★ AMAZING — now manages MOST of the clikky lead-
ers — some will now run on the 664/6128 for 1st
time!
- ★ Fully automatic. It loads in continuously up to 44K.
- ★ Save at range of 9 speeds.
- ★ Permanent display of HEADER plus STATUS infor-
mation.
- ★ Motor on/off. Insert PAUSE. Removes protection.
- ★ Handles HEADERLESS files, and PULSED/clikky
loaders.
- ★ Handles AMSTRAD programs with Spectrum load-
ers. Speed (Baud rate) detector.
- ★ VERY SIMPLE TO USE — FULL MANUAL

PRICE ONLY £6.99 — state 464, 664, or 6128

DISC MANAGER ONE. — for 464 + 6128 + 664

Essential to help you manage your AMSTRAD drive. No
risk — try it and see how useful it can be.

- ★ Does a CAT which can then be used to do repeat
ERASURES very easily. Gives disc type. Memory
free/used.
- ★ 2 Disc editors — edit or study sectors of a disc.
- ★ Recover ERASED files.
- ★ Simple and fast whole disc or sector BACKUP
copier.
- ★ Send outputs to printer (CAT, sector contents, etc)
- ★ Unsecured for easy adaption/drive transfer.
- ★ Menu driven — FULL manual.

PRICE only £5.99 — amazing!

VELDA PUBLISHING

THE SPECIALISTS PRODUCING THE CLEAREST ENGLISH W.P. GUIDES

LOCOSCRIPT WORDSTAR NEWWORD CARDBOX

All at £5.00 each (thousands sold)

Printed or Audio versions same price

French and Dutch versions of LOCOSCRIPT also available

1 LANDSEER ROAD, WESTBOURNE, BOURNEMOUTH,
DORSET BH4 9EH
Telephone: 0202 762401

BLANK CASSETTES

WITH LIBRARY CASES

	C10	C15	C20	C30
20	7.50	7.70	7.90	8.70
50	16.00	16.20	16.90	18.50
100	29.00	30.00	31.00	35.00

Superior Tapes. Don't Settle for less!

DISKS

10 5 1/4 DS/DD £8 inc. plastic case
10 3 1/2 SS/DD £17

MEMOTECH COMPUTERS AND ACCESSORIES

MTX 512 COMPUTER	£75.00
DMX 80 PRINTER	£150.00
RS232	£35.00
PASCAL ROM	£35.00
SPECULATOR ROM	£35.00
1/2 mb. DISK DRIVE & INTERFACE	£110
1 mb. DISK DRIVE & INTERFACE	£160

All the above prices are fully inclusive. We stock the entire Memotech Range. Orders/Enquiries to:

UK HOME COMPUTERS

82 CHURCHWARD AVENUE,
SWINDON, WILTS. SN2 1NH
24-hr Phone Service 0793 695034

SPECTRUM ADVENTURE OFFER

3 Spectrum 48K Adventures and Free strategy games.

Paradox, Spool, Robyn Hode and Spectrealm

All adventures are as yet unsolved.

All received good press reviews.

Send only £7.95 for all programs.

ACO Computer Services

32 Harewood Avenue,
Northampton NG6 9EF

FOR the micro enthusiast. Cash in on the demand for your home computer. Free details "Readwise", 26 Lydney Avenue, Stockport SK8 3LT.

ATARI-ST Public domain discs full of utilities, games, languages, etc. SAE: Lists +ST-CLUB INFOPAK. ST-CLUB, (YC186), PO Box 20, Hertford, SG13 8NN.

MAKE money with your micro. Full details of this instructive manual which explains how to run a profitable business from home. Write to Woodhall Mail Order, 398 Lanark Road, Edinburgh EH13 0LX.

HOME ACCOUNTS. Put your house in order! Probably the best home use for your computer! Comprehensive coverage of bank accounts, credit cards, HP, standing orders etc. Inbuilt accuracy check for all transactions. Cashflow projection. For all Amstrads, Commodores and Spectrums. £9.95 or free details from DISCUS, 18 Bedford Road, Ilford, IG1 1EJ. Tel: 01-514 4141 (24 hours 'live').

ORIC ATMOS + ORIC 1

Eight NEW Titles.
Games and Utilities.
Cumana Disc Drives £189

Send for full list to:
The ORIC Experts

F.G.C. 20 Meadowcroft,
Euxton, Chorley,
Lancs. PR7 6BU
Tel: 02572 70088

HOME COMPUTER OWNERS. A SAE brings you details of software on tape/disc at discount prices. North Kent Software, P.O. Box 20, Gravesend, Kent DA11 0DA.

EARN £££s WITH YOUR MICRO

Real money operating your micro in the comfort (and economy) of your own home. Sound good? It is - and our manual tells you how to do it. There are businesses just waiting for your service.

"MAKE MONEY WITH YOUR MICRO COMPUTER" explains who they are, what services to offer, how to advertise and much, much more. From start-up to expanding full-time - it's all explained in easy-to-read non-technical language.

Just think - financial independence doing what you enjoy. YOU can do it - but you must ACT NOW. Order your copy TODAY - we promise a FULL REFUND if you're not 100% satisfied.

Send your cheque/PO for only £9.95 to:

COMPASS PUBLICATIONS

46E1 Wroxham, Norwich NR12 8TR

LETTA-HEAD PLUS

Still the most versatile 48K Spectrum utility program to design and print your own business & personal stationery: letterheads, receipts, orders, labels & posters. Create the design on screen, select the required format & print the copies you need.

- Library of 25 fonts including foreign alphabets.
- Fast, compiled, font editor to modify and create new fonts.
- All characters are proportionally spaced.
- Choice of 81 different text sizes.
- Any screen portion may be scaled, inverted or erased.
- Box function encloses any area in a box of any thickness.
- Graphics draw, arc, circle, plot, fill for logo design.
- Load & use any SCREENS from another program.
- Print headings in a choice of 18 sizes.
- Design labels up to 4"x2" in size.
- Single key selects cassette label option.

Price: £9.00.

All Bradway Software programs drive Epson compatible printers (Brother, Star, M-T, Shinwa, Centronics etc) via Hilderbay, Kempston, Tasman, Morex, Watadrive, Interface 1, ZX LPrint III, and Opus interfaces. Prices are for cassettes & include p&p within Europe. Please add £1.50 for microdrive cartridge, £2.50 Opus disc, £2.00 worldwide airmail postage. Upgrades from previous versions (where appropriate) £2.00. Need just a few labels but no-one will sell less than 1000? Try Bradway Software "QUIDSWORTH" service e.g. cassette labels 30/£1, address labels 50/£1 etc. P&P 50p per 5 quidsworths.

Bradway Software (YC), 33 Conalan Avenue, Sheffield, S17 4PG

DUMPY 3.0

All the screen dumps you will ever need for your Spectrum! Unlike other screen dump programs DUMPY is a screen dump GENERATOR; it creates the machine code, relocates it, and saves it ready for you to use in your programs. No need to understand assembler, just follow the menus. The improved version now includes:

- Window dump, definable start & end of both column & line.
- Optional automatic screen area determination.
- Handles the full 24 lines of the display.
- Select from up to 7 different print devices.
- Select from up to 9 widths and 9 heights of output.
- Plain black & white or shaded colour representation.
- Tab to any position on the paper.
- Drives both 80 and 132 column printers.
- Machine code can be positioned anywhere in RAM.
- Vertical or sideways dumps (for big posters).
- Detailed manuals with examples for machine code novices.

Price £8.50

LINE-O-TYPE

Add style to your written word, print out any wordprocessor file in high density NLG in a choice of 25 fonts. Turn your Spectrum into an electronic typewriter, superb for addressing envelopes or filling in forms or writing short notes.

- Full on screen WYSIWYG line editor.
- Library of 25 different fonts including foreign alphabets.
- Up to six fonts may be mixed on each line.
- Fast, compiled font editor to modify and create new fonts.
- Single or double width characters and underlining.
- True proportional spacing and right justification.
- Load files from any storage device: mdv, tape, Wafa, etc.
- Print text as found, or edit on route to printer.
- Double density print gives NLG with most fonts.
- Printing is multi-tasked with keyboard use.
- Optional hexadecimal dump from code files.

Price £8.50

ASTRUM+

NEW!! The very best 280 assembler and monitor package for the Spectrum. It is exceedingly versatile, powerful and easy to use and allows unlimited source code to be assembled from drive to drive. Supports microdrives of OPUS DISCOVERY.

- Full-screen wordprocessor style editor.
- 256 columns wide for properly documented source code.
- Search & replace. Block copy, delete & move facilities.
- Unlimited size source code in 10K pages.
- Inbuilt macros for easy to read, compact source code.
- Assemble and test small programs in memory.
- Assemble large programs drive to drive - including OPUS!!
- Include source files written with most other assemblers.
- Monitor features up to 9 breakpoints, single stepping etc.
- Slow run facility with 9 breakpoints in RAM or ROM!!
- Countdown breaks after set number of passes through a loop.
- Library of useful utility programs for file handling.
- Comprehensive manual including reference chart.

Price £13.50 (state microdrive or Opus version).

EDUCATION

Phone 010-353-61-27994

DISKS/CASSETTES ALL 1986 RELEASES

Amstrad, BBC, Commodore
Amstrad PCW cassettes & discs
Magic Maths (Age 4-8)
Maths Mania (Age 8-12)
Better Maths (Age 12-16)
Spelling (Age 8-Adult)
* Physics 1 (Age 12-16) CSE/O Level
* Biology 1 (Age 12-16) CSE/O Level
* Chemistry 1 (Age 12-16) CSE/O Level
Wether/Climate (Age 12-17)

MAIL
ORDER

CASSETTES £9.95
STI DISCS £11.95
AMSTRAD DISCS £14.95

MAIL
ORDER

GCSE... GCE... 'O' LEVELS

SCHOOL SOFTWARE LTD.

IMMEDIATE DELIVERY SEND CHEQUE/PO/VISA
TO School Software Ltd, Meadowdale Estate,
Rahoon, Limerick, Ireland
Tel (UK) 010/353/61/27994.
IR 061/27994

AVAILABLE WORLDWIDE



AMSTRAD SIREN SOFTWARE

DISCOVERY TAPE TO DISC TRANSFER

- Transfer your tape based software to disc.
- Alters basic loaders
- Handles some turbo loaders
- Adds relocators etc.

"Discovery does it best across the widest range of games" Amstrad Action Feb 86

Disc £11.99 Tape £7.99
464,664,6128

TAPE UTILITY U3.3 HIGH SPEED TAPE COPIER

- Now handles some turbo loaders
- Handles headerless and nominal programs
- Choice of 10 save speeds up to 4000 baud
- Removes protection
- Internal header reader
- Very easy to use

£6.99 tape 464 only

MASTER DISC DISC UTILITIES

- Disc copier
- Sector/Directory editor
- Fast formatter
- Speed up your disc drive
- Sector map
- Protection remover

All on ONE disc

£12.99 on disc 464,664,6128

DISKON

PUT HEADERLESS PROGRAMS ONTO DISC

- No knowledge of machine code needed
- 2 part program with 2 further utilities
- Part 1 loads the headerless parts and puts them on disc
- Part 2 loads and runs them from disc
- Not for the Novice/beginner

£13.99 on disc 464,664,6128

Send Cheques, P.O.'s, Eurocheques to:

SIREN SOFTWARE
TRAFORD TECH CENTRE, 43 ELSIMORE ROAD,
MANCHESTER M16 0WG
Overseas orders please add £1.00

AMSTRAD

SORD M5 computers and software. Bargain. SAE for lists or phone 0279 417636. Playfair Projects, 133 Hookfield, Harlow, Essex CM18 6QL.

AMSTRAD SOFTWARE HIRE

- Low Rates
- Free Membership
- Fast Service
- 100s of Titles

Our members say we are the BEST

Details from:
K & M COMPUTERS
40 Fairstead, Birch Green, Skelmersdale,
Lancs WN8 6RD

QL & SPECTRUM CONNECTIONS

56-w 3-way extender for 1 or 2 peripherals to Spectrum 5 1/2"	£11.50
4-w extender for 3 peripherals	£14.00
Microdrive extender, 8"	£6.00
QL to Interface 1, data cable, 1.5m	£6.00
QL & Plus 2 joystick converters	£5.00
QL and Interface 1 serial printer cables, 2 metres	£7.50
Valvedrive printer cables, 1.5m	£8.00

Price includes VAT & postage

All other cables or connectors by request.

HIGHBLADE LTD.
P.O. Box 1, Appleby, Cumbria CA16 6QX
Telephone: 07683 61256

24 HOUR

COMPUTER REPAIR CENTRE

*The only AMSTRAD SPECIALISTS
recommended by Amstrad*

Repairs also undertaken for all the
following computers:
**SPECTRUM,
COMMODORE, ATARI,
BBC, IBM**

**NO HIGH
FIXED
PRICE
REPAIR!**

FREE
SOFTWARE WORTH
£33
WITH EVERY
SPECTRUM
REPAIR

**The established
company with a proven reputation**

Over the years we have built up an enviable reputation in the UK for computer repairs, which is second to none. This is based on many years experience in repairing Spectrum, Commodore, BBC and other leading makes – and we were the first AMSTRAD repair centre anywhere. This is why we have customers all over the world.

We are the best, forget the rest, look what we offer

- No high fixed price – you only pay what the repair actually costs.
- While-U-Wait Service – spare parts for all leading computers – available over the counter.
- State of the art test equipment to provide comprehensive test report and locate faults.
- Repairs to all leading makes of computer.
- Amstrad specialist.
- Spectrum rubber keyboards repaired for only £8.95.
- Commodore 64's, Vic 20's, Atari, Commodore 16's and Plus 4's repaired.
- Discounts for colleges, schools etc.
- Every computer repaired by us is completely overhauled and tested before return.
- All computers returned carriage paid and covered by insurance.
- Three months guarantee included.
- Free Software worth £33 with every Spectrum repair.

**DON'T DELAY –
ACT TODAY
It's as easy as
ABC!**

A Simply send your computer securely packed, together with a cheque or postal order for the maximum fee to the address below. Your computer will be repaired and returned to you within 24 hours together with the balance of the fee and your FREE £33 worth of software.

B Or if you prefer a written quotation just send £2.50 to cover post & packing.

C Alternatively just quote your Access or Visa card number.

DISCOUNT COMPONENTS
e.g. Power Transformers



Commodore £29.00
+ £1.50 p.p.

Spectrum
£9.95
+ £1.50 p.p.

**AMSTRAD
REPAIRS
from
£9 to £35**

**BBC
REPAIRS
from
£12 to £45**

**SPECTRUM
REPAIRS
from
£7 to £19.90**

**COMMODORE
REPAIRS
from
£12 to £35**

Trade orders
welcome

SPECIALIST COMPUTER REPAIR CENTRE

Dept 12, Unit 4, M.E.B. Works, Windsor Road,
Enfield, Redditch, B97 6DJ. Tel: Redditch 65671.



WE SET THE STANDARD BY WHICH EVERYONE ELSE IS JUDGED

AMSTRAD & SPECTRUM TAPE, OPUS or MICRODRIVE

£5.95 007 SPY CONVERTOR 4 £5.95

(Spectrum only)

Four programs which genuinely convert the very latest "pulsing" games such as Green Beret, Nightmare Rally, V, Galivan, etc, to RELIABLE Loaders by removing the pulses, AND can convert them to Load at one of three Speeds, AND Transfers them to OPUS/MODRIVE.

£5.95 007 SPY TRANS £5.95

(Spectrum only)

Just bought an OPUS & all your programs on Microdrive? This new tape will transfer your Microdrives programs onto OPUS disc.

£6.95 007 SUPERFILE 2 £6.95

CAN AUTO TRANSFERS ITSELF ONTO YOUR DISC or MICRODRIVE. Two programs for ALL you Records and Label requirements. Super fast Machine-code SEARCH & ALPHA SORT. Records easily modified. Program 1 holds up to 500 Records, a record can be 400 characters in 62 separate categories. Addresses, inventories, plants, etc. Prints to ANY Printer as Files of Labels by category or string of characters. Program 2 holds 1,000 SINGLE LINE records. Ideal for list of your Tapes, etc. Could add "Fred has it" to remind you Fred has borrowed your Tape. Prints out list of your games.

LEARN MACHINE-CODE

R.U.A.DUMMY? Too thick and stupid to learn Machine-Code? No you are NOT. The usual methods are difficult to follow, and learning from a book doesn't answer your questions. Amstrad owners should try entering this: PRINT & COOO Computer will print - 16384, which is WRONG. If the Computer gets it wrong, what chance have you got? From January 1987 the solution is a NEW Z80 MACHINE-CODE NEWSLETTER CLUB. The FULL course is £15 and includes a Disassembler and Loader tape. The course is intended for complete newcomers as well as the more experienced. (Course is based on the AMSTRAD and the SPECTRUM). Within DAYS you'll be writing, and understanding machine-code.

Please state if your computer is Spectrum or Amstrad (464, 6128).

Postage on tape to overseas: **Europe +£1 Elsewhere +£2**

Z80 Club postage to overseas: **Europe +£4 Elsewhere +£9**

G. A. BOBKER ZX-GUARANTEED (Dept. YC)

29 Chadderton Drive, Unsworth, Bury, Lancs, NL9 8NL

Tel: 061-766 5712 (Do NOT phone when STARTREK is on)

VDU OPERATORS DO IT WITH A

THINGi
computer copy holder



Makes an Ideal Gift -
Everybody needs a Thingi!

☐ Unique Velcro™ Fastening



The Thingi is scientifically designed to hold single sheets or pad paper, specially shaped to be completely adjustable to suit your needs. It holds paper in such a way as to reduce neck, back and eye strain. Perfect for use with word processors, VDU's and telex terminals, this will fit almost any size and shape of monitor. It can improve accuracy and typing speed dramatically, is virtually undestructible in normal use and can increase productivity. When not in use, velcro fastenings make for easy removal and re-attachment.

The Thingi creates working space out of "thin air".

☐ Left hand or right hand versions.

☐ The compatible low cost solution to the problem that plagues all computer users! Don't struggle any longer -

GRAB YOUR THINGI NOW!!!

Your nearest stockist is
OVERBRIDGE LTD.
1st Floor Trade Building,
176 Conway Street,
Birkenhead,
Wirral L41 3JB England
Tel: (051) 642 8981 (5 lines)
Telex: 265871 MONKEY G Ref: 22 Mar 2020

R.R.P.
£6.99
exc. VAT and P & P

ANOTHER GREAT BRITISH PRODUCT EXPORTED WORLDWIDE • DEALER ENQUIRIES WELCOME



Walkers
COMPUTER REPAIRS
AND
SPARES

BY THE SPECIALIST

SPECTRUM REPAIRS £20.00

COMMODORE £32.00

COMMODORE POWER SUPPLY ... £25.00

ALSO MANY OTHER SPARES -
PRICES ON REQUEST

ALL PRICES ARE INCLUSIVE OF V.A.T.

WHILE-YOU-WAIT SERVICE

CALL IN OR SEND YOUR COMPUTER TO:

THOMAS WALKER & SON LIMITED

37-41 Bissell Street,

Birmingham B5 7HR

TELEPHONE: 021 622 4475

HIGH INCOME possible as a home-based microcomputer consultant. Quality A4 size 84 page manual. "Make Money With Your Microcomputer" shows how. Order now price £10 or send SAE for details to: S. G. Crowther, 26 Millcroft, Soham, Cambs. CB7 5AP (Mail Order bookseller).

ATTENTION ALL SPECTRUM OWNERS

INFINITE SOFTWARE CLUB. The friendly way to get the most from your computer. Open to Spectrum owners throughout the U.K. You may hire tapes from our massive list of games & utilities. Members cassette-based T.V. magazine (available to non-members at £2.99) given free to all new members. Contains useful tips, games, Basic training course, Machine code corner and more. Through the magazine we can all learn together and make new contacts all over the world. Discount prices on Hardware or simply hire tapes. Send a stamped, self addressed envelope to:

INFINITE SOFTWARE CLUB

73 Alcester Road, Moseley,
Birmingham 13

for your free newsletter and application form.

FREE LIBRARY CASE

... with every ten 5.25 DSDD discs

ONLY £6.35 plus £1.00 p&p

Also available:

AMSTRAD PC1512 Computers

Send S.A.E. for catalogue

KBT (U.K.) LTD.

135 Thorne Hill Road, Handsworth,
Birmingham B21 9BX

CLASSIFIED ADVERTISEMENTS

PAUL MONAF

01-222 9090

AMSTRAD (CPC/PCW) & ORIC/ATMOS

Software for sale or hire

Super Selection of Software now available

*** CPC Users - first 3 hires FREE! ***

For details, send S.A.E. (stating computer) to:

THE SOFTWARE CLUB

26 Beechley Drive, Cardiff CF5 3SN

15K BUFFER KIT FOR JUKI 5610

Fitted in minutes

Full easy-to-follow instructions provided

Only £10 including VAT and p&p

CALDERDATA

High Lee, Luddenden Foot,

Halifax HX2 6LB Tel: 0422 885202

Access orders welcome

BLANK CASSETTES

WITH LIBRARY CASES

	C10	C15	C20	C30
20	7.50	7.70	7.90	8.70
50	16.00	16.20	16.90	18.50
100	29.00	30.00	31.00	35.00

Superior Tapes. Don't Settle for less!

DISKS

10 5 1/4 DS/DD £8 inc. plastic case

10 3 1/2 SS/DD £17

MEMOTECH COMPUTERS

AND ACCESSORIES

MTX 512 COMPUTER	£75.00
DMX 80 PRINTER	£150.00
RS232	£35.00
PASCAL ROM	£35.00
SPECULATOR ROM	£35.00
1/2 mb. DISK DRIVE & INTERFACE	£110
1 mb. DISK DRIVE & INTERFACE	£160

All the above prices are fully inclusive. We stock the entire Memotech Range. Orders/Enquiries to:

UK HOME COMPUTERS

82 CHURCHWARD AVENUE,

SWINDON, WILTS. SN2 1NH

24-hr Phone Service 0793 895034

MICROSNIPS



37, SEAVIEW ROAD
WALLASEY
MERSEYSIDE
L45 4QN
TEL: 051 360 3013

VISA

3 in. CF2 DISCS £28 per 10
5¼ DSD By AXIOM £5.95 per 10
3½ SSD By AXIOM £14.95 per 10

SAGA Elite keyboard £54.50

Send for free comprehensive price list.
U.K.'s widest range of computers and software.
Telephone orders welcome.
Mail order postage add 5p for every £5.00 spent.
Overseas postage add 10p for every £1.00 spent

Name _____
Address _____

Tel No _____
Dept YC

EDUCATION

Phone 010-353-61-27994

DISKS/CASSETTES ALL 1986 RELEASES

MAIL
ORDER

Amstrad, BBC, Commodore
Amstrad PCW cassettes & discs
Magic Maths (Age 4-8)
Maths Mania (Age 8-12)
Better Maths (Age 12-16)
Spelling (Age 8-Adult)
*Physics 1 (Age 12-16) CSE/O Level
*Biology 1 (Age 12-16) CSE/O Level
*Chemistry 1 (Age 12-16) CSE/O Level
Wether/Climate (Age 12-17)

CASSETTES £9.95
STI DISCS £11.95
AMSTRAD DISCS £14.95

MAIL
ORDER

GCSE... GCE... 'O' LEVELS

SCHOOL
SOFTWARE LTD.

IMMEDIATE DELIVERY SEND CHEQUE/PO/VISA
TO School Software Ltd, Meadowdale Estate,
Raheen, Limerick, Ireland
Tel (UK) 010/353/61/27994.
IRI 061/27994
AVAILABLE WORLDWIDE



SELL IT WITH
Your
COMPUTER

CLASSIFIED ORDER FORM

Classified Rates

Linage: 60p per word (Min 20 words) —
propaganda

Linage advertisers should complete the form
provided in BLOCK CAPITALS. Phone number
counts as 7 words. Name and address to be
paid for if used in advertisement. Box Number
if required is £7.00 extra.

Display — rates per scc (Min 2scc)
One insertion : £10.00
Three insertions : £9.70
Six insertions : £9.50
Twelve insertions : £9.00

Display advertisers should provide separate
copy and preferably reserve space by
phone (01-222 9090)

Method of Payment

Cheques etc. should be made payable
to Focus Investments Ltd., and
crossed. I enclose herewith
cheque/PO for

£.....

Post to:

Cut out the order form and return
together with your remittance to:
Classified Department, Your Computer,
79-80 Petty France, London SW1 9ED.

THIS FORM SHOULD BE
RETURNED BY DEC. 19th
FOR THE FEB. ISSUE
OR BY JANUARY 25th
FOR THE MARCH ISSUE

Please insert the following advertisement in Your Computer Classified Section

						LINAGE	PLUS 15% VAT	TOTAL
						£12.00	£1.80	£13.80
						£15.00	£2.25	£17.25
						£18.00	£2.70	£20.70
						£21.00	£3.15	£24.15
						£24.00	£3.60	£27.60
						£27.00	£4.05	£31.05
						£30.00	£4.50	£34.50

No. of insertions required ☐ Box No. required YES/NO

NAME (Please include initials)

ADDRESS

Daytime tel. no

Company Registered Number: 1895201. Registered Office: Sceptre House, 169-173 Regent Street, London W1R 8HE.

Highlights of our February issue

Contents subject to late revision

LOW-COST PC SOFTWARE

With PC clones now selling for less than £500, this guide will help you find software to suit your needs and at the proper price.

COMMODORE 64 EXPANSION

This ever-popular machine has had some new software and hardware produced recently. *Your Computer* updates you on the latest additions.

PLUS

Behind the scenes with the AA.

INEXPENSIVE PRINTERS

With a bewildering array of high-quality, inexpensive printers available, who knows which to buy? *Your Computer* gives you a helping hand.

MICROS UNDER THE HAMMER

The high street may not be the cheapest place to buy a micro or peripherals. In this feature, we give some hints on where you could pick up a real bargain.

February issue on sale January 22, 1987

NEWS ● REVIEWS ● HINTS & TIPS ● CLUBS ● SOFTWARE GUIDES

IBM COMPATIBLE MACHINES

Bondwell PC BW34 640K RAM dual ds 360K 5 $\frac{1}{4}$ " drives 12" green monitor
Bundled MS DOS-GW basic

RRP £688.85 WAVE £603.00 (a)

Bondwell PC BW36 Specifications as BW34 except single drive + 20Mb
Winchester hard disk

RRP £1148.85 WAVE £1025.00 (a)

HARDWARE

	RRP	WAVE
Amstrad PCW 8256 inc. printer monitor and software	£458.85	£409.00 (a)
Amstrad PCW 8512 inc. printer monitor and software	£573.85	£513.00 (a)
2nd 3" Drive ONLY - PCW	£182.85	£136.00 (b)
2nd 3" Drive + 256K Ram upgrade - PCW	£232.85	£162.00 (b)
CPS 8256 Cent. - RS232 Interface - PCW	£68.94	£60.00 (c)
Alphacom 32/Timex 20/40 printer-spec./ZX81	£49.95	£24.95 (c)
BBC Master 128	£499.00	£430.00 (a)
Ferguson 37140A 14" Portable TV	£169.99	£152.00 (a)
Ferguson 14C1D 14" Portable TV		
New Monitor Style, black	£189.99	£160.00 (a)
Psion Organiser I hand held computer w.s.l.	£99.95	£70.00 (c)
CBM MPS803 Dot Matrix Printer inc. Tractor Feed	£169.99	£150.00 (a)
CBM 64C Connoisseurs collection inc. CBM64C, C2N cass. unit, NEOS Mouse & Software, + Chess, Monopoly, Cluedo, Scrabble, Pitman's Typing Tutor	£249.99	£217.00 (a)
DMP 2000 Printer inc. free cable for CPC	£169.00	£151.00 (b)
Amstrad CPC 6128 Colour	£399.00	£361.00 (a)
ZX Spectrum plus 48K inc. free s/w	—	£95.00 (a)

SOFTWARE

	6128/PCW	£99.99	£71.50 (d)
Sage accounts 1	6128/PCW	£69.99	£50.00 (d)
Sage stock plus invoicing 2	6128/PCW	£69.99	£50.00 (d)
Sage payroll 3	6128/PCW	£149.99	£107.50 (d)
Sage accounts plus 1+2	6128/PCW	£149.99	£107.50 (d)
Sage combo pack 1+3	6128/PCW	£199.99	£143.00 (d)
Sage super combo pack 1+2+3	6128/PCW	£69.99	£50.00 (d)
Sage retrieve (database)	6128/PCW	£69.99	£50.00 (d)
Sage magic filer (high speed filing and recall) PCW		£29.95	£23.00 (d)
Logicom DMAIL (mail merge for Locoscript) PCW		£24.95	£19.00 (d)
Logicom Rotate (prints ascii files sideways) PCW		£29.95	£19.80 (d)
Amor Prospell (all u/p s inc. Locoscript) PCW			

All prices include VAT. Please add carriage indicated as follows: (a) £5.00
(b) £4.00 (c) £3.00 (d) £2.00 (e) £1.00 (f) 50p. Despatched by return of post

W.A.V.E. (mail order)

Walney Audio Video & Electrical
53 Shearwater Crescent, Barrow-in-Furness,
Cumbria LA14 3JP. Telephone: 0229 44753

ADVERTISERS INDEX

A	S
AMSTRAD 2/3, 6, 7	SUPERTEC 26
ANCO 15	SUPERIOR SOFTWARE ... 10
	SOFTWARE PROJECTS .. 41
	SWANLEY ELECTRONICS 40
C	SILICA SHOP 91
CHEETAH 30	
CITY RIBBONS 40	T
COMPUDEC 38	THETFORD 80
	TEMPLEGATE 67
D	TROJAN 32
DIRECT TECHNOLOGY ... 23	THALAMUS 48
DIRECT DISK 40	THOUGHTS & CROSSES 32
E	
ECL 20	U
	U.S. GOLD 53, 92
I	
INTERFACE 60, 76	V
	VOLEX 26
J	
JB SOFTWARE 32	W
	W.A.V.E. 70
M	
MACSEN 44	Z
MIRACLE TECHNOLOGY . 31	ZX MICROFAIR 38



ATARI ST

Power Without The Price!

520ST PACKAGES

The 520ST-M keyboard costs only £346.96 (+VAT £399) and includes an RF modulator and cable, allowing you to connect it to an ordinary domestic TV set. The keyboard is supplied with 512K RAM, a mouse and a free set of 3 1/2" disks containing applications software. For a limited period from August 11th 1986, we have some special packs offering combinations of the 520ST-M keyboard with a 1 Mbyte SF354 Atari disk drive and an Atari monitor (either the Mono 9M124, or Colour CM36512). These packages offer up to £200 extra discount on a system. If purchased from Silica, they also come with our free 'ST STARTER KIT'. All of the pack prices shown in the chart include VAT.

UPGRADE TO 1024K RAM

We are pleased to be able to offer a 1Mbyte upgrade on the standard 520ST keyboard to increase the memory from 512K to a massive 1024K. It has a full 1 year warranty and is available from Silica at an additional retail price of only £86.96 (+VAT £100). Any of the five packs can be upgraded to 1Mbyte for only £100. The 1Mbyte ST offers a low price alternative to the 1040, but also gives you the benefit of an RF modulator (not normally fitted on the 1040).

£100 DISCOUNT 1 DISK DRIVE

£150 DISCOUNT 2 DISK DRIVES + MONITOR

£200 DISCOUNT 2 DISK DRIVES + MONITOR + PRINTER

ALL PACK PRICES INCLUDE VAT		PACK 1	
Keyboard	£399	Keyboard	£399
Disk Drive	£149	Disk Drive	£149
Normal Price	£548	Normal Price	£548
Discount	£100	Discount	£100
Pack Price	£448	Pack Price	£448
PACK 2 (MONO)		PACK 3 (COLOUR)	
Keyboard	£399	Keyboard	£399
Disk Drive	£149	Disk Drive	£149
Disk Drive	£149	Disk Drive	£149
Mono Monitor	£149	Colour Monitor	£299
Normal Price	£846	Normal Price	£896
Discount	£150	Discount	£150
Pack Price	£696	Pack Price	£746
PACK 4 (MONO)		PACK 5 (COLOUR)	
Keyboard	£399	Keyboard	£399
Disk Drive	£149	Disk Drive	£149
Disk Drive	£149	Disk Drive	£149
Printer (SMM804)	£199	Printer (SMM804)	£199
Normal Price	£1045	Normal Price	£1195
Discount	£200	Discount	£200
Pack Price	£845	Pack Price	£995

REDUCED PRICES

Atari's ST personal computers are now firmly established both in the USA and Europe. The main attraction of the ST range is the value for money which these computers represent, giving both private and business users a powerful asset at a very modest price. There are now several ST packages available from Silica at a reduced price, further enhancing the Atari 'Value for Money' reputation. In addition, we are giving away a FREE Silica 'ST STARTER KIT' with every 520 or 1040 ST purchased at Silica Shop. These offers will only be available for a limited period and commence on 11/8/86.

POWER FOR BUSINESS

The list below shows some of the new business products which have been recently launched for the Atari ST range. It gives an indication of the ST's potential to business buyers looking to install a powerful, low-cost system.

CP/M EMULATOR
20Mbyte HARD DISK
LOTUS 123™ CLONE
dBASE III CLONE

IBM COMPATIBILITY
VT100 EMULATOR
MICROSOFT WRITE
dBASE II

Any ST computer will provide its user with a very powerful asset, utilising a vast range of applications, particularly in the business world. Many software companies have been quick to recognise it for its business potential, and have produced programs for the ST which harness this potential. In addition, there are several peripheral and hardware products becoming available to add to the ST's 'Power For Business'. Software now available includes dBase, a dBase III clone as well as H&D Base, a dBase II clone. In fact, First Software have now launched Ashton Tate's original dBase II program for the ST. In addition, PC Intercom is a VT100 emulator which enables you to use any ST keyboard at a terminal connected to a mainframe or mini. Other programs include a powerful accounts package by Cashlink and a Lotus 1-2-3™ clone called VIP Professional. Microsoft have announced that their powerful word processor 'Microsoft Write' will soon be available for the ST. Many packages are available for very specific market applications including a powerful CAD (Computer Aided Design) program called Easy Draw from Migraph. In addition, there is an engineering tool called PC Board Designer by Abacus Software which will enable the user to design printed circuit boards. For further details of how the ST can help in your business, return the coupon below. We will be pleased to send you our latest newsletter and price list.

PRICE MATCH PROMISE

We hope you will find that the combination of our low prices, FREE delivery service, FREE Starter Kit and after sales support, will be enough to make you buy your Atari equipment from Silica Shop. If however, there is something you wish to purchase, and you find one of our competitors offering it at a lower price, please contact Owen Pascoe (Office Manager), or one of the telesales staff in our sales department. When you telephone us, please provide us with our competitors name, address and telephone number. Providing our competitor has the goods in stock, we promise to match his offer (on a 'same product - same price' basis) and still provide you with our normal free delivery. You will also be entitled to our full after sales service, including free newsletters and technical helpline support. We don't want you to go anywhere else for your Atari products. So shop at Silica, the U.K.'s undisputed No1 Atari specialist.

FREE SOFTWARE

When you buy a 520 or 1040 ST computer keyboard from Silica Shop, you will receive a large and varied software package free of charge. This package consists of twelve programs. Whenever you purchase your Atari ST computer, you should receive the first six software titles as standard. However, if you purchase your ST from Silica, you will also receive a further six extra titles, giving you a total of twelve. All ST's now have TOS/GEM already installed on ROM, so the list of free software you should receive is as follows:

- 1) GEM - DR Desktop environment with WIMP (fitted in ROM)
- 2) TOS - Tramiel Operating System (fitted in ROM)
- 3) 1st WORD - Word Processor by GST using GEM
- 4) BASIC - Personal Basic by DR (with manual)
- 5) LOGO - Logo language by DR (with manual)
- 6) NEOCHROME - A powerful colour paint and graphics package (only useable with colour systems)
- 7) MEGARODS - Asteroids type game by Megamax
- 8) DODDLE - Simple paint/doodle drawing package (works on mono or colour systems)
- 9) CP/M EMULATOR - Allows use of DR's 280 CP/M software to run on the ST range
- 10) CP/M UTILITIES - Various utilities to use with CP/M
- 11) DEMONSTRATION & PUBLIC DOMAIN SOFTWARE - Various games, demos and accessories
- 12) CARDS - A unique set of card games from Microdeal

These additional free software titles are all part of the FREE Silica ST STARTER KIT, return the coupon below for further details.

FOUR FREE MANUALS

In addition to the free software which will be given to you when you buy your ST from Silica, you will receive four free manuals:

- 1) ST OWNERS MANUAL (80 pages): Easy access to the information you require to unpack, set-up and become familiar with the ST
- 2) ST BASIC SOURCE BOOK & TUTORIAL (240 pages): Gives you the information to increase your level of programming expertise
- 3) ATARI LOGO SOURCE BOOK (77 pages): A source book for Logo, showing how to use the language in the GEM environment
- 4) 1st WORD MANUAL (48 pages): Instructions for 1st Word

ST NEWSLETTER

8 PAGES OF INFORMATION
TO HELP YOU TO DECIDE
RETURN THE COUPON FOR A FREE COPY

1040ST-F

For the businessman and the more serious home user, there is the 1040ST-F with 1024K RAM. This can be used in a business environment as a stand-alone system, or can support a mainframe computer as a terminal. The 1040ST-F keyboard with integral 1Mb disk drive costs only £699 (+VAT £803.85). As the 1040ST-F was manufactured solely with business use in mind, it does not come with an RF modulator for use with a domestic TV. Instead, it requires a monitor. There are three Atari monitors available and the prices for the 1040 with these monitors are as follows:

- 1040 Keyboard Without Monitor - £699 (+VAT £803.85)
- 1040 Keyboard - High res mono monitor - £799 (+VAT £918.85)
- 1040 Keyboard - Low res colour monitor - £899 (+VAT £1033.85)
- 1040 Keyboard - Med res colour monitor - £999 (+VAT £1148.85)

The 1040ST-F includes 1Mbyte of RAM as well as a 1Mbyte double sided disk drive and mains transformer, both built into the keyboard to give a compact and stylish unit, with only one mains lead. The 1040ST-F is supplied with a set of software disks as well as our own FREE Silica 'ST STARTER KIT'. Call into your nearest branch of Silica Shop for a demonstration.

1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
117 Orpington High Street, Orpington, Kent, BR6 9LG
Lion House (1st floor), 227 Tottenham Court Rd, London, W1
Selfridges (1st floor), Oxford Street, London, W1A 1AB

SILICA SHOP

ATARI WE ARE THE UK'S No1 ATARI SPECIALISTS ATARI

At Silica we have been successfully dedicated to Atari ever since their products first appeared on the UK market. We can attribute our success largely to the Atari specialisation which we practice and to the user back-up we provide. Rest assured that when you buy a piece of Atari hardware at Silica you will be fully supported. Our mailings giving news of software releases and developments will keep you up to date with the Atari market and our technical support team and sales staff are at the end of the telephone line to deal with your problems and supply your every need. With our specialist bias, we aim to keep stocks of all the available Atari hardware, software, peripherals and accessories. We also stock a wide range of Atari dedicated books and through us, the owners on our list can subscribe to several American Atari dedicated magazines. We can provide a full service to all Atari owners and are now firmly established as the UK's NUMBER ONE Atari specialists. Here are just some of the things we can offer to our customers:

- *FREE POST & PACKING ON MAIL ORDERS
- *FREE NEXT DAY DELIVERY
- *INFORMATION MAILING SERVICE
- *TECHNICAL SUPPORT TEAM
- *HIGHLY COMPETITIVE PRICES
- *AFTER SALES SUPPORT SERVICE
- *REPAIR SERVICE ON ATARI PRODUCTS

If you would like to be registered on our mailing list as an Atari computer owner, or as a person interested in buying an Atari machine, let us know. We will be pleased to keep you up to date with new Atari developments free of charge. So, return the coupon today and begin experiencing a specialist Atari service that is second to none.

SILICA HOTLINE **01-309 1111**

SILICA SHOP LTD, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
SEND FOR FREE ATARI ST LITERATURE

To: Silica Shop Ltd, Dept YC 0187, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

PLEASE SEND ME FREE LITERATURE
ON THE NEW RANGE OF ATARI ST COMPUTERS

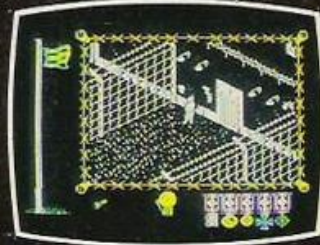
Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode:

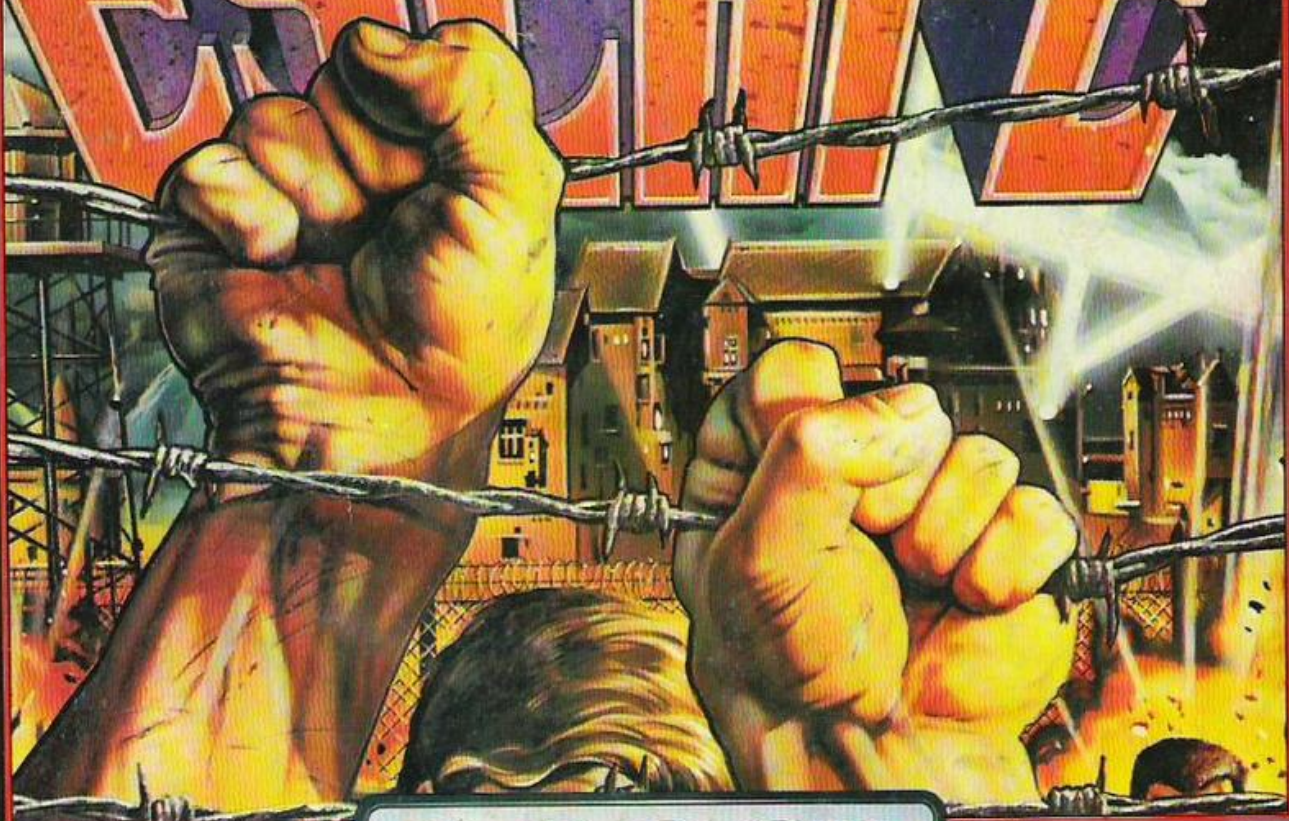
Do you already own a computer
If so, which one do you own?





THE

WAP



ocean

*Spectrum
7.95 each*

Ocean Software Limited
6 Central Street Manchester M2 5NS.
Telephone: 061 832 6633 Telex: 669977

*Commodore
8.95 each
Amstrad*