

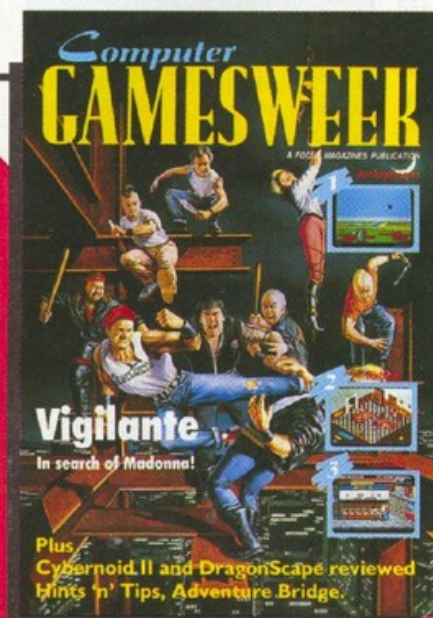
0812

# POPULAR COMPUTING

INCORPORATING

70p

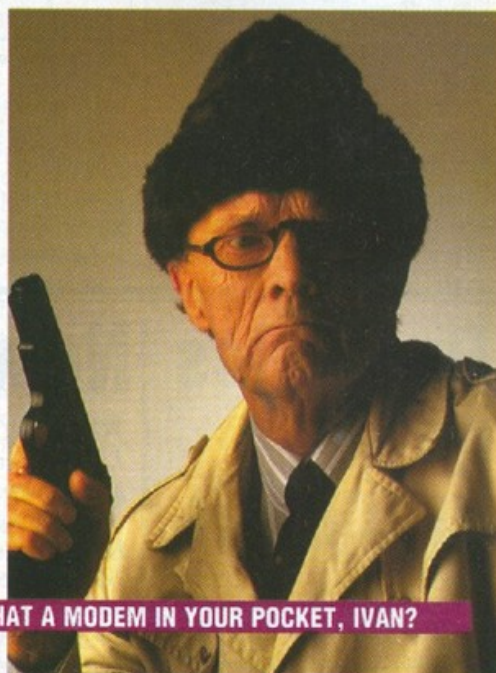
# WEEKLY



## CIA HACKS SOVIETS

SMOKING GUNS  
GIVE WAY TO  
SMOKING MODEMS, p.3

- ST MIDIGRID, p.23
- SPECTRUM  
SWIFTDISC, p.13
- PSION  
LISTING, p.60



IN GAMESWEEK

VIGILANTE

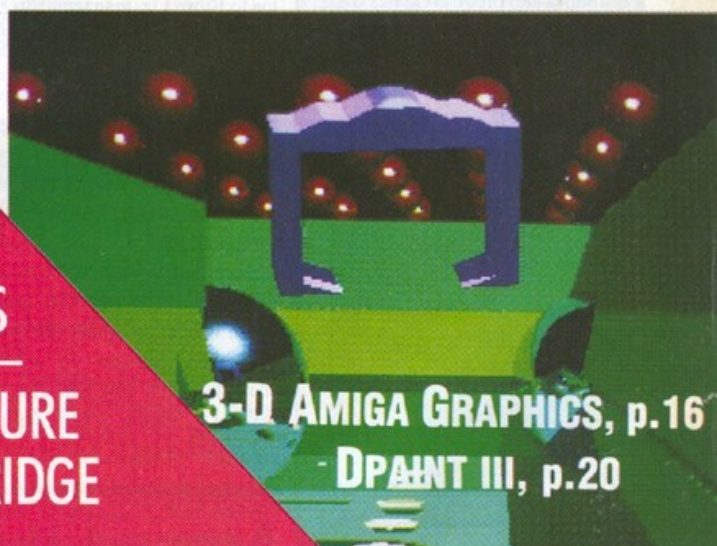
ARCHIPELAGOS

DRAGONSCAPE

HINTS 'n' TIPS

ADVENTURE  
BRIDGE

WIN AN  
ST HARD DISC!  
p.41



### ARCHIMEDES

- Not a whole lot of launches for this machine, but this week we review Art Nouveau, a paint package from Computer Assisted Learning, p.19.



### AMSTRAD

- On the Spectrum, we review the long awaited SwiftDisc, which aims to compete with the Disciple and +D interfaces.
- Never accuse us of being unseasonal: we list a program that will generate a snowflake effect on the Speccy.

### COMMODORE

- C64: how to control a VCR timer to record multiple TV programmes, p.58.
- Amiga: DPaint III reviewed by a professional, p.20.
- Amiga: a new book explains 3-D graphics p.16.



### ATARI

- ST: Mini-Office reviewed, plus musical Midgrid.
- ST: Four of your problems solved by Kenn Garroch, p.59.
- ST Games: Dragonscape, Archipelagos, Raffles, Cyberoid II.

Hotlines: 11

Letters: 9

Puzzle: 24

Kenn Garroch: 58

Bytes & Pieces: 60



# Publishers get tough on pirates

A CONFERENCE of leisure software publishers has come up with several policies which could have far-reaching consequences for the entertainment software industry.

The *Arena* conference, held in Majorca, covered two major areas: combating software piracy and the establishment of the Entertainment Software Publishers Association. ESPA has been set up to promote the leisure software industry and to pool the U.K. industry resources together for market research purposes.

The publishers discussed the issue of software piracy with Bob Hay, of the Federation Against Software Theft. According to Hay: "there was a very surprising and positive response from the industry." The major priority



Hay: "positive response" from publishers.

was to promote education and awareness of software piracy. Among the proposals put forward was an anti-piracy measure included at the beginning of a game in much the same way as videos carry copyright warn-

ings. If adopted this would probably develop into an industry standard.

FAST is also hoping, in conjunction with Activision and Bulletin 1000, to produce a short one minute video message to be included in the television advertisement systems in shops such as the Virgin Megastore and W.H. Smith.

Bob Hay says that "FAST will be working very closely with ESPA, particularly as we will have a lot of members and aims in common."

● ESPA also intends to publicise computer games through television and daily newspapers. Among its members are Ocean, U.S. Gold, Hewson, Virgin Mastertronic and Mirrorsoft. Andrew Hewson was elected interim chairman.

## Dynamics gets a grip on it

THE JOYSTICK manufacturer Dynamics Marketing has released two new products: the Competition Pro PC joystick and the A-D Games Card.

The Competition Pro PC is a two-tone grey coloured joystick based on the Competition Pro 5000 and is suitable for use with the Atari, ST, Amiga, Amstrad and C64 computers. It costs £15.95.



Blast 'em cowboy.

The A-D Games Card is a printed circuit card designed to interface digital joysticks with PCs. It features twin plugs for two joystick operation and features a slow-motion action facility. It retails at £24.95.

A bundle of the Competition Pro PC joystick, the A-D Games Card and four computer games - Wizzball, Tai-Pan, Victory Road and Baseball - retails at £49.95. All prices are inclusive of VAT.

For further details telephone 061 626 7222.

## New console shock

POPULAR COMPUTING WEEKLY has seen a new games console from a U.K. company which is set to be released as competition to the Konix Multi-system.

The console will come with various add-ons which "will knock the socks off" the Konix system and any other games console on the market according to Bjorn Lia, managing director of EKAF Systems Ltd, which developed the hardware for the console.

Sources say that representatives of software houses which have seen the prototype are "very, very impressed." One software developer told us that the PARC console "is the best hope for the future."

According to Mr Fiba the managing director of PARC, the U.K. company which will be producing the console, the PARC Maestro kit will come "complete with hydraulic chair, control yoke, combat helmet, laser gun, 3D fighter goggles, ejector seat and

cassette quality sound."

By the time of its release there will be over 50 games to choose from including *Ninja Bonsai Simulator*, *Skoda Rallycross*, *Frank Bruno Knocked Out*, *Robin Reliant Racer*, *Latin American Death Squad*, *Smokers Cough* and *Papal Election Adventure*. The games software will run on a revolutionary 7in. disc format which has been specifically developed to keep costs to a minimum. The Maestro kit is priced at a very reasonable £50. Lia explains that the pricing is so low because the company expects to sell well over 5,000,000 units in the first year.

A special music bundle, the PARC Boppy kit, comes with a 1-track Rolf Harris Stylophone Sequencer and five air miles to the end of a runway of your choice. An executive version of the PARC system comes with a free air stewardess and costs £350. It is expected to ship from April 1.

## Around the World by keyboard

A NEW product promises to give PC users the world at its fingertips. *PC Globe+* is a graphics-based statistics and geographical information package

using statistical information from the CIA, the World Bank and the United Nations.

The program contains maps, statistics on population, age distribution, health statistics, telephone codes and tourist attractions. Facilities include automatic currency conversion and point-to-point distances.

PC Globe+ requires two floppy drives or a hard disc to run and costs £69.95. For more information, telephone 01-436 5536.

## IN BRIEF

### Vacuum cleaner talks back

THE HOOVER company has introduced a talking vacuum cleaner which uses computer technology to speak to its owner, according to *Newsbytes*. The appliance can let the user know when it needs attention for any of its functions - in French, German, Italian or English. The Sensotronic Audio cleaner can give four messages in a female voice and is available in Europe for about £250.

### First AIDS program

A SMALL FIRM in Singapore has developed the first automatic AIDS testing system. The robot analysis system, known as Robot TL-1, can handle the automatic analysis of biological samples to test for the AIDS virus, reducing the risk of contamination by laboratory staff, improving the consistency of results and speeding the process.

### Write on

IBM RESEARCHERS are exploring the possibility of a new interface for computers which would allow people to write on a flat surface in the same way as with a paper and pen. The Paperlike Interface would be more convenient and natural for users than a keyboard or mouse.

The IBM experimental display system displays the writing on a special monitor. Handwriting recognition software translates the writing and other marks into computer commands.

### Traffic jam blues

TWO COMPANIES in Australia lost the chance to bid for a £30 million tender because they were four minutes late handing in their bids. The reason - they were held up in a traffic jam. The bid is believed to have cost Hewlett-Packard and Australian Telecom about £250,000 to produce, so it was a very expensive traffic jam for the two companies.



# CIA hacks Soviets

AS classified secrets and military command systems become computerised the CIA and the KGB have cottoned on to new weapons in their clandestine wars – computer hacking and viruses.

According to a retired senior military computer security expert quoted in *Time* magazine: "The potential for offensive use of viruses is so great that I would have to view the power and magnitude as comparable with that of nuclear or chemical weapons."



Forget the rough stuff 007 it's time to get hacking!

In 1981 the National Security Agency in Washington found that someone had broken into an intelligence facility by gaining access through a secure telecommunications cable and stolen a large amount of classified information. NSA officials believe the breach was the work of a spy. Since that time there have been other instances of computer spying by intelligence services from both sides of the Iron Curtain.

The CIA and the NSA have gained access to classified military systems in the Soviet Union and it is thought that

the KGB have also penetrated Western systems. The case of the alleged West German hacker spies has been widely reported although it is interesting to note that estimates of the damage done have been consistently revised downwards.

The CIA and NSA have also been looking at the use of computer viruses as a means of sabotaging Military Command systems. A virus could be planted in a Military Command and

Control System – which supplies information and co-ordinates military movements – that could be triggered in the event of a war. The virus could either erase everything in the system or slow down the response time making it virtually useless. An example of this in the civilian field is the "IBM Christmas Tree" virus which drastically slowed down whole IBM networks and left screens filled with Christmas tree graphics and a message which read "Happy Christmas from IBM".

An expert in the U.K. was sceptical

of CIA success in sabotaging Soviet computer installations with viruses. He pointed out that Soviet computers are not networked to the same extent as in the U.S. because the country's communications are not as advanced. Any damage would be localised and would not spread to the same degree as in the Western world.

He added that "it does not have to be command and control systems which are affected. With the growing reliance on 'fly-by-wire' systems in the military airforce – systems which rely on computers to keep the aeroplanes in the air because the surfaces are kept unstable – a virus in the flight control system could destroy the aircraft because the pilot cannot fly it unaided. The Airbus A320 is the first commercial aircraft with a fly-by-wire system."

The Ministry of Defence told *Popular Computing Weekly* that "a range of measures are taken to protect secret MOD information from unauthorised computer access but the methods cannot be revealed. Security is reviewed constantly."

● Emma Nicholson, MP for West Devon and a former computer operator at ICL, has compiled a dossier containing evidence from banks, police forces, the British Computer Society and computer mainframe manufacturers which she will present to the Prime Minister.

Stephen Castell, an information technology consultant, has rejected firmly the idea of outlawing computer

Continued on p7 ►

## Forger rumbled by Gremlin Graphics

A COMPUTER PLAYER hit on a novel way to get his hands on leisure software. M. E. Pryke of Sudbury, Suffolk wrote to the *East Anglian Daily Times* offering his services as a freelance reviewer of computer software claiming to have several years' experience.

The paper replied asking for a sample of his work. Pryke sent a sample review and the newspaper wrote to say it was not interested but that it would keep his name on file.

Pryke took the original letter, covered the text and made a photocopy. He wrote a letter on the headed paper pretending to be the editor saying that Pryke's reviews were to be published in the newspaper and that other reviews would be published at a later date.

Pryke forged the editor's signature



Exposed: Pryke's forged letter from a newspaper editor.

and sent a copy of the letter, together with a covering letter from himself, to almost every software house in the U.K.

Pryke ended the letter by saying: "Please contact me direct at the above address (his home address) as I work

freelance and I cannot be responsible for products addressed to any other person."

The deception was discovered by accident when representatives of several software houses who knew Paul Nixon, the newspaper's software reviewer, including Richard Barclay of Gremlin, telephoned to find whether he was leaving. A quick check with the reference number at the top of the letter revealed it to be a forgery.

With Barclay's assistance, Nixon contacted as many software houses as possible alerting them to the forged letter.

Pryke's actions may have been illegal because he could have been guilty of "obtaining pecuniary advantage by criminal deception." The *East Anglian Daily Times* has sent a warning letter to Pryke about the affair.

## This Week

### LETTERS p.9

Why aren't software shops as cheap as mail order outfits? And what about the Atari 8-bit? Plus an erogenous moan...

### HOTLINES p.11

News on *Run the Gauntlet* plus what will be released at the Euro trade show in April. Plus the latest full price chart from Gallup!

### SPECTRUM SWIFTDISC p.13

John Wase reviews the latest disc interface and drives for the Sinclair Spectrum.

### 3-D AMIGA p.16

A new book due out soon explains how to program 3-D graphics.

### ARCHIE NOUVEAU p.19

A new Archimedes art package gets the once over from Martyn Lovell.

### D PAINT III p.20

Alan Tomkins is already using the latest package from EA in his games designs.

### SOUNDHECK, p.23

A new way of composing electronic music on an ST is examined.

### GAMESWEEK p.25

Cyberoid II, Gilbert, p.28  
FDragonscape, Raffles, p.30  
Vigilante, p.32  
Adventure Bridge, p.37  
Hints 'n' tips, p.38

### WIN AN ST HARD

### DISC p.41

### MINI OFFICE ST, p.43

Comms and spreadsheet software reviewed.

### COMMS COLUMN,

### p.43

Mal is disturbed by censorship moves.

### KENN GARROCH, p.58

C-64 and ST problems this week.

### FEEDBACK

John De Rivaz on the data protection racket.



# Number two quits U.S. Gold as Rainbow Arts pulls out

TIM CHANEY, operations director and second-in-command at U.S. Gold has quit the company. He was responsible for overseeing all company operations, sales and marketing of the company's products and coin-op licensing.

Chaney has been with the company for four years and is leaving to build his own company specialising in consultancy/agency contracts for U.S. and Japanese software publishers and hardware agencies. "There is a wind of change within the marketplace and being an independent entity with a proven track record could be the most lucrative vantage point at this stage of my career," said Chaney. He will not be replaced at Gold.

Compared to its usual standards U.S. Gold had a disappointing Christmas. It failed to dominate the charts with its big (and expensive) Christmas

coin-op, *Thunderblade*. In addition, developers Rainbow Arts and U.S. Gold have parted company after a partnership which lasted just over a year. U.S. Gold gives no particular reason for the split beyond saying that it is time it moved on to more lucrative deals.

Two Rainbow Arts games involved U.S. Gold in legal arguments, *Great Giana Sisters* and *Katakis*. The latter was withdrawn after threats of legal



*Katakis*: too much like *R-Type* but successfully revived in the *Demari's* version.

action from Activision because of its alleged similarity to *R-Type*. Ironically, the reaction of dealers to *Demaris*, which is the version of *Katakis* approved for release by Activision, "has been very encouraging" according to a U.S. Gold source.

Jurgen Goedner, managing director of Soft Gold, which owns Rainbow Arts, gave *Popular Computing* his reason for the split: "Sales have not been as high as we expected. U.S. Gold has a very tight release schedule for its own products which has meant that some of our products have not been released until much later than their West German release dates. With a computer such as the Amiga a period of time such as six or eight months can make a lot of difference to the quality of a game. As for the *Great Giana Sisters* and *Katakis* in the U.K. all I can say is that we had no problems



Tim Chaney: feeling the "wind of change".

in Germany. The split was purely business. We are still the exclusive distributors of U.S. Gold products in the German speaking countries." A spokesman for U.S. Gold had "no comment" to make on the future of its distribution deal with Rainbow Arts in Germany.

Elsewhere in the industry, Electronic Arts and Martech have split up. The contract between the companies had come to an end and both decided to go their own ways. Martech is now looking for another distributor.

## Recipes cooked up by computer

PC OWNERS who fancy their chances as great chefs will soon be able to use their computers to help them in the kitchen.

*Bon Appetit* can help the user produce a tasty meal from the contents of his fridge. He inputs details of the available ingredients into a computer and a list of recipes based on the ingredients will appear. The program adjusts quantities automatically for the number of guests and gives cooking instructions.

The program is also an electronic cookbook with a database of hundreds of recipes. They can be accessed by name, course or by keying-in ingredients. *Bon Appetit* prints-out recipes, prepares and prints shopping lists and offers tips to save time and improve cooking techniques.

*Bon Appetit* is supplied with a bonus disc containing more than 200 recipes from the leading food magazine in the U.S. of the same name. The software is available for the PC only and retails for £39.95 inclusive.

For further details contact Software Circus on 01-436 2811.

APPLE COMPUTER has won the first round of its year-old copyright court battle against Microsoft but the initial scope of the victory has since been limited by the judge.

The court case concerns a 1985 licensing agreement with Apple which allowed Microsoft to develop the first version of *Windows*. Apple alleged that Microsoft and Hewlett-Packard, whose *New Wave* product incorporates aspects of *Windows*, violated copyrights held on the audio-video interface of Macintosh computers.

San Francisco Federal Judge Schwarzer ruled originally that *Windows* 2.03 exceeded the limits of the 1985 agreement. He has since limited the scope of his judgment by ruling that although Microsoft cannot use the licence agreement as a "complete defence" against Apple claims that Microsoft *Windows* 2.03 operating system infringes its copyrights, the agreement allows Microsoft to use visual displays which were the subject of the accord "in current and future software products."

If Apple wins the next stage of the case, which is expected to begin on April 14, both *Windows* and *New Wave* may have to be changed. That would be an expensive process for both companies. Further complications arise with the fact that *Win-*

## Apple out to break Microsoft windows

dows is the foundation of a new program called *Presentation Manager* which is at the heart of the latest generation of IBM products.

Microsoft's U.K. managing director David Svendsen told *Popular Computing Weekly*: "This is the first of many battles and we are very very confident about our case."

Al Eisenstat, Apple chief financial officer, commented on the judge's

original ruling: "We are pleased by the ruling as it validates the Apple contention that *Windows* 2.03 exceeded our 1985 agreement with Microsoft. We look forward to resolution of the remaining issues in the case."

As for the implications for the IBM *Presentation Manager*, a spokesman for Apple said that the lawsuit did not name IBM and therefore the company would not be involved.



Apple claims that Microsoft's *Windows* 2.03 breaches copyright of the Macintosh window environment.



# RED HEAT

The heat is on ... and the chase is in full cry as East and West join forces to hunt down a Soviet drug-dealer. The two detectives - one Russian, one from Chicago - both have different reasons for capturing their prey as they come face to face with the 'Cleanheads' gang, fist fights, gun fire, and

a breathtaking bus chase. The hottest film tie-in to date - it's all action with stunning graphics - feel the heat - see RED! SPECTRUM COMMODORE AMSTRAD ATARI ST AMIGA

£8.99  
£9.99  
£9.99  
£19.99  
£24.99



© 1988 Carolco Pictures Inc. All Rights Reserved.

Ocean Software Limited  
6 Central Street  
Manchester · M2 5NS



Telephone: 061 832 6633  
Telex: 669977 OCEANS G  
Fax: 061 834 0650



NEW TO THE UK  
THE AMAZING  
**FASTNET**

LOCAL AREA NETWORK SOFTWARE  
**ONLY £29.95**

- \* Network 2 or 3 IBM XT/AT's and compatibles, including laptops via their serial ports.
- \* Use normal DOS commands, DOS 2.0 or later
- \* Share Disk Drives, Programs, Printers, Modems etc.
- \* Speed selectable up to 115,200 Baud.
- \* Memory requirements approx 12k.
- \* All computers available for use.
- \* Supplied on dual media disks.
- \* Many thousands already in use worldwide.
- \* Simple RS232 cable wiring diagrams are included.
- \* HOTLINE support available.

Custom made cables are available price £8 (fixed) + 12p per foot.  
eg 50ft cable = £14. Please state length and if either RS232  
DB25 or DB9 connectors are required.

FASTNET has been tested with cable lengths of up to  
90 feet each, running at full speed.

*All prices are fully inclusive*

Please enclose cheques with order

**David Thorpe**

(Software and training consultant)  
45 Lord St, Crewe, Cheshire CW2 7DH.

Tel: Crewe (0270) 211910, 10am to 9pm voice  
(0270) 580099 Data V21 V22 V22b is 9600 HST 24 Hours.

# PSION ORGANISER II

**NOW YOU CAN GET ORGANISED FOR NEW,  
UNBEATABLE PRICES!!**

FOR EXAMPLE:

	RRP	OUR PRICE
PSION ORGANISER II XP	£140	£120
PRINTER	£225	£175
32K DATAPAK	£34.95	£28
COMMS LINK (RS 232) with IBM PC/XT PLUG	£59	£48
FINANCE PACK	£29.95	£25.00
LEATHER POUCHES	£17	£12.50

We give further discounts to institutions such as colleges and hospitals and special prices to companies buying in bulk. We also have a selection of third party products available.

We offer prompt delivery on all orders, or you may collect, by arrangement, from our West End Office.

**Phone or write NOW for details and full price list!**

0836 790159

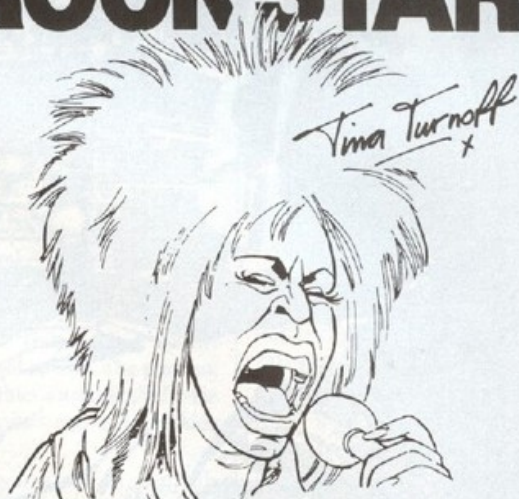
01-539 9353

01-734 2603

Fax: 01-734 2603

PREMIER HOUSE  
SUITE 116, 77 OXFORD ST  
LONDON W1

# ROCK STAR

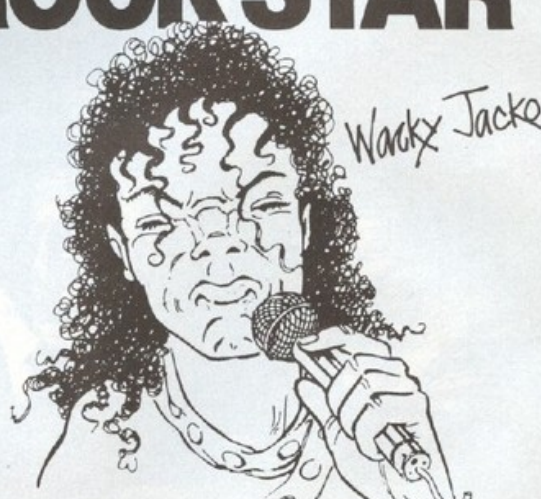


**Could you manage this  
Rock Star ?**



CodeMasters Software Company Ltd., PO Box 6, LEAMINGTON SPA, CV33 0SH

# ROCK STAR



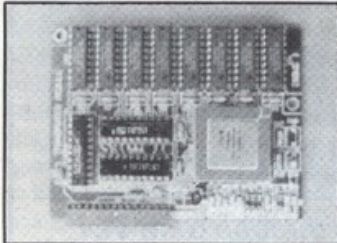
**Could you manage this  
Rock Star ?**



CodeMasters Software Company Ltd., PO Box 6, LEAMINGTON SPA, CV33 0SH



# Chips 'n' lasers: ozone killers



Circuit boards: CFC solvents.

IT SEEMS everyone is going green nowadays. The latest group to join the ranks of the environmentally-conscious are three computer manufacturers – Matsushita, NEC and Epson – according to *Newsbytes*.

Chlorofluorocarbons which have caused serious damage to the ozone layer are used in the computer industry to clean computer chips. Following the international conference on the ozone layer in London which urged a 50 percent reduction in production of CFCs before the year 2000, the three computer manufacturers have pledged to stop using CFCs by the end of the century.

The problem of CFC use in the computer and electronics industry is increased by the employment of CFC 113-based solvents in the cleaning of conventional printed circuit boards.

The U.S. electronics company, AT&T has developed a bio-degradable solvent which could replace CFC-based products. Hitachi has announced plans to terminate its use of CFC 113 and IBM intends to have achieved a 50 percent reduction by 1992.

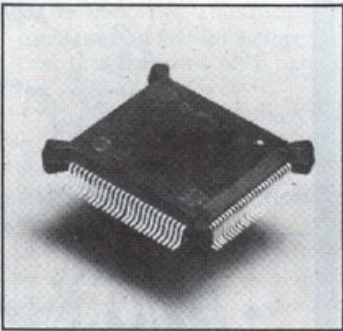
ICI provides many of the solvents used in cleaning circuit boards. The company's technical marketing manager, Dr Whim, told *Popular Computing Weekly*: "CFC 113 is used to remove flux and other contamination from fully-assembled conventional

printed circuit boards for computers to make them work more effectively. It is ideally-suited to this cleaning process.

"For some parts of the electronics industry there are alternative ways now. Some can minimise the use of CFC by changing to special grades with lower emissions, such as Amarklone EXT or solvents which are not CFC-based such as Propaklone."

"Unfortunately there are no slot-in replacements for CFC 113, so we cannot give a timescale. We cannot leave our customers in the lurch. The EEC has said that CFCs should be phased out by the 2000 and we will be working to that."

● Siemens ND2 and ND3 high-speed laser printers give off CFC 113 during a process known as cold fusion which seals the toner to the paper. Siemens was the first company to use the cold fusion process and is the only company using it still. Most companies use the Zenon lamp fusion method which seals the toner to the paper without using any gas. Siemens is developing a new printer which will not use CFCs. Apparently the machines have been re-badged by several other companies, including Storage Technology and Unisys.



Silicon chips: CFC solvents.

## Another Codemasters first!



CODEMASTERS has yet another first to add to its many accolades and triumphs – the first successful head transplant in the world has been performed in the specialist Codemasters Brain Clinic.

Dr Emma Kozwinski who headed the team of internationally-renowned brain surgeons was "over the moon" at the result of the operations. "I doubt if

even Mary Shelley could have come up with anything as amazing as this," she exclaimed.

None of the four patients was available for comment at the time of going to press but all were said to be "comfortable". Sources said that they should be up and about by April 1. *Popular Computing Weekly* wishes them all a speedy recovery.

## CIA HACKS SOVIETS

◀ Continued from page 3

hacking. He argues that legislation against computer hacking would be virtually impossible to draft. The definition of unauthorised access would be extremely problematical and the speed of technological change would mean that any technical terms included in the draft legislation would be out of date very quickly. This would

either make the legislation unworkable or cause unnecessary confusion. Alistair Kelman, a specialist in computer law is also against legislation. At a recent conference he stated that making hacking a criminal offence would only drive it underground. He added that hackers are often used by companies to test the security of dial-up services and that the police also receive information about criminal activities from hackers.

## POPULAR COMMENT

The establishment of the Entertainment Software Publishers Association can only mean good news for the industry. It is gratifying to see individual software houses joining together to tackle certain problems, such as software piracy and to improve the promotion of the industry and its products.

Software piracy costs the industry millions of pounds; money which could be spent on product development. It is not only software houses that suffer, ultimately it is the consumer who is harmed by piracy. It is up to the industry to make sure, however, that ESPA does not become a forum devoted to the interests of the publisher above the needs of the consumer.

*Popular Computing Weekly* has consistently tried, wherever possible, to bring to light the murkier doings of the computer world. Any technology is open to abuse and the world of computers is no exception. Hacking and viruses have developed from "harmless" civilian pursuits – or hobbies – into weapons of espionage and sabotage. We should not be surprised that this is so. After all even the relatively harmless world of computer games has shown itself to be open to abuse from racists and pornographers. This is not a reflection on the industry itself but on the resourcefulness of the baser elements of humankind.

## YOUR CONTACTS

FOCUS MAGAZINES

Editor ..... Paul Marks  
News Editor ..... Billy MacInnes  
Production Editor ..... Michael Johnson  
Chief Sub-editor ..... Harold Mayes MBE  
Assistant Editor ..... Andrew Banner  
Staff Writer ..... Adrian Pumphrey  
Art Assistants ..... Paul Ellis, Simon Pipe  
Contributors: Technology: Kenn Garroch. Music/MIDI: Tony Sacks. Comms: Steve Gold, Malcolm Arnold. DTP: Tony Hetherington. Simulators: Lee Paddon. Arcades: John Cook. Adventure: Tony Bridge; Ken Matthews. CIA: Rik Henderson.  
Advertising Manager ..... Julia Mathieson  
Display Executive ..... Noel Nelson  
Display Executive ..... Richard Vaughan

Classified Executive ..... Elizabeth Solanke  
Classified Executive ..... Nicholas Carr  
Publisher ..... Perry Trevers  
Publishing Director ..... Paul Coster BSc  
Financial Director ..... Brendan McGrath  
Chief Executive ..... Richard Hease  
Popular Computing Weekly, Greencoat House, Francis Street, London SW1P 1DG. Telephone 01-834 1717. FAX 01-630 6165.

© Focus Magazines 1989. ISSN 0265-0509.  
Typeset by Hamilton Press. Printed by Carlisle Web Offset. Distributed by SM Distribution, Streatham, London SW16. Telephone 677 8111. Subscription rates: UK £35 per year. Overseas £49.95 per year.





*Like nothing you  
have seen before*

*Bloodstone*

mpe

## Gem-Forth/ST

Version 2.0 for the  
Atari ST/Mega ST, with:

- Graphics and Windows through GEM VDI and AES Interfaces.
- Fast Line-A Graphics.
- Floating Point.
- FRED Screen Editor.
- 68000 Macro Assembler with control structures and local labels.
- Large source code file of examples.
- Detailed manual

Price: £49 inc. VAT

MicroProcessor Engineering Ltd.

133 Hill Lane, Shirley, Southampton SO1 5AF

0703 631441

Also available from Silica Shop

## ROCK STAR

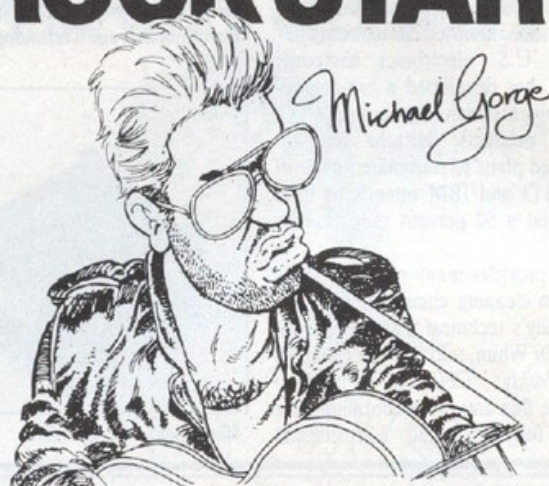


Could you manage this  
Rock Star ?



CodeMasters Software Company Ltd., PO Box 6, LEAMINGTON SPA, CV33 0SH

## ROCK STAR



Could you manage this  
Rock Star ?



CodeMasters Software Company Ltd., PO Box 6, LEAMINGTON SPA, CV33 0SH



## STAR LETTER

### Where's the bulk?

I often buy games via mail order companies for my Atari ST. The only reason I do so is because they are £5 to £10 cheaper than shop prices. I understand that they are cheaper because the games are ordered in bulk but what I do not understand is why cannot shops do this? Mail ordering can be frustrating, as sometimes one may have to wait months before receiving the game. Buying games from shops is much better – apart from the price. I ordered my computer from a mail order company and after three very frustrating months – and many letters and telephone calls – eventually I received it.

Can you tell me why I found *Computer Gamesweek* in the

middle of your magazine? I hope you will continue with it as I am sure many people like the idea of two magazines for the price of one.

Dominic Melville,  
Penarth.

**Mail order companies can sell software at generally lower prices because they have very low overheads – like not having to pay rates for a shop. As for *Computer Gamesweek* it is here to stay? making *Popular Computing Weekly* by far the best value-for-money computer weekly.**

### 8-Bit debate

I read with interest and surprise the comment by Ewan Dalton, in *Feedback* in *Popular Computing*, 23 February 1989.

I agree with a lot of his comments but am amazed by his lack of knowledge regarding 8-Bit Atari computers, especially the 65XE.

The 8-Bit Ataris have been around for a long time, and there is no doubt that the Atari is the finest 8-Bit computer ever made for sound, graphics, ease of programming, all the documenta-

tion anyone could ever wish for and a help and back-up service second to none.

In fact, no other 8-Bit computer has sold 100,000 units over the Christmas period alone. It is the third most popular after the Spectrum and Commodore and beats both of them hands down and is not overpriced as most other computers are either.

An XL12 cassette player can be purchased for £12 brand new, post-paid. I have over 70 of the hundreds of cartridges available and have recently received a catalogue of over 15 thousand games on cartridge, tape, disk etc from Silica Shop. I don't wish to crow, but the Atari 8-Bit will be going strong, when all the other 8-Bit Computers are dead and buried. Dalton is wrong to state or imply that there is 'a better' 8-Bit machine.

Ron James,  
Preston.

### Erogenous moan

The lead article of your March 16 issue about 'On-Line Porn' contains major inaccuracies which I feel you should look into, and correct in your next issue.

This article is accompanied by two screenshots taken from Microview. Part of the article suggests that MicroView's adult Closed User Group known as the "Erogenous Zone" provides animated digitised pictures of oral sex, pornographic stories, adventure games and sexual contact advertisements. It also suggests that MicroView make no attempt to find out the age of the user before they are allowed access to the area containing adult material.

MicroView wishes to point out the following:

1) MicroView was distressed to see adult material reproduced in a magazine targeted at the young computer games enthusiasts. MicroView questions the morals of people who publish words and phrases such as "oral sex" and "nympho" in a magazine commonly read by nine year old children.

2) The screenshots were published without the knowledge or permission of MicroView. Publishing such screenshots infringes our copyright, and goes

against all accepted practices.

3) MicroView's host software is not capable of supporting animated digitised pictures, or adventure games.

4) All MicroView users have to register before access to any part of the system is allowed. A questionnaire has to be completed which includes a request for the user's age. Thus the age of each user is known before access is allowed to ANY part of the system.

5) The main part of MicroView consists of topical chatlines about radio, music, and jokes, and is supported by a features

area with items such as horoscopes and trivia. A separate closed area contains the adult material. Users are locked out of this area until a written request to join the club is received.

6) Once a written request is received, a thorough check of the user is made before allowing them access to the adult area. This includes cross referencing their declared age to ensure that they are over 18. MicroView neither encourages nor permits minors to enter its adult area.

7) To obtain the material for their article, your staff joined the adult club known as the Erogenous Zone in the correct manner by sending a £10 cheque and a signed written request.

8) In the course of their "investigation" they composed and sent highly erotic material to a female user.

9) MicroView requests that *Popular Computing Weekly* print an apology for misleading remarks made about the admission of minors into its adult area, which have been made without any foundation, and have brought MicroView into disrepute.

Chris Rollings,  
Sysop, MicroView,  
London E17.

Some simple facts:

• At no time were our investigating staff asked for

proof of their age. That is the whole point of the article as it affects you – why were we not verified? What does "cross-referencing their declared age" mean? If you mean asking the sysops of other boards, that sounds wholly unreliable.

• We have been publishing bulletin board screenshots for a very long time. You are the first to object on the grounds of "copyright". According to barrister and computer lawyer Alistair Kelman, the 1985 amendment to the copyright act, which hauled in computer software, protects the program code, but not explicitly the screen layouts.

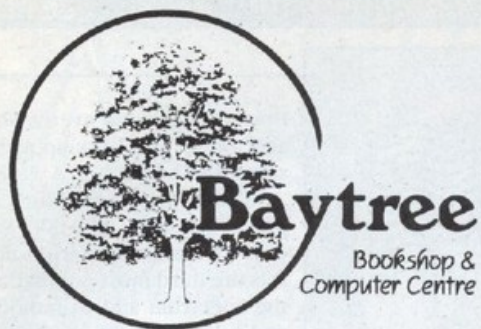
• We did not say MicroView supported animated pictures or porn pictures of any kind. That is a connection you have made owing, presumably, to the proximity of two sentences.

• The vast majority of our readers are aged between 13 and 24 years. The words used in our report are no stronger than those appearing in any daily paper.

• When "Randy Mandy" came up on the chatline requesting people to drop her a line, our staff jokingly obliged. This is beside the point – our reporters are over 18!







# Baytree Bookshop Ltd.

## AMSTRAD ADVANCED SYSTEMS CENTRE

WE HAVE STOCKS OF

PC 2386  
PC 2086  
PC 6140  
PC 1512

PCW 9512  
PCW 8512  
PCW 8256

SPECIAL OFFERS ON

**PC 1512 + PRINTER + 'ABILITY'**

**PCW 9512 – phone**

*We support these machines with books, software, ancillaries, and offer full technical assistance.*

*Computer books available on mail-order.*

Baytree Bookshop Ltd.  
13 The Precinct,  
Waterlooville,  
Hants. PO7 7DT

Tel 0705 263084  
Fax 0705 259069  
T Gold – Mag 35689  
Telex: 265871 MONREF G  
Quoting 72: MAG 35689  
Charter Group Book Seller

We welcome:  
Official Orders  
Export Orders  
Access/Visa Orders



## HOTLINES

Forget the house music and get into Hubbard music. I confess it is a bad joke but who cares. Master of sonics Rob Hubbard is the person responsible for the atmospheric dirge at the beginning of *Populous*, a game of godhood from Electronic Arts.

Sales Curve, the people behind the forthcoming *Silkworm* and *Gemini Wing*, are producing the Sega smash *Shinobi* for Virgin Mastertronic. The game will be

available on all major formats later this year.

This *Gauntlet* has more to do with the television children's series than Dirty Harry, although the way children behave it may be a little difficult to tell the difference. Speed is the name of the game, as four teams compete over three types of terrain - water, off road and the assault course.

Each section has a choice of four vehicles, of which one will be selected for the race at random by the program. On the water the four types of vehicle are hovercraft, speedboat, jet ski and inflatables. For the land section

there are two sizes of buggy, a four-wheel bike and the six-wheel amphibious all-terrain vehicle. The final section is the assault course, which takes place on foot over slippery logs, water holes and explosions.

Points are awarded for each section depending on your finishing position. The overall winner will be presented with the *Run the Gauntlet* trophy.

The undefeated hero of the streets is back in *Renegade III*. This time his rather downtrodden girl friend has been captured by being from the future. To complicate matters further our hero has been thrown back in time, where his only hope of a heroic rescue is to battle his way through the prehistoric, Egyptian and Mediaeval time zones. *Run the Gauntlet* and *Renegade III* are due for release later this year from Ocean.

Next month the European Computer Trade Show will be exhibiting almost 100 new products, showing what will be hot on your micro this year. Unfortunately I can do little but whet your appetites, for this is a trade show and there is no general admission.

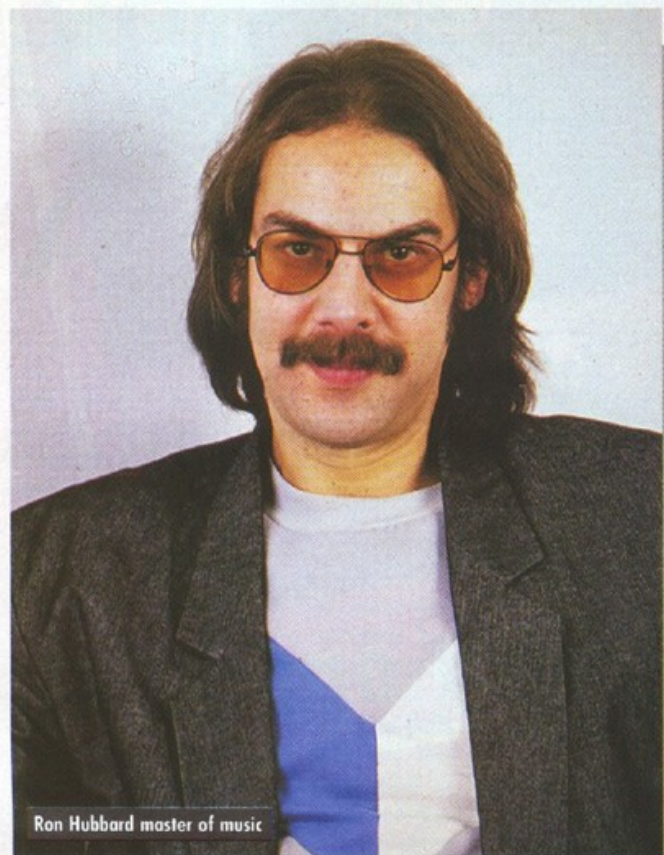
On the gaming side, Infogrames will be displaying *Tintin on the Moon*, *Temples of the Flying Saucers* and *Quest for the Time Bird*. From Activision there will be *Timescanner*, *The Real Ghostbusters* and *Millennium 2.2.*, *Navy Moves* and *Aspar Grand Prix* from Microdigital, *Bio-Challenge* from Palace, to name a few.

For the Amiga-owning artists there will be *Deluxe Paint III* from Electronic Arts and *Design 3D*, *Video Generic Master* and *Video Wipe Master* from HB Marketing.

On a more serious note are *Tempus 2*, *Highsoft Forth*, *KnifeST*, *Cartoon Tilting Design* and *3D Fonts I & II* for the ST from Highsoft and for the PC, the German company DMV will be displaying *Hyperkey Plus*, *FontEdit PC*, *Fractal Generator 3D*, *Ergo*, *Context PC* and *Infoware*.

Eight-bit owners need not worry, as programs for the Amstrad CPC, Spectrum and C64 will also be on display.

Adrian Pumphrey



Ron Hubbard master of music



Renegade III: monster bashing

## GAMESCAN

### TOP-TWENTY FULL PRICE CHARTS

No.	Title	Last Week
1	Robocop Ocean	1
2	Dragon Ninja Ocean	5
3	Wec Le Mans Imagine	2
4	Emlyn Hughes International Soccer Audiogenic	4
5	In Crowd Ocean	9
6	Operation Wolf Ocean	3
7	Fun School 2 Database	RE
8	Falcon Mirrorsoft	8
9	Pac-Land Grand Slam	RE
10	Batman Ocean	12
11	After Burner Activision	6
12	Denaris U.S. Gold	NE
13	Thunder Blade U.S. Gold	7
14	Double Dragon Melbourne House	10
15	Giants U.S. Gold	13
16	War In Middle Melbourne House	19
17	Barbarian 2 Palace	11
18	Last Ninja 2 System 3	RE
19	Ballistix Psychapse	NE
20	TV Sports Football Mirrorsoft	RE

COMPILED BY GALLUP



# KICK



# OFF

**BLISTERING PACE**  
**PIXEL PERFECT PASSING**  
**SUPERB TACTICAL PLAY**

A Soccer Simulator which  
is not only accurate and  
realistic but is also  
great fun to  
play

Whatever your style of play may be, be it playing the Long Ball or playing the Sweeper, your players will be in position to receive the passes, control the midfield and tackle an advancing striker. Each player on the field is an individual with a unique combination of four attributes - Pace, Accuracy, Stamina and Aggression. Watch out for the Brazilians at the International level, they are dynamite.

\* Full size multi-directional scrolling pitch with scanner showing all the players on the field.

\* Option to practice and learn ball control, take corners and practice penalties.

\* 5 Skill levels, International to Sunday League. The levels of both teams set separately. The ultimate challenge is the defeat of the star studded team of Internationals by the Sunday League of no hoppers. A super human test of skill and concentration.

\* One or two players option. \* 4 distinct tactics.

\* League competition for 1 to 8 players. Load and Save League facilities.

\* Simple controls to dribble, shoot, pass, chip or head the ball or do a sliding tackle.

\* Amazing ball simulation takes account of the ground and air friction. Direction changing breeze at the higher skill levels

\* 9 types of Corner kicks, Penalties, Yellow and Red cards and a host of other features like players getting tired by the end of the game, time wasting, injury time, etc.

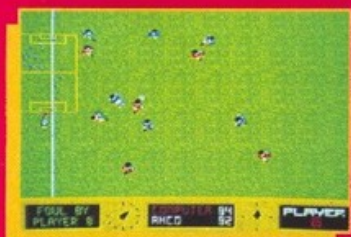
**PLAYING IT IS EASY**

**MASTERING IT WILL TAKE TIME - A LOT OF TIME**



**AVAILABLE ON**

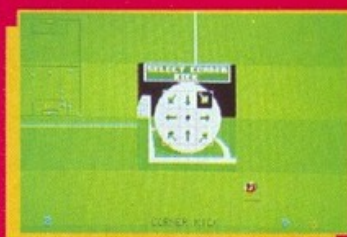
AMIGA	£19.95
ATARI ST	£19.95
CBM 64 Cassette	£9.95
CBM 64 Disk	£14.95
IBM PC Comp.	£24.95



AMIGA



AMIGA



ATARI ST



# ANCO

ANCO SOFTWARE LTD., UNIT 10, BURNHAM TRADING ESTATE, LAWSON ROAD,  
DARTFORD, KENT. Mail Order by Cheque, Postal Order, ACCESS or VISA.  
Telephone No.: 0322 92513/92518. FAX No.: 0322 93422.



**B**ecause early heavy disc drives stored only 40K – 100K if you were lucky – on fragile 8in. discs, Clive Sinclair became obsessed with the idea of light, portable storage systems using pocketable cartridges. Unfortunately, he did not anticipate rapid parallel developments in disc technology, leading to small, high-capacity discs, and no standard disc interface was built into his Spectrum computer.

Many third-party disc systems were devised; most have bitten the dust. The Opus Discovery, now obsolete, has an active user group and is still around in large numbers. Disciple/+D systems by Miles Gordon are currently available and, more recently, I received a review kit of a third contender, the Sixwords Swift Disc interface.

The initial batch of Swift interfaces in plastic boxes looked surprisingly like interface 1, with the trade mark machined off. Efforts by Swift to buy the moulds failed;



The Swift Disc II interface and disc drive on a +2.

# A swifter Spectrum

they went as aluminium scrap. Consequently advantage was taken of a total re-design to introduce a number of new features.

This issue – I had version 4.1B – is in a black upright plastic box – figure one – finished with company name and logo, a knob on top and a through port, rather like a Multiface or a Kempston interface, but some 30 percent bigger. Although a snug fit on an old rubber-key 48K, a plus or 128, it wobbled rather more on a +2. Velcro pads thoughtfully were included but users like me would have needed several pairs to enable swapping of their Spectrum families. To the left were the disc ribbon cable and optional Centronics printer port plugs – not very positive, a notched shroud would have helped; to the right, a Kempston joystick port.

## Driven nuts

The interface will take two drives and supports a range of commands from Basic with a separate batch “from the button”. That is where I first came unstuck; I connected to a drive unit, opened the handbook – A5, 32 pages photocopied carefully from a good laser printer original with a pale-blue card cover – and tried to format a disc; it would not format – none of mine would. Frantic calls to Sixword produced one of its drives, which did.

Kenn Garroch's article on drives a few weeks ago set out the basic principles. On

**John Wase  
reviews a  
newcomer to the  
Disciple/+D  
market, the Swift  
Disc Interface from  
Sixword.**

activation, a drive mechanism needs time to attain speed before information is fed to it. The read-write head takes time to lower and rise and it takes time to get from track to track – the stepping rate. This indicates some of the pitfalls; older drives often have too slow a stepping rate – the Swift interface demands six milliseconds maximum.

Although my 3.5in. Mitsubishi was within this specification it had no head stop on the mechanism; the head retracted past track zero and re-location was a problem with the Swift; the 5.25in. drives were just too slow. One promptly failed in resentment. A new replacement three-millisecond step TEAC from Pinboard worked perfectly, although Sixword said it never succeeded with 5.25in. The Mitsubishi, configured as drive 2, even stopped the Swift drive – drive 1 – working when they both fed a common connector. The Discovery and +D both worked satisfactorily with all drives; check

yours with a loan Swift before purchase.

Various 80-track double-sided units tested the Swift performance against Discovery and +D using the program in figure two. This measures transfer rate rather than random drive operations, so a clean formatted disc was loaded/saved sequentially with large portions of code. Snag two – the formatted capacity of Swift discs is lower than the Discovery (718K) or +D (780K) at 632K (default 32 headers) or 619K (80 headers maximum). Having obtained all my timings for the latter first, I had to adjust my program and start again.

The results – figure three – show clearly that, for saving, the Swift was swiftest by a small but significant head. It took the same timings to load, whereas here the +D was decidedly faster. The older Discovery ground on at Microdrive speed, about six times longer. So the Swift is pretty swift.

Pressing the black button on the interface freezes the program and permits all kinds of things. You can save “image” files of the contents of memory – 128K mode is detected automatically and screens can be swapped with the “break” key; load/erase/write protect/unprotect files, format/catalogue discs, copy/rename files, back-up discs and alter address contents – i.e., do Multiface pokes. In this respect it does rather more than the +D but, on the other hand, it will not dump screens. The only

Continues over ►



◀ Continued from page 13

obvious bug was with twin discs. Copy works from disc 0 to disc 1 but not disc 1 to disc 0, and the copy routine leaves the screen corrupted and the Spectrum locked.

From Basic, keywords are suffixed with a "%" character, e.g., LOAD%. So you can load/save/erase/merge files, cat/format discs. Syntax for open/close is modified to evade the fatal Sinclair ROM bug. File handling is much more comprehensive than the +D. Sequential files – operated on with print#, input# and inkey# are available for data input and output and, in addition, can be opened to append information; eof is available as an end of file marker.

In addition, in% and out% are used for fixed-length records allowing true random access. Other features include %err and %line which allow you to trap errors, print the offending line number and retry, %lower to turn off interface case conversion and %date to set the interface date recorded in the catalogue of each file.

Co-author John Cousins told me that compared to the original version, the latest is no longer confined to an RS232 port and a Kempston joystick. You can disable the joystick from software and you can have a Centronics port if you wish, though curiously, you still have to format it with a baud rate. This is all very well but at a slightly higher price – printer port extra although cable is included – compared to the volume sales +D, what is the inducement to buy?

The answer is in another purchasable item, the Microdrive emulator. It is in a big box – a little disc with a 14-page A5 handbook. On the disc are three files, "run", "emul" and "copy". Get a pile of blank formatted discs, load "emul", then try the familiar Microdrive syntax. You can format up to four pseudo-cartridges on a disc.

The principal difference between emulator operations and true Microdrive operations is the speed at which it all happens; formatting a cartridge is almost instantaneous. That is achieved because the combination of emulator and hardware supports all hook codes and large portions of the ROM of interface 1, version 1. This even allows many of the early programs

```

1 REM TEST PROGRAM FOR DISC
  DRIVES
2 REM TO TEST LOADING CHANGE
  SAVE TO LOAD IN LINE 20 OR 22
10 CLEAR 24999
15 FOR a=1 TO 15
19 REM SWIFT
20 SAVE %0;CHR$(64+a)CODE 250
  00,44535
21 REM +D/DISCOVERY
22 REM SAVE "%m";1;CHR$(64+a)
  CODE 25000,44535
25 PRINT CHR$(64+a)
30 NEXT a

```

Timing test routine.

which had a nasty habit of jumping straight into the ROM to work.

## Hanging loose

The interface 1 network is not fully-supported; instead, one of the network hook codes is assigned to put the Sixword interface in "transparent mode". The "copy" program takes advantage of this feature to activate interface 1 – which must be fitted directly into the Spectrum with the Swift interface behind – and allows it to reel the contents of its Microdrives straight onto the disc.

A colleague and I watched, fascinated, as the whole of *The Writer* went on to pseudo-cartridge, all 23 files, at an unbelievable speed. So did *Tasword 3*, *Omnicalc* and *The Artist*. This, of course, is why even the Centronics interface must be formatted with a baud-rate; it is an emulated interface 1 RS232 interface with subsequent Centronics conversion.

Veterans will remember that the Sinclair "run" command was used to auto-run a cartridge, provided that it was in drive 1. The emulator names the pseudo-cartridge Microdrive 1, 2, 3 and 4, so each disc can have only one auto-running program on it. Like many people, I dislike my precious programs running on discs which are also keeping day-to-day files and clearly Sixword has thought about this, too, and provides instructions to circumvent the problem by renaming pseudo-cartridges. Care is still necessary, for the emulator recognises only the original pseudo-cartridge names.

How did it work? The software part was very good. The only snags we could find – I called in a long-term Microdrive addict for assistance – were in the printing routines.

This issue has the RS232 port emulated in an identical way to interface 1, so that any programs doing direct printing should work without problems, even with direct port instructions. *Tasword 3* always prefaced its initial outpourings with a row of five italic lower-case os. After that, all was well. *Omnicalc* prefaced every print with five os and *The Writer* printed endless lines of italic os, without stopping.

The two Sixword authors operate a helpline but only between 6 and 7pm on weekdays. This was very frustrating at first until I found that the line is usually much less busy if one telephones promptly at 6pm. This is likely to be difficult for some users and a point to be considered when buying. Using the line, I contacted co-author Cousins, who explained that the Centronics port was relatively new and although it even had to be formatted with a baud rate, there were still problems with programs which did their own thing and had their own code for driving the printer interface, rather than the hook codes which Sinclair documented.

Unfortunately you cannot make a Centronics port exactly like an RS232; the solution is to use the RS232 card which is exactly compatible, together with a serial printer. If your printer is parallel, use a converter. Emulation will then be exact. The authors are aware that *The Writer* has its own code, which explains some of the problems.

The complete package arrives as an interface with Centronics and joystick ports and 3.5in. drive for £153 plus £7 carriage, much the same as the MGT +D interface. It works well, the speed is comparable, but the disc capacity of the Sixword is less and the technical support poorer.

On the positive side, the implementation of open-type files is better, random access is available and, for an extra fee, you can have Microdrive emulation (£12). That could be a great advantage if you have many beloved Microdrive programs, for although most of them are now in +D versions, too, they all cost money.

Sixword Ltd., 24 Chatsworth Close, Fareham, Hampshire PO15 5LS. Tel: 0243 771689.

Comparisons of load and save times for various interfaces.

Disc interface	Discovery		+D		Swift	
	Load	Save	Load	Save	Load	Save
5.25" Opus (Mitsubishi?) drive	417	425	51	87	—	—*
5.25" TEAC drive	—	—	51	87	85	85
3.5" Mitsubishi drive	415	416	51	90	—	—*
3.5" Swift (Panasonic?) drive	—	—	51	89	83	83

All timings in seconds. \* = would not work, — = not tested.



# Micro Mountain!!



TEL 0525 853333

24 HOUR ORDERLINE

## UNBRANDED DISCS

100% Certified & Lifetime Guarantee including sleeves, labels and WP Tabs

NO HIDDEN EXTRAS

## DISK BOXES

5 1/4"	D SIDE 40TPI	PLUS DP100 DISC BOX	D SIDE 90TPI	PLUS DP100 DISC BOX	D SIDE HD 1.6	PLUS DP100 DISC BOX
25	£9.50	£16.25	£10.50	£17.25	£23.75	£29.95
50	£17.50	£24.00	£18.50	£25.00	£46.49	£51.49
100	£33.00	£38.00	£34.00	£39.00	£89.95	£93.95
3 1/2"	S SIDE 135TPI	PLUS DP080 DISC BOX	D SIDE 135TPI	PLUS DP080 DISC BOX	D SIDE HD 2.0	PLUS DP080 DISC BOX
25	£22.00	£28.45	£24.00	£30.45	£61.25	£66.75
50	£40.00	£46.50	£46.00	£52.50	£120.50	£123.95
100	£75.00	£80.00	£85.00	£90.00	£238.95	£239.95

VAT INCLUDED  
FREE CARRIAGE  
ON ALL ORDERS  
OVER £10.00  
ALL PRODUCTS  
CARRY OUR  
NO-QUIBBLE  
REPLACEMENT  
FOR LIFE  
GUARANTEE.

DP020	20 x 3"	£8.95
DP040	40 x 3.5"	£4.95
DP080	80 x 3.5"	£6.95
DP050	50 x 5.25"	£4.95
DP100	100 x 5.25"	£6.95
DP140	140 x 5.25"	£7.95

## LABELS

3 1/2 X 1 7/16  
TRACTOR/FRICTION  
£4.99/1000

TO ORDER  
TEL: 0525 853333

## BRANDED DISKS, TOP BRANDS, BEST PRICES, SHIPPED TODAY.

5 1/4"	3M	DYSAN	VERBATIM	3" AMISOFT
	10 50 100	10 50 100	10 50 100	
DS48	£7.49 £34.45 £66.90	£8.35 £38.75 £75.49	£7.99 £36.95 £71.90	
DS96	£13.15 £62.75 £123.50	£10.15 £47.75 £93.49	£12.35 £58.75 £115.50	
DS HD	£14.25 £66.25 £130.50	£11.99 £54.95 £107.90	£14.49 £67.45 £132.90	
INCL DP100 DISC BOX	ADD ADD ADD	ADD ADD ADD	ADD ADD ADD	
	£5.95 £4.95 £3.95	£5.95 £4.95 £3.95	£5.95 £4.95 £3.95	
3 1/2"	3M	DYSAN	VERBATIM	SONY
	10 50 100	10 50 100	10 50 100	10 50 100
DS135	£15.35 £73.75 £145.49	£14.49 £69.45 £136.90	£13.85 £66.25 £130.49	£14.35 £68.75 £135.50
DSHD	£44.20 £215.95 £429.90	£38.15 £185.75 £369.45	£36.69 £178.45 £354.90	£39.99 £194.95 £387.90
INC DP080 DISC BOX	ADD ADD ADD	ADD ADD ADD	ADD ADD ADD	ADD ADD ADD
	£5.95 £4.95 £3.95	£5.95 £4.95 £3.95	£5.95 £4.95 £3.95	£5.95 £4.95 £3.95

D/SIDED  
£1.99 each  
Packed  
in 10's

WE ALSO SUPPLY RIBBONS, LISTING PAPER, IBM PRINTER CABLES FROM £7.95 AND MUCH MORE.

MICRO MOUNTAIN 0525 853333 (10 Lines). FAX: 0525 850485.

DATAPRO HOUSE, NORTH STREET, LEIGHTON BUZZARD, BEDS LU7 7EQ.

PLEASE SUPPLY

MY COMPUTER IS

I ENCLOSE CHEQUE/ PO for £

OR CHARGE MY ACCESS/ VISA NO. EXPIRY DATE

CARRIAGE £2 BUT FREE ON ALL ORDERS OVER £10.

NAME

ADDRESS

POSTCODE

DAYTIME TEL NO. MCM 12/1

# FUTUREPLACE COMPUTERS

Telephone: 01-692 8700

12 LOAMPIT HILL, LEWISHAM  
LONDON SE13 7SW

ATARI ST & AMIGA OWNERS, WHY PAY TOP PRICES?  
ALL GAMES SOFTWARE AT 30% DISCOUNT

OPEN BANK HOLIDAY MONDAY

## EXAMPLE PRICES

ST
Falcon..... £17.50
Federation of Free Traders..... £21.00
Ballistix..... £14.00
Zany Golf..... £17.50
Baal..... £14.00
Fusion..... £17.50
Star Glider II..... £17.50
LED Storm..... £14.00
Space Racer..... £14.00
Barbarian II..... £14.00
Delas Deliet..... £17.50

AMIGA
Outrun..... £14.00
Dragons Lair..... £31.50
Rocket Ranger..... £21.00
Gauntlet II..... £20.00
ThunderBlade..... £17.50
Space Racer..... £14.00
Ballistix..... £14.00
Scorpion..... £17.50
Baal..... £14.00
Ledstorm..... £14.00
Zany Golf..... £17.50

## DISCOUNT CHART

RRP	Our Price
£12.99	£9.00
£14.99	£10.50
£15.95	£11.00
£16.95	£12.00
£17.95	£12.60
£19.99	£14.00
£22.95	£16.00
£24.95	£17.50

## PRINTERS

Citizen 120D with Parallel Interface.....	See Offer
Citizen 120D with Commodore Interface.....	£138.00
Citizen 120D with Serial Interface.....	£152.00
Citizen LSP100.....	£183.50
Citizen MSP10E.....	£227.70
Citizen MSP40.....	£315.00
Star LC10 Multifont Printer.....	£209.00
Amstrad LQ3500.....	£328.90
Amstrad DMP 4000.....	£316.50

Citizen 180E Printer with Parallel Interface.....	£159.00
Philips 8833 Colour Monitor.....	£235.00
Star LC10 Colour Printer.....	£245.00
Citizen 120D Printer (Parallel & Interface).....	£138.00
Amiga 1 Meg Upgrade.....	£139.00

ATARI ST SUPER PACK: SPECIAL OFFER £349  
INCLUDES £450 FREE SOFTWARE + JOYSTICK INC. VAT

AMIGA A500  
SPECIAL OFFER  
£369.00

NOW INCLUDES TV MODULATOR

## SHOP HOURS

MON.-FRI..... 10am-6pm  
SAT..... 9am-6pm

CREDIT CARD HOTLINE 01-692 8700

ACCESS - VISA - DINERS CLUB - AMERICAN EXPRESS

3 1/2" Double Sided, Double Density,  
135 TPI, Bulk Quantity

10.....	£8.90
25.....	£22.00
50.....	£43.00
100.....	£84.00

Amiga Owners: Yes, these discs will format to 880K. Lifetime Guaranteed.

Free delivery on all hardware. Software add £1.00 per order. All prices include VAT  
CWO to Futureplace Ltd. Also available to order MOBILE PHONES and FAX MACHINES

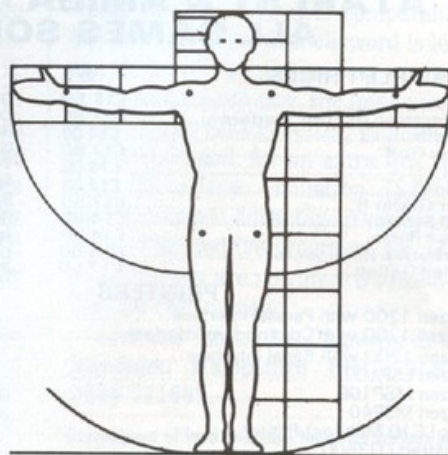




Scene from TRON modelled on the Amiga.

# 3D THINKING

Kenn Garroch reviews the book  
'Amiga 3D Graphic Programming  
in Basic'.



**M**ost books on 3D graphics concentrate on wireframe drawings, rotations and perspective. As anyone who has seen any of the more advanced computer images will know, there is obviously more to it than that. The subject of computer rendering or ray-tracing is sparsely documented, probably because it is not a simple subject.

*Amiga 3D Graphic Programming in Basic* gives the low-down on all of these subjects and develops the ideas into programs which

can produce the image you see on this page. There are three basic ways of producing 3D images on a computer. The first produces wireframe drawings without all the lines which cannot be seen – hidden line wireframes. The second fills in the surfaces produced by the wireframes, giving fairly flat renditions of the object – many modern flight simulators use this hidden surface removal method.

The best method of producing 3D images is ray-tracing. It takes into account the

texture of the surface being coloured, the position of the light source and any reflections and shadows. The realism of the images created with this method means that they take a long time to produce when compared to other 3D methods. Each ray of light must be traced from its source and all the reflections, absorptions and scatter worked out to give the final picture.

The programs to perform all of the hard work are long and, when run under Amiga-Basic, are amazingly slow. The book advises



compiling them – A/CBasic compiler, or HiSoftbasic and so on – to save typing Abacus provides the source files and the compiled versions of the ray-tracer and object editor on a disc. If you are considering using any of the programs in the book, it is well worth obtaining this disc, since it allows you to get started immediately. There are also a few pre-defined pictures supplied, the rocket ship and the crown being a sample.

## Point plotter

The bulk of the 358 pages is devoted to program listings for the main ray-tracer program, a shape editor and a machine code high-speed point plotter. To some extent, the book is very technical and I should think most people will have to put in a reasonable amount of work to get to grips with the vector maths involved.

Fortunately there is a chapter devoted to this subject which explains things well. The introduction tries to put the non-mathematical reader at ease by saying that basic maths skills are all which is needed to understand what is happening. Perhaps, but I think it wise to read through explanatory chapter first. The book tends to dive in at the deep end.

If you obtain the book and the disc, or type-in all the programs – they are sectioned to make them easier to use – you will be able to use them without needing to understand a great deal. The pre-compiled disc programs had a few bugs but I presume that they will be fixed in the final version.

## Hold and Modify

If you have only an A500 you will probably be a little stuck for memory and not be able to produce HAM – Hold and Modify mode gives far more colours than normal – or high-res images. This is not too bad but it will make the desire for that memory expansion even more urgent. The results of the ray-tracer program range from fairly average to superb, depending on the positioning, textures, colours and shapes used to make the image. The book describes all the necessary maths and programming ideas in a reasonably straightforward way and if you want to know more about this subject, it is definitely worth examination.

**Title:** Amiga 3D Graphic Programming in Basic

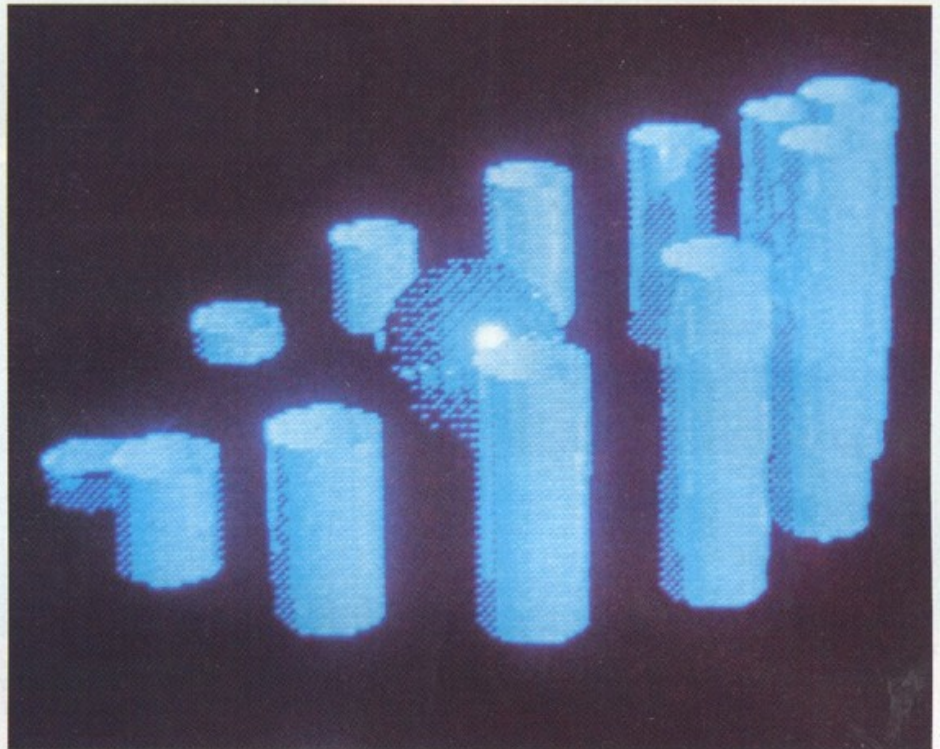
**Authors:** Jennrich, Messmann, Schultz

**Publisher:** Abacus

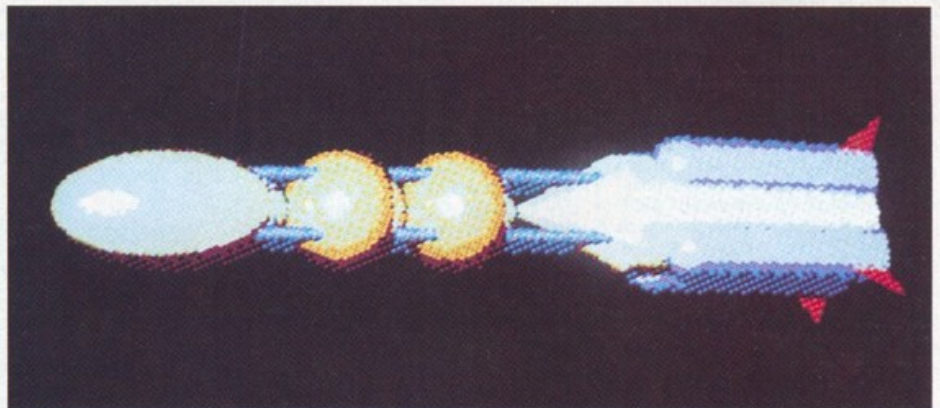
**ISBN** 1-55755-044-1

**Price:** £18.45

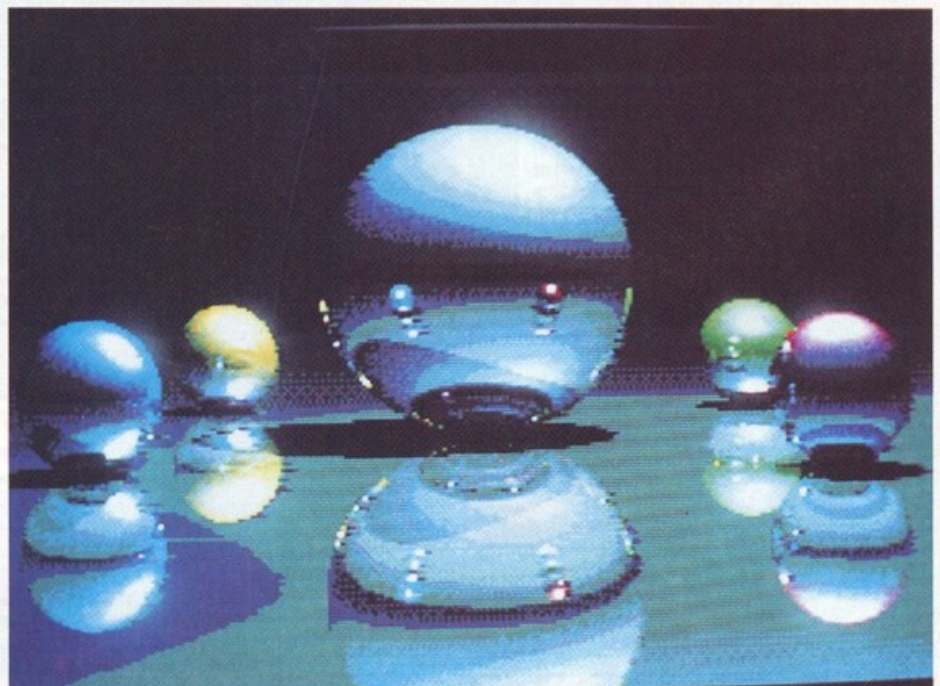
**Disc price:** £16.45 inc. VAT



Ray traced demo on the disc.



Starship created in Basic on the Amiga.

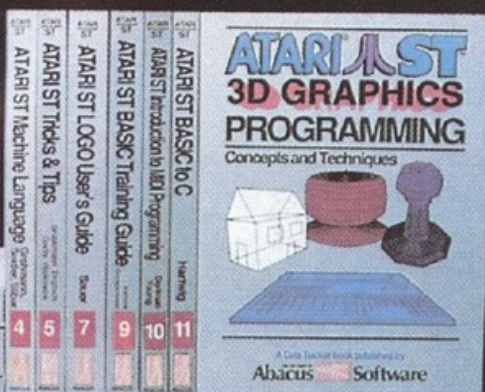


Ray traced cylinders surround a similarly created sphere.



# BESTSELLERS

...from the premiere  
ST book publisher



What reviewers say about Abacus Books:

On ST Internals:

...will not be going any farther than arms reach from my computer...ST Applications ...the best and most useful volume out so far...can't afford not to have it.—STart, Dewitt Robbeloth

On GEM programmer's Reference:

Anyone interested in learning how to manipulate the VDI or the AES will want to have this book at their fingertips...—ST Applications, Richard Kaller  
The next most important Abacus book... —STart, Dewitt Robbeloth

## Presenting the Atari ST

Gives you an in-depth look at this sensational new computer. Learn about the architecture of the ST, working with GEM, the mouse, operating system, all the various interfaces, the 68000 chip and its instructions, LOGO. 180pp £14.95

## ST INTERNALS

Essential guide to the inside information of the ST. Detailed descriptions of sound and graphics chips, internal hardware, I/O ports, using GEM. Commented BIOS listing. An indispensable reference for your ST library. 450pp £16.95

## ST Machine Language

Program in the fastest language for your ATARI ST. Learn 68000 assembly language, its numbering system, use of registers, structure & important details of instruction set, and use of internal system routines. Geared for the ST. 280pp £16.95

## Atari ST for Beginners

Written for the firsthand ST user. Get a basic understanding of your ST. Explore LOGO and BASIC from the ground up. Simple explanations of the hardware and internal workings of the ST. Illustrations, diagrams, Glossary, Index. 200pp £14.95

## GEM Programmer's Ref.

For serious programmers needing detailed information on GEM. Presented in an easy-to-understand format. All examples in C or assembly language. Covers VDI and AES functions. No serious programmer should be without. 410pp £16.95

## ST TRICKS & TIPS

Fantastic collection of programs and info for the ST. Complete programs include: super-fast RAM disk; time-saving printer spooler; color print hardcopy; plotter output hardcopy; creating accessories. Money saving tricks and tips. 260pp £16.95

## ST Disk Drives - Inside and Out

As the foremost publisher of ST books, we announce the newest volume in our continuing ST Reference Library series—**ST Disk Drives - Inside and Out**. This book includes chapters on files, file structures and data management. Thoroughly discusses the floppy disk, the hard disk and the RAM disk both from a programming and a technical perspective. Includes several full-length utilities and programming tools that enable you to further explore to ST disk drives. 450pp £18.95

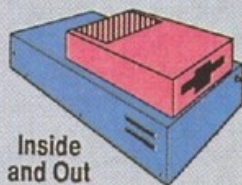
## ST LOGO User's Guide

Take control by learning ST LOGO—the easy to use, powerful language. Includes: file handling, recursion, Hilbert & Sierpinski curves, 2 & 3D function plots, data structure, error handling. Helpful guide for LOGO users. 375pp £16.95

## Intro to MIDI Programming

Discover the magic of MIDI! Learn MIDI programming, how to program your synthesizer, how to buy MIDI software, how to buy a synthesizer, use extended BIOS. Includes source code for ST music box auto-player from Xlent Software. 250pp £16.95

## ATARI ST ST Disk Drives



Inside  
and Out

A Data Becker book from  
Abacus Software

## ST BASIC Training Guide

Thorough guide for learning ST BASIC. Detailed programming fundamentals, commands descriptions, ST graphics & sound, using GEM in BASIC, file management, disk operation. Tutorial problems give hands on experience. 316pp £14.95

## ST BASIC to C

Move up from BASIC to C. If you're already a BASIC programmer, you can learn C all that much faster. Parallel examples demonstrate the programming techniques and constructs in both languages. Variables, pointers, arrays. 230pp £14.95

## ST 3D GRAPHICS

FANTASTIC! Learn how to create fantastic and impressive 3D graphics on your Atari ST. Rotate, zoom and shade 3D objects. All programs written in machine language for high speed. Learn the mathematics behind 3D graphics. Hidden line removal, shading. With 3D pattern maker and animator. 350pp £18.95

Look for these Abacus titles in your  
local bookstores and computer stores.

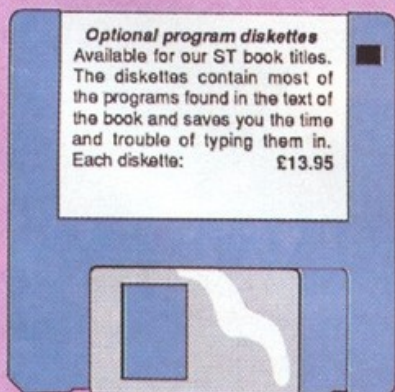
For More Information:

Distributor  
Computer Bookshops Limited  
021-706-1188

you can count on  
**Abacus**



5370 52nd Street SE, Grand Rapids, MI 49508  
In U.S. Call (616) 698 0330





# Artful Archie

**A**rt Nouveau is an impressive new art package for the Acorn Archimedes. The version I reviewed was provisional but I found only two bugs during testing and it felt like a finished product. Mode 15 is used to provide 256 colours and reasonably high resolution.

The program has a bewildering range of special effects. The most versatile is the distort option which allows you to reshape one square picture of any size – known as a 'brush' – to fit into any shape or shapes. It is also possible to bend or enlarge a brush to any size. One surprising omission is a rotate, though flips are available.

One of the most powerful concepts used in the program is that of 'cycles'. They are sets of colours used consecutively. Thus, if I



select a cycle of blue shades and draw four rectangles, each one would be in a different shade from the one before. The 'cycles' are also used for 'graded' and 'shaped' flood fills. The area to be filled is split into parts and subsequent cycle colours are put in each part, providing slowly-changing colour areas.

As well as these more advanced options, the program has the standard paint program features. Its zoom option can magnify up to 16 times and also shows a reduced view. There is a random spray gun and pattern and font editors. The fonts supplied are disappointing and it is impossible to use the Archimedes system fonts but the editor is fairly powerful. A variety of pre-defined shapes is provided and the user is able to create his own as well. Sadly, the user shapes cannot be filled in the normal way. There is also an arbitrary curve generator.

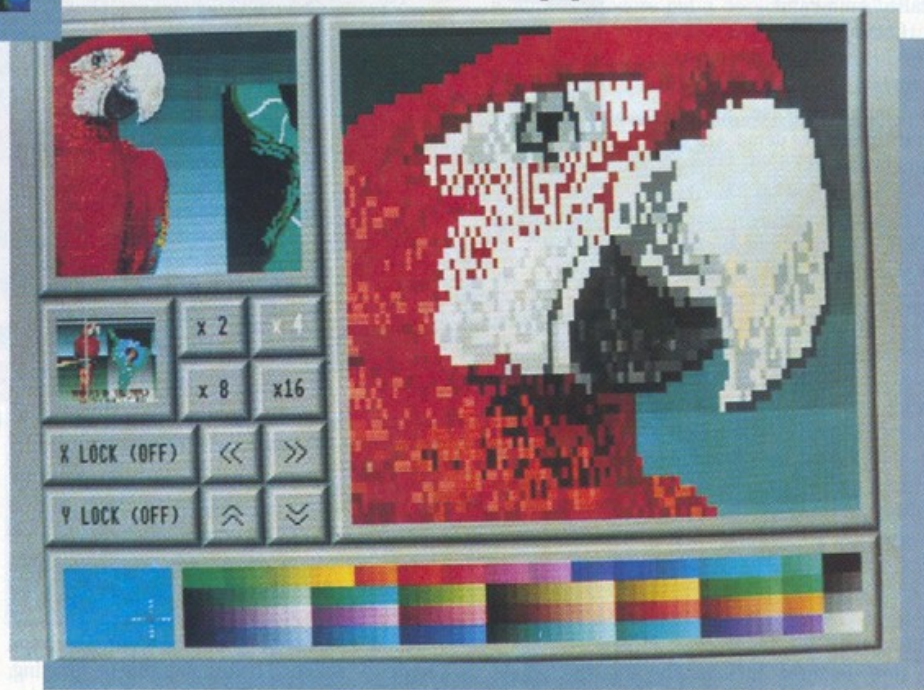
The provisional version had a black and

Martyn Lovell  
reviews Art  
Nouveau, a graphics  
package for the  
Acorn Archimedes  
with a host of special  
effects.

white printer dump which looked impressive and was easily adjustable to increase contrast in pictures of varying shades. A colour printer dump will be provided with the release version but I was unable to test it.

Art Nouveau is controlled by a clever pull-down menu system which does not interfere with it showing the whole of the screen you are editing. The menu-bar appears only when you press the mouse Menu button. Many options are selected from sub-menus

(left) Note the 'cycles' of blue shades which fill the word 'ECLIPSE'. (below) Select a reduced view with the arrows and magnify by up to 16 times.



which appear as you drag out of the right of a menu option with an arrow by it. This is simple and intuitive.

Unfortunately the program has no command key shortcuts to allow the advanced user to select an option more rapidly. This can make some actions monotonous. Missing from this program are toolbox windows which can remain on-screen readily to hand. The program suffers from modality. Although all its modes are displayed on a status bar which appears with the menu, I found this less helpful.

The documentation I received was a draft version. It was split into a six-section tutorial and a reference section. I found it easy to read and helpful, although it would have benefited from an index.

Art Nouveau is a highly versatile and impressive package. It is capable of a wide range of special effects and does not skimp on basic features. Though its menu system can become cumbersome for more repetitive tasks I found that no great problem. A fast computer like the Archimedes is a good tool to play with high-resolution graphics and Art Nouveau is a good way to get the most from it.

Contact Mike Charndley at C.A.L. on 0698 733775. Price £42.50 including VAT and p&p.



Hand-rendered desert sand-dune with screen in Halfbrite mode.

# Animated conversations

**D**ELUXE PAINT II has long been rightly held as the best art package on the Amiga, but recently the competition has been catching up fast. Now Electronic Arts is putting the fox among the chickens, by giving the world Deluxe Paint III.

To my mind there were only a few things in Deluxe Paint II that were overlooked; so when I first heard of the update I wasn't expecting many mind blowing additions, just an improvement to the brand leader of home art packages.

Well, Electronic Arts has gone one better than a mere update and has added a complete animation package called AnimPaint.

Coming with three discs, the first of which is the paint program, the second is the animation package, and the third contains demo art and animation files.

Looking first at the paint package, by its very nature DPaint III needs at least one megabyte of memory and a second disc drive, to function smoothly. But, because of the operating system Commodore put into the Amiga, things still work on the slow side, although DPaint III has speeded up its fill and perspective functions which is a nice touch, and users can put DPaint III on a hard disc with ease, and keep the main discs as back up.

On booting up you get the familiar work screen of tools and palette on the right hand side, and drop-down menu bar across the top of the screen; this can be toggled with f10.

New features include flipping the whole screen without having to cut a brush, and the

Could E.A. ever improve on DPaint II? Yes, by adding an animation facility... reviewed here by Alan Tomkins.



DPaint III's Animbrush mode now lets you draw sprites and turn them into brushes so you can test the animations; the brushes are at the bottom.

two functions I wanted have at last been included: *Outline* and *Stencil*.

*Outline* adds an extra pixel line in the colour of your choice, a must when drawing games graphics, and unlike some packages DPaint III doesn't eat into the image being outlined.

*Stencil* has its own requester box in which you can define a stencil before painting or spraying; if you want to spray a flesh tone onto a face, you

can turn off all the colours around the area to be worked, then when spraying only the face gets painted.

The *Stencil* function is easy to use and is very flexible, with a little practice you will soon discover a new way of painting.

*Auto Transparency* lets you pick up a brush from a solid background. *Auto Grid* gives you the choice of automatically re-sizing the perspective grid; the *Font* menu has gone, to be replaced by right clicking the text tool to bring up a *Choose Font* requester. From here you can choose fonts, sizes, and styles, and it lets you see the chosen font before you use it.

There are two new brush modes: *Tint* and *Extra Halfbrite*, plus four new *Fill Types*: *Tint*, *Brush*, *Wrap*, and *Halfbrite*.

For those people who use paint packages to do video work, DPaint III now lets you paint on the Overscan screen. This allows you to view and edit your image in the border area around the normal viewable screen area, you can also adjust the position of the screen by holding down CTRL and using the cursor keys.

*Extra Halfbrite* has had two fill types and a new painting mode added. If your Amiga has *Extra Halfbrite*, you can now paint shadows and highlights, and gradient fills using the standard palette, and the halfbrite equivalents.

DPaint III comes with a 245-page manual that tells newcomers how to get started, then outlines a guided tour of the package, before giving you four well-written and easy to follow tutorials,



before getting into the nitty gritty of how everything works.

So, on to the section that you've all been waiting for: the animation – or AnimPaint as Electronic Arts call it. The basic idea with AnimPaint is that you have multiple pages that you can paint on, and then flip through them to create the impression of a moving image, just as real cartoons are made for the movies.

First you must create your frames for the animation: the Set Frame Counter requester lets you set the number of frames, say, for example, ten.

You can now paint a dot on each screen in turn, each with a different position moving from left to right; now choose Control>Play from the Anim menu and watch your dot move from left to right – hitting the space bar stops the animation. This is a very simple but effective way of creating animations, and works well, but AnimPaint lets you also paint while the frames flip automatically.

## Requesters

The Options requester lets you clear the current frame, or any other frame you want to clear, then sets you back to frame #1; at any point you can choose Control>Play to inspect your animation, then make any alterations.

The Move requester lets you move, and rotate a brush over a number of frames, and you can move the brush in all three dimensions. The Move requester is very powerful and many impressive animations can be made from this function alone. You can set the X, Y and Z coordinates, set the direction, and angle, then preview your sequence.

In addition to moving the brush along an axis, or several axes in combination, the Move requester lets you rotate the brush around one or more axes. Clicking "clear" wipes all the distance and angle fields so you can reset them.

You are given a wire-frame representation of your brush, so that you can see how the coordinates that you are choosing, act on your



Animpaint brushes: create sprites for an explosion for 'Mr. Hell', a forthcoming game from Firebird.

points.

DPaint III also lets you select an area of animation as a brush and lets you paint with it, the result is that the brush changes while you paint, and depending on whether or not the frame changes, you create either animation or interesting effects.

The Control option displays a submenu of options for moving around in your animation frames, and for playing your animations.

Set Rate sets the speed. Left and right arrow cursor keys, slow down or speed up the play of your animation. You can position the current frame to any of the available animation frames. While Ping-Pong plays the sequence forward then backward and so on.

When you have created a few of your own animations, DPaint III has provided what they call the Player Utility, for playing them back. This is a stand-alone utility accessed from the workbook.

Using the features of AnimPaint you can either create animated brushes (ideal for drawing and testing sprites), or build up complete screens of animation, like the famous Disney cartoons. But remember that when creating animations, that they are very memory hungry; the two animation modes in this new DPaint are expanded and compressed; both have different memory requirements.

The expanded mode requires that there be enough memory to duplicate the entire screen for every frame, for example if you are in (320x200) 32 colours, which takes 40k per screen, so ten screens takes 400k.

The compressed mode is based on the difference between each animation frame, the more a frame is different from the one before it, the more memory will be needed to store it. The manual outlines ways of saving memory for those who are near their limit; but don't be put off buying DPaint III if you only have a half megabyte machine, for you can just scrape by with using only the paint section, and in so doing you will soon be tempted into upgrading your memory.

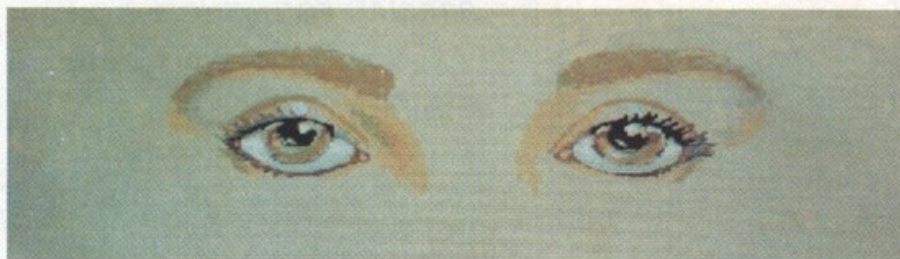
There are also 116 keyboard commands for those who prefer to use them (let alone remember them).

## Improvements

So to sum up DPaint III has included two main missing features from DPaint II, plus improved the running of the package; this alone for me makes DPaint III stand out from the crowd; and worth buying on these updates alone. But with the addition of AnimPaint, which is a very powerful animation program in itself. DPaint III is now in a league of its own. Once you have taken the time to read the manual – and learn both programs – you are in for many hours of pleasure, even if you don't consider yourself an artist.

The thing I like best is that you can now create sprites for games and test their animation in one package, for the first time on the Amiga. Both the Paint and the Animation programs are straight forward to learn and use, although I wished they had redefined the spray and fill icons, but that's only a tiny niggle.

The only drawbacks I can find in DPaint III aren't of Electronic Arts making, for you can't have a package this powerful without it being memory hungry. The main problem with DPaint III, or any other advanced art package, is the Commodore operating system, even with a 20Mbyte hard disc drive it takes nearly a minute to load a medium sized animation. When are Commodore going to take a look at The Mac II? Or even the ST – to see how a user friendly operating system with fast disc access works. The Amiga is a very powerful machine, but only when Commodore put a decent front end on it will it be a truly great machine. But back to DPaint III, all I can say is "Buy it. You'll like it".

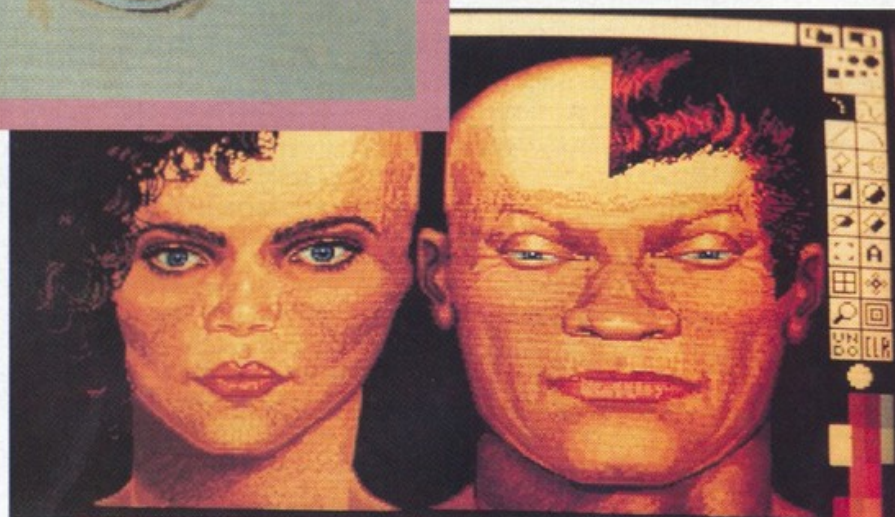


A single frame from the 'Cry' animation sequence.

brush, then click preview and watch the wire frame move or rotate on your chosen path.

You can set the movement along the brushes axes, plus rotate the axis. Cyclic and Non-Cyclic moves set an animation that will loop back on itself (cycle) or chain from the current move to another move of a similar type. An animation that is linear will end at the last frame you requested with the move requester.

The Ease Out and Ease In edit fields let you specify a number of frames over which you want the brush to accelerate or decelerate in your animation. The primary advantage of these features is that you can make the brush movement smooth at the beginning and end



Identi-kit faces made up with brushes included in the package on a low-res screen.



# SOFTWARE CLUB INTERNATIONAL

## WHY PAY MORE FOR LESS

### SUBSCRIBE NOW FOR AWARD WINNING SOFTWARE

Now for the first time in the UK – the opportunity to enjoy the benefits of the *ultimate* in Software Club membership

#### A NEW SERVICE IN SOFTWARE

Joining SCI could not be easier. The membership fee is just £10 and new members will receive – absolutely free – 5 × 5¼" discs/ 3 × 3½" discs containing up to 20 quality programs\*.

Each month our members receive up to 20 more award-winning programs carefully selected by our panel, from bulletin boards across the world.

All this costs just  
£5.95 per month for 5¼"  
£7.95 per month for 3½"  
Fully inclusive of VAT + P&P.

Our panel's brief is simple: to enable us to guarantee satisfaction to you.

If not 100% satisfied, you can terminate the agreement at any time!

Available for MS DOS ATARI  
ST, AMIGA, PC & MAC



Members will also have the opportunity to select "classics" from our libraries. We select the BEST software in each category then make it available to you.

Education  
Entertainment  
Business & Finance  
Utilities  
Home Health & Hobbies

With over 12,000 delighted subscribers in the U.S.A. in less than 8 months, we know we've got the balance right!

#### SPECIAL: FOR MEMBERS ONLY

#### BLANK DISKETTES MINIMUM QUANTITY

50 5¼" @ 27 pence = £13.50  
25 3½" @ 84 pence = £21.00

Prices include VAT and Carriage.

SEND TO: SOFTWARE CLUB INTERNATIONAL, 17 SHIRLEY LODGE, 470 LONDON ROAD, LANGLEY, BERKS SL3 3QY

COMPUTER: ☐ PC ☐ ATARIST ☐ AMIGA ☐ MACINTOSH DISC: ☐ 5¼" ☐ 3½"

AS A MEMBER OF SCI, I WILL RECEIVE 10/20 PROGRAMS PER MONTH FOR THE NEXT 12 MONTHS.

I AUTHORISE SCI TO DEBIT MY CREDIT CARD EACH MONTH UNTIL FURTHER NOTICE. I CAN CANCEL MY SUBSCRIPTION AT ANY TIME BY GIVING ONE MONTH'S NOTICE IN WRITING. MEMBERSHIP FEE: £10.00

MONTHLY 5¼" — £5.95, 3½" — £7.95

NAME: \_\_\_\_\_ ADDRESS: \_\_\_\_\_

CREDIT CARD: ☐ VISA ☐ ACCESS ☐ DINERS CLUB ☐ AMEX CARD No. \_\_\_\_\_

EXP. DATE: \_\_\_\_\_

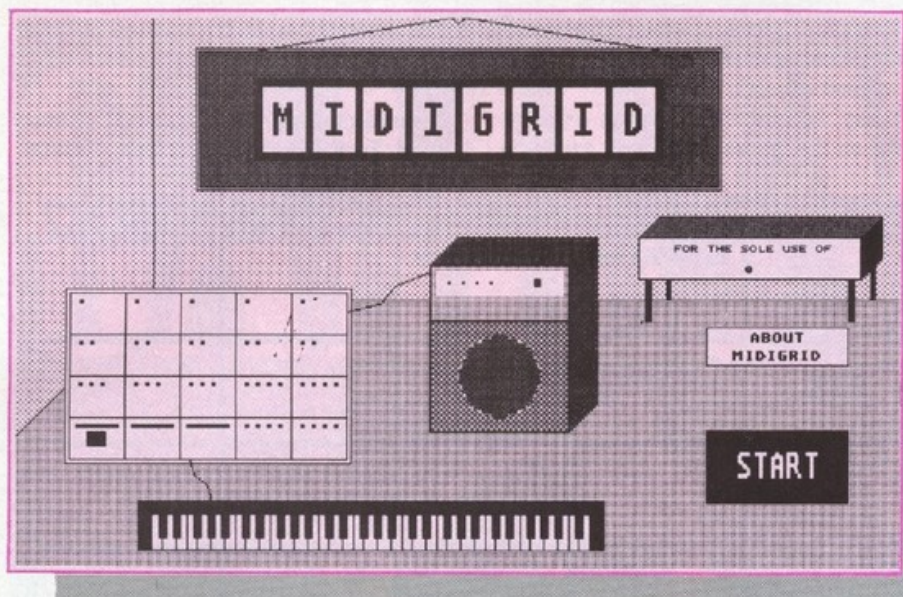
SIGNED: \_\_\_\_\_

#### BLANK DISKETTES

QUANTITY	PRODUCT	PRICE EACH	TOTAL
_____	50 5¼" DISKETTES	£13.50	_____
_____	25 3½" DISKETTES	£21.00	_____
TOTAL:			£ _____

CHEQUES AND POSTAL ORDERS PAYABLE TO SOFTWARE CLUB INTERNATIONAL (CHEQUES ACCEPTED ONLY FOR BLANK DISKETTES. MEMBERSHIP FEES AND MONTHLY CHARGES PAYABLE ONLY BY CREDIT CARD).





# True grid

Tony Sacks gets to grips with a program said to turn the ST into "a completely new form of musical instrument".

For several years, a group of musicians, electronics engineers and computer experts at York University has been exploring new ways of linking music and computers. One particular interest of the group, known collectively as the Composers' Desk-top Project, has been to use computers to ease music-making for disabled persons.

One product of the work is a program which was developed originally to allow someone with restricted movement to create complex musical pieces by "playing" an Atari ST mouse. The program, called Midigrid, has proved to have a far wider potential clientele and has now been produced in a commercial version.

Midigrid launches itself automatically into a demonstration mode which shows the versatility of the program. If your ST is linked to a Midi instrument, ideally a Roland MT32 synthesiser module, you will hear a medley of tunes ranging from a stirring rendition of *Abide With Me* to a jazz-tinged drum solo.

Leaving the demonstration behind you move to the main screen, where the first thing you notice is that although the program is mouse-driven it does not use

GEM. Instead, it has an idiosyncratic and rather crude user interface in which a cursor jumps, rather than glides, between a series of boxes which occupy most of the screen. Along the top of the screen is a row of icons which are activated by the cursor hopping on to them.

The number of boxes displayed can be chosen by the user to be anything from a single vast rectangle to a 10 x 10 grid of tiny boxes. Boxes may be blank or may contain one or more dots or a solid line. The dots represent single notes or chords – up to 16 notes per box – while the line represents a sequence of notes or chords strung out over time.

## Square cursor

As you push the mouse round, a square cursor hops from one box to the next. Nothing happens musically until you press a mouse button. A touch of the left button instructs your synthesiser to play the notes represented by the dots in that box, or to start a sequence if there is a bar in the box. The notes continue playing as long as you hold down the left button, even if the cursor moves to another square. With the right button pressed new notes sound for each

box in which the cursor lands. By careful manipulation you can use the left button to sound a chord over which the right-hand button can pick out a melody.

How do the notes get into the boxes in the first place? There are two routes – from an external Midi instrument or from the ST screen. To achieve the latter you move the mouse to the icon strip at the top of the screen. As you pick an icon, the strip changes appearance. So the "choose instruments" icon first allows you to select the Midi channel on which to transmit your sound and then to choose the particular sound you want.

You now have the sound and Midi channel for your note but not its pitch. So you go to another icon which, when activated, displays a piano keyboard – or an abstract alternative for users unfamiliar with the piano – across the top of the screen. Slide the cursor along this keyboard until it reaches the note you want, tap the right button, move down to the box where you want the note to go, and tap the button again. In that way you soon assemble a series of boxes each containing one or more notes.

## Sequences

You can now "play" the boxes using the mouse as described and, if you wish, store your performance as a sequence in another box. The sequence can then be triggered in a similar way and up to eight versions of the sequence can play back independently at staggered intervals. Another option is to link sequences in separate boxes so that they start playing at the same time.

Midigrid can also multi-track, allowing new sequences or data generated by an external Midi source to be stored in the same box as existing sequences. In that way, it is possible to squeeze a complete composition into a single box.

Editing functions allow you to delete, move, copy or exchange boxes or to alter the contents of any box. You can delete or insert notes and transpose or change the Midi channel allocations of either individual notes or complete boxes. You cannot change individual notes within sequences but you can transpose an entire sequence, adjust its playback speed or alter its Midi channel allocation.

An alternative to real-time entry of sequences is step-time, in which you first designate the order in which you want a series of boxes to be played and then step through them by tapping the mouse buttons at the required speed.

The Midigrid *coup de grace* is a facility known as "keyboard mapping". It allocates each box in the grid to a separate note on a Midi instrument, so that playing that note triggers the box into life. The possibilities this unleashes are mind-boggling. Playing a



simple chord on the Midi instrument could stimulate a string of sequences or, more realistically, produce a more complex chord with specific notes such as overtones being sent to different instruments on appropriate channels. It will take ages to explore fully the potential of keyboard mapping.

Midigrd is certainly intriguing and, what is more, musically useful. My main reservations concern its user interface which does not have the intuitive appeal or ease of use of GEM. The movements of the cursor are somewhat unpredictable, so you sometimes find yourself in the wrong box. Another limitation is that you cannot tell by looking at a grid what notes there are in each box or even what piece is being displayed. It is only by trial and error that you discover.

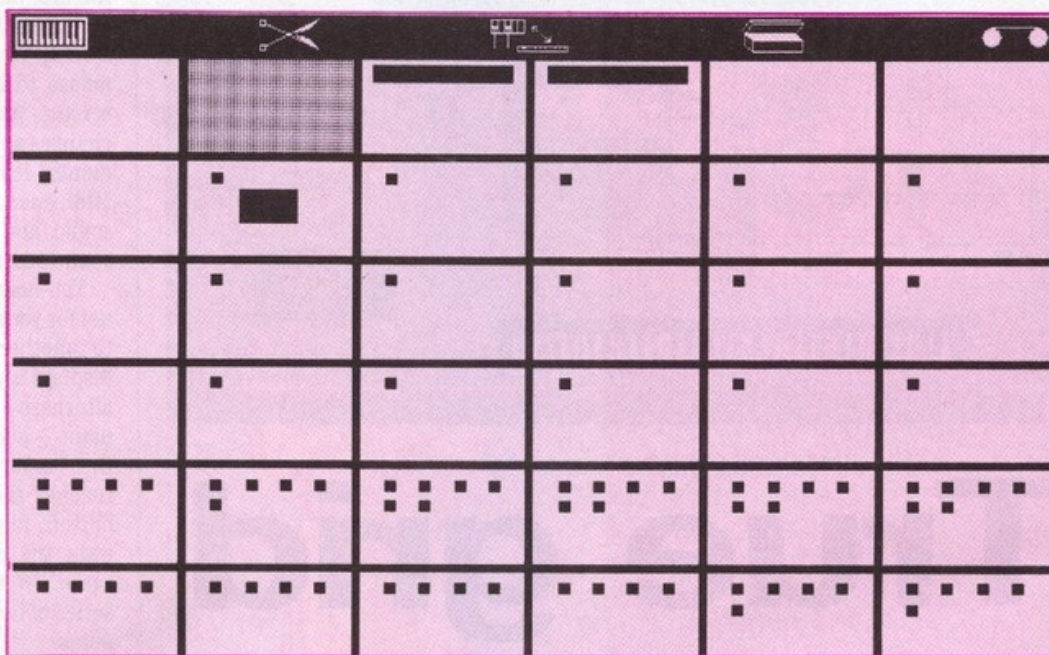
The pricing raises another question-mark. The recommended price of £134.95 seems rather high, especially considering the crude interface. The price will inevitably

limit the appeal of a program which most computer-based musicians could probably use to good effect.

Finally, because the program relies so heavily on the mouse, users must expect to

get through a few mice while making music with Midigrd. ☐

**Composers' Desk-top Project, 11 Kilburn Road, York YO1 4DF. Tel: 0904 623696.**



Midigrd input channel can be selected from the bar at the top of the screen. The dots represent single notes or chords – up to 16 notes per box – while the line represents a sequence of notes or chords.

## PUZZLE

Here is an easy way of working out square roots if you don't have a calculator handy and you don't fancy the laborious method of using the traditional 'pencil and paper' method. Let us suppose that you wish to evaluate the square root of 39690000. First, split this number into pairs of digits:

39 69 00 00

Then, for each pair, subtract the lower of the two digits from the higher:

9-3=6    9-6=3  
0-0=0    0-0=0

Write the answers in order to get the square root:

6300

It couldn't be simpler, and any little gifts which you might like to send me in gratitude for simplifying the calculations of square roots will be gratefully received.

Of course, this issue appearing near to the first of April might lead you to smell a rat! And you wouldn't be far wrong. The method outlined is totally useless, the value chosen above was just one which happened to work.

Can you find one other eight-digit number whose square root can also be calculated using the method shown?

```
100 P=3000
110 R=P:FLAG=0
120 FOR T=1 TO 4
130 R=R-T*100:R=R*3/4
140 IF R<0 OR R<>INT(R) THEN FLAG=1
150 NEXT T
160 IF R/4=INT(R/4) AND R>=2000 AND
R<=2500 AND FLAG=0 THEN PRINT P
170 P=P+4:GOTO 110
```

## SOLUTION TO PUZZLE OF MARCH 23-29

**Answer:** The amount won was £90.92p.

**Solution:** From the information given, we know that the four girls took 1, 2, 3 and 4 pounds (plus one quarter of what remained), and that there was a minimum of twenty pounds left after the last girl had taken her share. Therefore, there

must have been at least £30 at the start.

The program starts with this sum and then performs each operation in turn (using the FOR/NEXT loop (T)). The variable R denotes the amount of money remaining (in pence) at each stage of the operation. Should this amount fall below

zero or become a fractional part of a penny, the flag is reset to 1. Finally a check is carried out to determine three things:

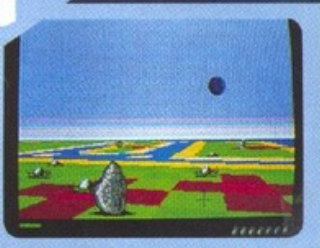
- a) the flag is still set to zero
- b) the amount remaining is exactly divisible by 4
- c) it is in the range of twenty to twenty-five pounds. ☐



# Computer GAMESWEEK

A FOCUS MAGAZINES PUBLICATION

Archipelagos



Raffles



Vigilante



## Vigilante

In search of Madonna!

Plus  
Cybernoid II and DragonScape reviewed  
Hints 'n' Tips, Adventure Bridge.



# THE AMAZING AMIGA...

## COMMODORE AMIGA 500



Pack Includes:

A500 CPU, Mouse, P.S.U., T.V. Modulator, Very First Tutorial, Workbench 1.3, Basic, Extras and Manuals.

### PLUS POSTRONIX BONUS PACK

**WORTH OVER £250** which includes 10 Blank Disks, Disk Storage Box, 10 Excellent Games, Mouse Mat, Mouse Bracket (Mouse Holder) Deluxe Paint.

**£399.00** + £5.00 post and packing

### AMIGA 500 PLUS DISK DRIVE

Instruction Manuals, Extra Disk, Workbench 1.3, The Very First Tutorial, T.V. Modulator, Photon Paint, Mouse PLUS additional Amiga Compatible Disk Drive and 10 Blank Disks.

**£449.00** + £5.00 post and packing.

### AMIGA 500 + 1084S STEREO/ COLOUR MONITOR

(including the Amiga 500 deal) **£649.00**  
+ £10.00 post and packing



## MPS 1500C



## MPS 1200P

### MPS 1200P

The Commodore MPS1200P printer presents the state of the art in dot matrix printers, with all the features of a printer that would cost much more. The MPS1200P is designed to be like three printers in one. It can act just like an Epson FX printer, or with the flip of a switch, it can act just like an IBM Graphics Printer with IBM Group II-I character set (Danish/Norwegian character set) support. It can also print all the characters available with the Amiga in the Amiga configuration. The MPS1200P is capable of all the printing functions you would expect, as well as some additional features you may not expect.

### MPS 1500C COLOUR PRINTER

#### A. TECHNICAL CHARACTERISTICS

PRINTING TECHNIQUE ..... Impact dot matrix (9-needle print head).  
DRAFT MODE ..... — matrix: 9 vertical dots x (5 + 4) horizontal dots; — print speed: 120 char/s, at 10/char in  
TABULATION SPEED ..... 2 char/s  
PRINTING DIRECTION ..... bi-directional, with optimised head movement  
PRINT PITCHES ..... 10 char/in to 24 char/in programmable from line, and in SET-UP mode  
LINE FEED ..... — 1/6in (4.23 mm), 1/8 (3.17 mm) and 7/72 in (2.4 mm); — n/216 in and n/72 in.  
CHARACTER SET ..... ASCII characters and special characters.  
MAX. PRINT LINE LENGTH ..... 40 top 192 characters, according to print pitch selected.

**£229.99**

+ £5.00 post and packing

**£199.99**

+ £5.00 post and packing



### 1084 HIGH RESOLUTION COLOUR MONITOR

### 1084S STEREO/COLOUR MONITOR

Compatible with PC,  
Amiga, C64c, C128

**£259.00**

+ £5.00 post and packing

### AMIGA 1010 DISK DRIVE



**FREE  
DISKS**

### AMIGA 1010 DISK DRIVE

Amiga 3.5" external drive. Capacity 880K

PLUS FREE DISK  
STORAGE BOX &  
10 BLANK DISKS

**£149.99**

+ £5.00 post and packing

### A501 RAM PACK

512K for the Amiga

**£149.99**

+ £5.00 post and packing







## FAX BOX

Program: Cybernoid II  
Version: ST  
Price: £19.99  
Supplier: Hewson  
Reviewer: Adrian Pumphrey

## RELEASE DATES

ST: May  
Amiga: May  
Spectrum: Out now  
C64: Out now  
CPC: Out now

**Y**ou can't keep a good cyber-pirate down and just to prove the point they are back even bigger and meaner than before.

You did such a good job last time defeating the pirates and repossessing stolen goods that the powers that be have decided once again to risk your life and limbs for the greater good of the Earth. To sweeten this bitter pill you have been provided with an enhanced version of your earlier craft, complete with an array of even deadlier bombs, missiles and other things which go boom in the night. Launch your tracer missiles and watch them zoom around the edges of the screen wiping out those nasty little clingers. Or you can go for the direct approach



• What's the hardest thing in the world? Multiply that by a thousand and that's only a millionth of how difficult this game is!

and stick a seeker on their tail!

Journeying through the pirate enclave is enough to give even the most hardened joystick jockey the creeps with its walls composed of masses of winking eyes and dripping vines. Avoiding these drips can be a hazardous procedure as time must be spent observing the patterns before a move can be made. Unfortunately if you hang around too long the multi-

coloured homing aliens appear and (unless you can come up with some well-serious blasting) you're in real trouble.

Metallic flowers open and close their protective shielding, pausing momentarily to spew death in your general direction whilst the heads of mutated beasts pour down their deadly rain of missiles. In between all this flak you must negotiate the various obstacles,

## FAX BOX

Program: Archipelagos

Version: ST  
Price: £24.99  
Supplier: Logotron  
Reviewer: Adrian Pumphrey

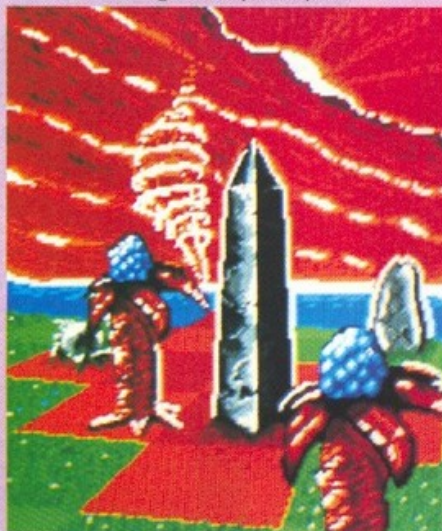
## RELEASE DATES

ST: April  
Amiga: May  
PC: May

**T**he Ancients were a lofty race who spent their time contemplating the wonders of the universe. One day their thoughts took shape and from the chaos rose the Archipelagos. Almost random in appearance the islands were a sight to behold.

The thought continued and a race known as the Visitors came into being. They gazed upon the Archipelagos and coveted. Possession came in the form of an obelisk powered by a series of standing stones on each of the island complexes. When the ancients forbade this manoeuvre the visitors rose up and the blood of the ancients flowed across the land; the power of the blood brought corruption to the land.

Your task is to clear the obelisks from the Archipelagos fulfilling the last wish of the ancients. To destroy each obelisk you must first remove its power source by destroying all the standing stones, the catch is that a stone can't be destroyed unless the patch of land it is standing upon connects to the land occupied by the obelisk. To achieve these desired connections you have the power to create land but using this function requires energy which can only be gained by destroying stones and collecting the spore pods which



• Yes, we have no bananas.



grow in abundance upon the land masses.

Apart from the relatively minor problems caused by the separate land masses you must also deal with the corruptions created by blood of the ancients. On the first 12 levels this corruption takes the form of trees which move across the landscape towards you, infecting the land as they travel. Although it is certain death should you find yourself upon such a piece of infected land it is possible to decontaminate it but this again costs energy. As you progress through the levels you will encounter the neomancers – corrupted bodies of the ancients now reduced to stealing sections of the islands. Further encounters include the Egg of Blood. This vine draped apparition sits quietly upon its island residence until a fateful lightning strike brings it to life. Its effects vary; it can either explode and infect the land with the blood of the ancients or start a





• Aargh! They done for me again!



• Come and have a go at the Cybernoid aggro. Sorry about that outburst. Hope you don't think I'm a thug or anything.

the designers favourite being the aliens which oscillate in narrow tubes which require your skill and determination as you match your velocity with that of the aliens until you are opposite the desired opening, praying all the time that the homing aliens will bide their time.

Scattered around the landscape you

will find various pieces of weaponry which can be added to your craft to enhance your death-dealing capabilities. A rear firing gun can be mounted to deal with those aliens who choose to sneak up behind you. Spiked balls can be collected and placed in orbit around your craft to fend off pirates foolish enough to get too close. Destroying the spaceborne raiders relieves them of their stolen cargo, which you can then collect for a few extra points.

You may find this game a little on the hard side but few things worth completing are easy. So if you fancy dishing out a little death and mayhem accompanied by some truly grotesque landscapes get your teeth into this one.

*Gameplay* 67%

*Graphics* 93%

*Sonix* 84%

*Overall*

76%



• Destroy the Monolith within the time limit. Yes, life at the cutting edge of landscape gardening. Anything can happen.



• In the foreground is a lost soul. Give him an A-Z someone.

chain-reaction that eats away the island. The final horror of which to beware are lost souls. These hapless beings wander the archipelagos searching for spiritual energy, namely your own.

As the levels progress, the number of islands increase and the inhabitants combine to produce fiendish puzzles. To cap it all off you are required to destroy the obelisk 90 seconds after destroying the last stone or a grizzly fate will descend upon you.

With 9,999 levels, you can be sure this game will still be producing the challenges for some time to come.

*Gameplay* 83%

*Graphics* 87%

*Sonix* 78%

*Overall*

86%



## FAX BOX

Program: Raffles  
Version: ST  
Price: £19.99  
Supplier: The Edge  
Reviewer: Adrian Pumphrey

## RELEASE DATES

ST: Out now  
Amiga: Out now  
Spectrum: Out now  
C64: Out now  
CPC: Out now

**A**s tea leafing goes you're one of the best and when the local widow, Lady Crutcher, leaves a window open you just can't resist. Unfortunately it's a trap.

The good Lady has a slight problem and you are just the man she needs. Her late husband was big on paranoia and rather than place his valuables in the bank he hid them in the house; unfortunately the locations of these treasures died with him. As a master thief it is your task to locate these hidden treasures and give them to the window minus, of course, your commission. Mind you, she forgot to mention the animal experiments of the late



• This looks a bit like a set from the Idea Home exhibition.

lamented master.

This has to be the most impressive 3D game to date with its solid rooms and objects, each of which can be pushed, pulled and in some cases, picked up. This solid perspective can cause one or two problems when trying to avoid the local life forms and manipulate an object whilst your character is obscured behind a wall or some other similarly large object.

This ability to manipulate the objects encountered allows you to stack objects upon each other in order to

reach those out of the way necessities. This all sounds like a bit of harmless fun but the giant mice and killer budgies are far from harmless and don't look as though they are into it for the fun. The creatures constantly harass your every move, although there are ways of temporarily disabling them, but I will leave you to discover the modes and methods for yourself.

Players used to boring old games with limited options may find this game a little awesome as the player can literally do something with everything although I must warn you about standing on candles.

Gameplay 74%

Grafix 90%

Sonix 54%

Overall

86%

## FAX BOX

Program: DragonScape  
Version: ST  
Price: £19.99  
Supplier: Software Horizons  
Reviewer: Adrian Pumphrey

## RELEASE DATES

ST: Out now  
Amiga: Out soon  
C64: TBA



the form of plant cells covered in sticky cilia, but what is arguably the deadliest form of free-floating nasty, the red pig's head. Other creatures that assault your dragon's energy level take many bizarre forms some almost recognisable as winged snakes and tin lobsters but others more abstract.

The only way to replenish your rapidly-depleted energy level is to make contact with the circular P symbol which floats in the vicinity of your beast. Care must be taken however, for if you accidentally flame the power symbol too many times it will disintegrate, leaving you without a means of replenishing your energy.

Each of the five levels vary in theme from hi-tech to primitive woodlands. On level two, the hi-tech one, you need not fear the traps but nearing completion of the level you come face-to-

face with an alien so large it occupies a good two-thirds of the playing area. After the complacency has set in and you begin to get a feel for the game you must contend with level three with its floating receptacles and vicious beasts. Things continue in very much the same theme until the completion of the fifth level when you must face the awesome end-game beast.

Nice 64-way scrolling and fast dragon responses, especially the circular flaming motion, but the scrolling section of the screen is far too small to allow anything but cautious play as it is all too easy to be surprised by the oncoming hazards.

Gameplay 68%

Grafix 74%

Sonix 65%

Overall

69%

**P**lucked from a bus to Croydon and partnered with a moronic dragon named Garvan, you find yourself plunged into a world of chaos.

Welcome to the once peaceful land of Tuvania where the forces of Kaos have touched a once peaceful land and scattered the 40 artifacts that give the land its stability. Roam the land aboard your draconic partner flaming all who dare challenge you on your epic task of restoring order. To achieve this task you must collect, in each of the five levels, eight symbols, each of which must be placed in the appropriate receptacle.

To my mind the first level is one of the hardest as it is occupied not only with vicious dragon traps, which take



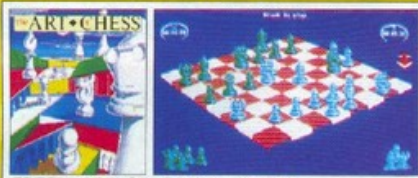
# FREE! TENSTAR PACK WORTH OVER £229!



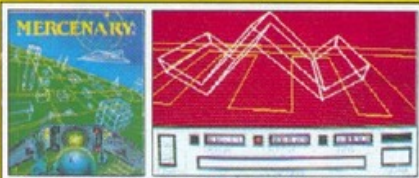
FREE! - AMEGAS - by Players



FREE! - INSANITY FIGHT - by Microdeal



FREE! - ART OF CHESS - by SPA



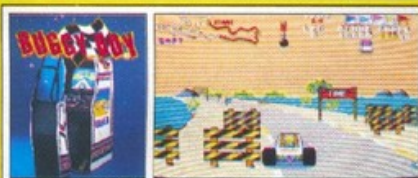
FREE! - MERCENARY COMP - by Novagen



FREE! - BARBARIAN, ULT WARRIOR - by Palace



FREE! - TERRORPODS - by Psygnosis



FREE! - BUGGY BOY - by Elite



FREE! - THUNDERCATS - by Elite



FREE! - IKARI WARRIORS - by Elite



FREE! - WIZBALL - by Ocean

# Commodore AMIGA



ONLY  
**£3.34**  
PER WEEK  
RETURN COUPON  
FOR DETAILS

# £346.95

+VAT=  
**£399**  
INCLUDES  
FREE UK  
DELIVERY

The Amiga 500 is one of a new breed of technologically advanced computers, which are now emerging as the new standard for home computing, based around the new Motorola 68000 chip. The A500 has 512K RAM and a 1Mbyte double sided disk drive built-in. It can be connected directly to a wide range of monitors, or to a domestic TV set through a TV modulator. Designed with the user in mind, the A500 features a user friendly WIMP environment and comes supplied with a free mouse. And, when you buy your Amiga from Silica Shop, the UK's No1 Amiga specialists, you will experience an after sales service that is second to none, including a technical support helpline and free newsletters and price lists. Return the coupon below for our current information pack, which will give details of the Silica service and the very latest Silica Amiga offers. E&OE

## WHY SILICA SHOP?

Before you decide when to buy your new Commodore Amiga computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer as well as expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Amiga related products in the UK, a full time Amiga specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years and can now claim to meet our customers' requirements with an accuracy and understanding which is second to none. Here are just some of the things we can offer you:

**THE FULL STOCK RANGE:** The largest range of Amiga related peripherals, accessories, books and software in the UK.

**AFTER SALES SUPPORT:** The staff at Silica Shop are dedicated to help you to get the best from your Amiga.

**FREE NEWSLETTERS:** Mailed direct to your home as soon as we print them, featuring offers and latest releases.

**FREE OVERNIGHT DELIVERY:** On all hardware orders shipped to Silica Shop customers within the UK mainland.

**PRICE MATCH PROMISE:** We will normally match our competitors' offers on a 'same product same price' basis.

**FREE TECHNICAL HELPLINE:** Full time team of Amiga technical experts to help you with your technical queries.

But don't just take our word for it. Complete and return the coupon below for our latest Amiga literature and begin to experience the Silica Shop specialist Amiga service.

## PHOTON PAINT PACK

A500 Computer	£399.99
TV Modulator	£24.99
Photon Paint	£69.95
TenStar Pack	£229.50
<b>TOTAL RRP:</b>	<b>£724.43</b>
<b>LESS DISCOUNT:</b>	<b>£325.43</b>
<b>PACK PRICE INC VAT:</b>	<b>£399</b>

## 1084S MONITOR PACK

A500 Computer	£399.99
1084S Colour Monitor	£299.99
Photon Paint	£69.95
TenStar Pack	£229.50
<b>TOTAL RRP:</b>	<b>£999.43</b>
<b>LESS DISCOUNT:</b>	<b>£350.43</b>
<b>PACK PRICE INC VAT:</b>	<b>£649</b>

## FREE FROM SILICA

When you buy the Amiga 500 from Silica Shop, you will not only get a high power, value for money computer, we will also give you some spectacular free gifts. First of all, we are now including a TV modulator with every A500 stand alone keyboard, so you can plug your Amiga straight into your TV at home (the modulator is not included with the A500+1084S pack as it is not required for use with monitors). Secondly, we have added a free copy of Photon Paint, an advanced graphics package with an RRP of £69.95. Last (and by no means least!), so that you can be up and running straight away, we are giving away the sensational TENSTAR GAMES PACK with every A500 purchased at Silica Shop. This pack features ten top Amiga titles which have a combined RRP of nearly £230! Return the coupon for details.

## FREE TENSTAR PACK

Amegas	£14.95
Art Of Chess	£24.95
Barbarian, Ult Warrior	£19.95
Buggy Boy	£24.95
Ikari Warriors	£24.95
Insanity Fight	£24.95
Mercenary Comp	£19.95
Terrorpods	£24.95
Thundercats	£24.95
Wizball	£24.95
<b>TOTAL RRP:</b>	<b>£229.50</b>
<b>INC VAT:</b>	<b>£229.50</b>

**TOTAL RRP: £229.50**

## DO YOU OWN AN AMIGA?

If you already own an Amiga computer and would like to be registered on our mailing list as an Amiga user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist Amiga service that is second to none.

## SILICA SHOP:

<b>SIDCUP (&amp; Mail Order)</b>	<b>01-309 1111</b>
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX	
OPEN: MON-SAT 9am - 5.30pm	LATE NIGHT: FRIDAY 9am - 7pm
<b>LONDON</b>	<b>01-580 4000</b>
52 Tottenham Court Road, London, W1P 0BA	
OPEN: MON-SAT 9.30am - 6.00pm	LATE NIGHT: NONE
<b>LONDON</b>	<b>01-629 1234 ext 3914</b>
Selfridges (1st floor), Oxford Street, London, W1A 1AB	
OPEN: MON-SAT 9am - 6.00pm	LATE NIGHT: THURSDAY 9am - 6pm

To: Silica Shop Ltd, Dept CGWK 03/89, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

## PLEASE SEND ME FREE LITERATURE ON THE AMIGA

Mr/Mrs/Ms: \_\_\_\_\_ Initials: \_\_\_\_\_ Surname: \_\_\_\_\_

Address: \_\_\_\_\_

Postcode: \_\_\_\_\_

Do you already own a computer  
If so, which one do you own?





# VIGILANTE

• OOOH, I'll slap your leg if you do that again, you big beast.

## FAX BOX

Program: Vigilante  
Version: Amiga  
Price: £14.95  
Supplier: U.S. Gold  
Reviewer: Mark Ulyatt

## RELEASE DATES

ST: March  
Amiga: March  
Amstrad: March  
C64: March  
PC: March

**W**ho writes the drivel that accompanies games? I think we should know exactly just who is responsible for foisting dross like the following on the unsuspecting public: "The police cannot stop the street gangs (well it's the government cut-backs you see) . . .

As a vigilante (with a death wish?) you must defend your people's turf (this is set at Wembley by the way)!!!

Downtown the skinheads have taken over. Their gang is trying to take over your turf (obviously American football players).

They have taken what is yours (er . . . when was that exactly?) and now have

placed you under pressure by kidnapping Madonna (why? Is she your sister or something? Is the price for her return a packet of Rolos?).

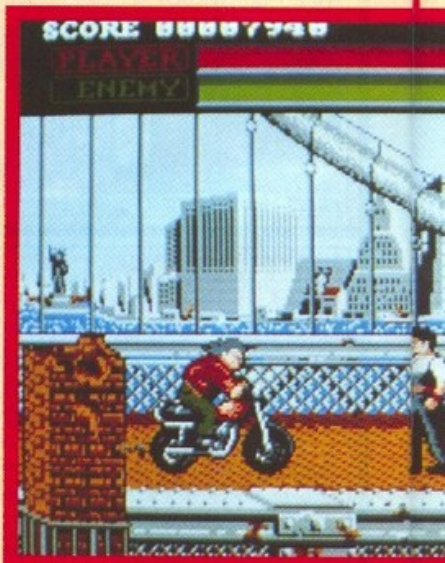
No, the price is your turf of course (good job this isn't set on the West Coast otherwise it'd be surf and turf)!!! The police are useless. You must try to free her (how about a game of chess instead)."

So there you have it, you're a street cred, well rad vigilante. The waffle simply serves (and with no logic whatsoever), to lead you into the various settings for the conversion of the Irem beat 'em up, **Vigilante**.

Starting off in the Main Street scenario, you are assailed by all manner of ne'er-do-wells, armed with knives, chains, guns, dynamite and even motorbikes (aha, shades of *Target: Renegade* here). The idea is simply to progress to the end of the street, fending off the scum, until you meet, and defeat, the very large gang leader, thence off to the next section.

The view is sideways on (as usual) and on the Amiga (and Spectrum) you have parallax scrolling of the scenery as you stride remorselessly on. Pity that it's a very tedious sort of plodding rather than a brisk walk, because this leaves you with the impression of never getting anywhere.

While you plod, the gang hoodlums



• Mohican biker coming 'atcha! Have his face off!



• Up close and physical. Ever considered moving to Milton Keynes?





# VIGILANTE



• Cornered like a beast of prey by two suede-heads.



• The wrecking crew are on overtime, and you're the one paying for it!



• You ever tried that in a tight pair of jeans?



come on, two or three at a time, from both directions, and this is where the trouble starts. While it is fairly easy to kick seven bells out of them when they attack from one side, as soon as someone comes up behind you are going to get pinned down. Alas this means frantic joystick waggling because if you don't break that hold very quickly then a chrome dome with a chain or knife will all too rapidly rearrange your face, organs and lower abdomen.

Personally I felt that they beat you senseless far too quickly, and this was only on the first level.

Still, with acrobatic kicks, a faster pair of hands than Sugar Ray Leonard (in his heyday) and the old shin poke that always works so well, you have some sort of chance against the bad guys.

Beating on, the next series of encounters take place in the Junkyard, then on to the Brooklyn Bridge (I've been there!), a Back Street (we've all been there), and finally a building site, up amongst the girders.

And what's this I spy, only Madonna dangling from a crane, the prize for the victor, her weak cries echoing around the battlefield. Quite why there needs to be this mindless sexism I don't know. As Madonna is shown being thrown onto the floor once captured, right at the beginning of each game, I

was tempted to call her the *Fallen Madonna With The Big Boobies*. But that would have been too corny.

Anyway, Vigilante is a reasonable beating game, and certainly more palatable than the disgraceful (and outdated) Human Killing Machine, and the 16-bit versions are reasonably priced for once, at £14.95.

With five scrolling scenarios, reasonable graphics, sampled sounds (from the coin-op) on the ST and Amiga, Vigilante should keep most beat 'em up fans happy, but I still have my doubts about when you get surrounded.

Gameplay 72%

Graphics 82%

Sound 78%

Overall

77%





# Cheetah STAR FIGHTER

THE  
**EMPIRE  
STRIKES  
BACK**



- Eight highly sensitive light touch MICROSWITCHES
- Unique ergonomically designed control handle
- Built in AUTO FIRE
- Indestructible METAL SHAFT
- +2, +3 Selector Connector
- Four fire buttons
- 12 month warranty
- Automatic Centering
- High impact robust body
- Heavy duty base with strong stabilising suction cups
- Eight directional control
- On table or in hand operation
- Compatible with ZX Spectrum 16k, 48k, 128k, +2, +3, Commodore 64, Vic 20, Amstrad, Atari, etc.

ONLY **£14.95**

**DELUXE**

## A Right Royal Joystick



- AUTO FIRE
- METAL SHAFT
- 12 MONTH WARRANTY

ONLY.... **£10.95**

**Cheetah MACH I  
MICROSWITCH JOYSTICK**

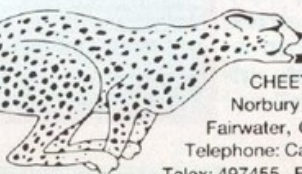
- Deluxe, robust construction.
- Comfortable rugged hand-grip, 8 directional control with automatic centering.
- Heavy duty base with strong stabilizing suction cups.
- Highly sensitive light touch MICRO SWITCH fire buttons.
- Built in AUTO FIRE function.
- Ergonomically designed control handle with indestructible METAL SHAFT.

Mach I+ Joystick compatible with: • Sinclair ZX Spectrum 16K, 48K, 128K, +3 • Amstrad computers  
• Commodore 64 & VIC 20 Computers • Commodore C16 & Plus 4 Computers (adaptor sold separately)  
• Atari 2600 & Atari 5200 Video Game Systems • Atari Home Computers

All specifications and prices subject to change without notice.  
Prices include VAT, postage & packing.  
Delivery normally 14 days.  
Export orders at no extra cost.  
Dealer enquiries welcome.



**Cheetah**  
Marketing



## THE NEW ROYAL EDITION



- Two ultra sensitive fire buttons
- Ergonomically designed control handle
- 12 month warranty
- Automatic centering
- High impact robust body
- Heavy duty base with strong stabilising suction cups
- Eight directional control
- On table or in hand operation
- Compatible with ZX Spectrum 16k, 48k, 128k, Commodore 64, Vic 20, Amstrad, Atari, etc.

**Cheetah  
CHALLENGER**

ONLY **£4.95**

## THE TOP PEOPLES CHOICE



**125+  
The  
Explosive Joystick**

- Compatible with ZX Spectrum, 16k, 48k, 128k, +2, +3, Commodore 64, Vic 20, Amstrad, Atari, etc.
- Four extremely sensitive fire buttons.
- Uniquely styled hand grip.
- Auto fire switch.
- 12 months warranty.
- +2 Selector Connector.

ONLY  
**£8.95**  
COMPATIBLE  
with Sinclair  
+2, +3

Cheetah, products available from branches of **Argos** **Dixons** **Harrods**  
**LASERS** **WHSMITH**  
High St. Stores and all good computer shops or direct from Cheetah.

CHEETAH MARKETING LTD  
Norbury House, Norbury Road,  
Fairwater, Cardiff CF5 3AS.  
Telephone: Cardiff (0222) 555525  
Telex: 497455 Fax: (0222) 555527



## 520ST-FM SUPER PACK



**1Mb DISK DRIVE  
£450 OF SOFTWARE**

### ARCADE GAMES

Arkanoid II	Imagine	£19.95
Beyond The Ice Palace	Elite	£19.95
Black Lamp	Firebird	£19.95
Buggy Boy	Elite	£19.95
Chopper X	Mastertronic	£9.99
Ikari Warriors	Elite	£14.95
Marble Madness	Electronic Arts	£24.95
Quadrailen	Logotron	£19.95
Ranarama	Hewson Consultants	£19.95
Return To Genesis	Firebird	£19.95
Roadwars	Melbourne House	£19.95
Starquake	Mandarin	£19.95
Test Drive	Electronic Arts	£24.95
Thrust	Firebird	£9.95
Thundercats	Elite	£19.95
Wizball	Ocean	£19.95
Xenon	Melbourne House	£19.95
Zynaps	Hewson Consultants	£19.99

### SPORTS SIMULATIONS

Eddie Edwards Super Ski	Elite	£19.95
Seconds Out	Tynesoft	£19.95
Summer Olympiad '88	Tynesoft	£19.95

### PRODUCTIVITY SOFTWARE

Organiser	Triangle Publishing	£49.95
-----------	---------------------	--------

### JOYSTICK

Atari CX40 Joystick	Atari Corp	£4.99
---------------------	------------	-------

**FREE ATARI BUNDLE VALUE: £458.97**

**£399**

INCLUDING VAT

With SM124 mono monitor: £498 INC VAT

With SC1224 colour monitor: £698 INC VAT

## 1040ST-FM PROFESSIONAL PACK

### NOW WITH TV MODULATOR

For the serious home user and the small business, we are pleased to announce a new package based around the 1040ST-FM. The 1040ST-FM has 1Mbyte RAM and a 1Mbyte built-in disk drive. In addition, the 1040ST-FM now comes with a TV modulator built-in. (The previously available 1040ST-F was designed for use with a monitor only and did not come with a modulator.) This modulator allows the 1040ST-F to be plugged directly into any domestic TV set, and comes complete with a lead to allow you to do so. The new 'Professional Pack' from Silica includes the new 1040ST-FM with modulator plus four high quality software packages including a spreadsheet, database, word processor and programming language. This 'Professional Pack' software will enable you to get straight down to business with your new computer. In addition to this software (worth £384.84), if you buy the Professional Pack from Silica Shop, you will also receive the Silica ST Starter Kit (worth over £200). Free Of Charge. Return the coupon for further information.



**£499**

INCLUDING VAT

With SM124 mono monitor: £598 INC VAT

With SC1224 colour monitor: £798 INC VAT

ATARI 1040ST-FM	(Computer)	£499.99
VIP PROFESSIONAL	(Spreadsheet)	£149.95
MICROSOFT WRITE	(Word Processor)	£149.95
SUPERBASE PERSONAL	(Database)	£59.95
BASIC DISK & MANUAL	(Language)	£24.98

**NORMAL RRP: £884.82**

**LESS DISCOUNT: -£385.82**

**PROFESSIONAL PACK PRICE: £499.00**

## 2Mb & 4Mb MEGA ST

The MEGA ST computers are styled as lightweight keyboard with a separate CPU, connected by a coiled telephone style cable. There are two versions of the MEGA ST, one with 2Mbytes of RAM and the other with 4Mbytes. Each version has a 1Mbyte double sided disk drive built-in to the CPU unit. The MEGA STs do not come with modulator built-in and must therefore be used with a monitor. With every MEGA ST purchased, we will add the 'Professional Pack' software (worth £384.83) detailed above, plus the Silica ST Starter Kit (worth over £200) both Free Of Charge. Return the coupon for further details.

**2Mb MEGA ST  
£899**

+ mono monitor = £998  
+ colour monitor = £1198

**4Mb MEGA ST  
£1199**

+ mono monitor = £1298  
+ colour monitor = £1498



## DTP PageStream £149 +VAT = £171.35

Desktop Publishing (DTP) is one of the fastest growing applications for personal computers. We are pleased to announce a powerful low cost package for the Atari ST called PageStream. PageStream costs only £149 (+VAT £171.35) and, because it works with an Atari 1040ST and a Silica SP-180AI printer, you can be up and running with a complete system for less than £1000. Some of the features of PageStream are listed to the right. If you would like further information on this program, complete and return the coupon below, ticking the 'DTP' box in the corner.

- \* TEXT-FLOW AROUND GRAPHICS
- \* ROTATION OF TEXT & GRAPHICS
- \* SLANT OR TWIST ANY OBJECT
- \* POSTSCRIPT COMPATIBLE
- \* TAG FUNCTION
- \* AUTO/MANUAL KERNING & HYPHENATION
- \* GROUPING OF OBJECTS

## DO YOU OWN AN ATARI ST?

If you already own an Atari ST computer and would like to be registered on our mailing list as an ST user, let us know. We will be pleased to send you copies of our price lists and newsletters FREE OF CHARGE as they become available. Complete the coupon and return it to our Sidcup branch and begin experiencing a specialist ST service that is second to none.

### SILICA SHOP:

**SIDCUP (& Mail Order)** 01-309 1111  
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX  
OPEN: MON-SAT 9am - 5.30pm LATE NIGHT: FRIDAY 9am - 7pm

**LONDON** 01-580 4000  
52 Tottenham Court Road, London, W1P 0BA  
OPEN: MON-SAT 9.30am - 6.00pm LATE NIGHT: NONE

**LONDON** 01-629 1234 ext 3914  
Selfridges (1st floor), Oxford Street, London, W1A 1AB  
OPEN: MON-SAT 9am - 6.00pm LATE NIGHT: THURSDAY 9am - 8pm



## ST COMPUTERS

The range of Atari ST computers offers something for everyone. From the games enthusiast who wants the challenge of the very best in arcade action, to the businessman who wants to make financial forecasts or faultless presentations. The ST offers high quality graphics, sound and speed for the gamer, whilst providing a fast, user friendly and affordable solution to business. The ST is now firmly established in the home environment and boasts a wealth of users in education, local government, television, and a variety of different businesses. Software for the range stretches to cover applications as diverse as ENTERTAINMENT, ACCOUNTS, ART, COMMUNICATIONS, COMPUTER AIDED DESIGN, DATABASES, DESKTOP PUBLISHING, EDUCATION, MUSIC, PROGRAMMING, SPREADSHEETS, WORD PROCESSING and more. For a full list of the software available, as well as details of the ST range, complete and return the coupon below.

All prices correct at the time of going to press. E&OE.

## 520ST-FM EXPLORER PACK WITH BUILT-IN 1Mb DISK DRIVE



The value for money offered by the Atari ST range is reflected in the Explorer Pack featuring the 520ST-FM computer with 512K RAM. The 520ST-FM computer now comes with a built-in 1 Mb double sided disk drive as well as a free mouse controller and a built-in TV modulator. The new 520ST-FM Explorer Pack includes the 520ST-FM computer, the arcade game Ranarama, a tutorial program and some useful desktop accessories. In addition, if you buy the Explorer Pack from Silica, we will give you the Silica ST Starter Kit worth over £200, FREE OF CHARGE. Return the coupon for details of our Starter Kit and of the full ST range.

**£260**

**ONLY £2.51 PER WEEK**  
RETURN COUPON FOR DETAILS

**+VAT= £299**

+ SM124 mono monitor: £398 INC VAT

+ SC1224 colour monitor: £598 INC VAT

## WHY SILICA SHOP?

Before you decide when to buy your new Atari ST computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer and expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Atari ST related products in the UK, a full time Atari ST specialist technical helpline and in-depth after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years with an annual turnover in excess of £8 million and can now claim to meet our customers requirements with an accuracy and understanding which is second to none. But don't just take our word for it. Complete and return the coupon below for our latest literature and begin to experience the Silica Shop specialist Atari service.

**SILICA STARTER KIT:** Worth over £200. FREE with every Atari ST computer bought from Silica.

**PROFESSIONAL PACK:** Free business software with 1040ST-FM and MEGA STs bought from Silica.

**DEDICATED SERVICING:** 7 full-time Atari trained staff with years of experience on Atari servicing.

**THE FULL STOCK RANGE:** All of your Atari requirements from one place.

**AFTER SALES SUPPORT:** The staff at Silica are dedicated to help you get the best from your ST.

**FREE CATALOGUES:** Mailed direct to your home as soon as we print them, featuring offers as well as all of the new releases.

**FREE OVERNIGHT DELIVERY:** On all hardware orders shipped within the UK mainland.

**PRICE MATCH PROMISE:** We will match competitors on a 'same product same price' basis.

**FREE TECHNICAL HELPLINE:** Full time team of Atari technical experts always at your service.

**FREE SILICA STARTER KIT  
WORTH OVER £200**

**WITH EVERY ST - RETURN COUPON FOR DETAILS  
ALL PRICES QUOTED INCLUDE FREE UK DELIVERY**

To: Silica Shop Ltd, Dept CGWK 03/89 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

**PLEASE SEND FREE LITERATURE ON THE ATARI ST**

Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode:

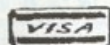
Do you already own a computer  
If so, which one do you own?

DTP ☐



# DATAWORLD

13 Trinity Street, Gainsborough DN21 2AL.  
Tel: Gainsborough (0427) 810151



**CALLERS WELCOME AT OUR SHOP**



	ST	AMIGA		ST	AMIGA
Afterburner .....	16.99	16.99	Rocket Ranger.....		19.99
Wec Le Mans.....	13.99	16.99	Joe Blade II.....	13.99	13.99
Elite .....	16.99	16.99	Alien Legion.....	16.99	16.99
Crazy Cars II.....	13.99	16.99	Football Director II .....	13.99	13.99
Starglider II .....	16.99	16.99	TV Sports Football .....		19.99
Operation Wolf .....	13.99	16.99	Spitting Image .....	13.99	13.99
Robocop.....	13.99	16.99	Garfield .....	13.99	16.99
Speed Ball .....	16.99	16.99	Hits Disc Vol 1.....	16.99	16.99
Outrun.....	13.99	13.99	Sargon 3.....	16.99	16.99
Captain Blood .....	16.99	16.99	Federation of Free Traders	19.99	
Platoon.....	13.99	16.99	Triad .....	19.99	19.99
Off-Shore Warrior.....	13.99	16.99	Hot Balls .....	16.99	16.99

*Please telephone for titles not listed. Many Business/Utility titles held in stock*

**QUICKSHOT II TURBO £8.50    COMPETITION PRO EXTRA £12.99**

## IBM

Many games/business/utility  
titles held in stock.  
Telephone for prices

## ★ AMIGA SPECIALS ★

**AMIGA 500 WITH MODULATOR**  
**£359.99**

### 3½" DISKS

Lifetime guarantee  
3M Unbranded  
DS/QD  
10 Disks with Plastic  
Case **£12.50**

### DISK BOXES

3½" x 80  
Lockable **£6.50**

**MOUSE MATS**  
**£2.50**

**PRINTER STANDS**  
80 cm **£9.99**

### AMIGA

512K RAM  
Extension  
**£99.99**

**Order by Phone (0427) 810151. Goods normally despatched within 24 hours.**

All prices include VAT and FREE Delivery in UK.  
Overseas orders please add £2.00 per item.

\*Customers paying by cheque, goods will be despatched when cheque is cleared.

**★ CALLERS WELCOME AT OUR SHOP ★**

(PCW1)





## The ultimate being, Tony Bridge, takes you on the ultimate quest in the lands of Ultima IV.

*"A perfect mortal – an Avatar – is sought to conquer evil and lead the nation into a golden age of prosperity."*

So goes the introduction to **Ultima IV**. To achieve Avatarhood, your character must gain enlightenment, Buddhist-like, to the eight virtues. While Humility and Compassion may sound a little yawn-inducing, Valour will require you to indulge in combat as often as possible, so there's plenty of excitement.

Runes and Mantras are essential to completing your quest for Avatar-ship. In order to gain the "inner light" of the eight philosophies, you must visit the appropriate shrine and meditate. You'll only be allowed in if you possess the Rune of the Virtue and you can only meditate if you have learned the Mantra. Unfortunately, you must visit each shrine three times – as

villages, you'll meet characters who ask you to undertake some perilous quest on their behalf. For example, in the capital city of Britain (that's the name of the city – the author, Lord British, is a terrible Anglophile), you'll meet a person named Sebastian, who will tell you of a terrible secret. Apparently Mondaine's evil influence hasn't yet left the world (Mondaine is the Evil Wizard who started off the whole **Ultima** story) and you must ask at the Pub of Buccaneer's Den about the Skull.

Talking to characters is the most important facet of **Ultima**, though of course combat is the other main pastime that your party will indulge in. Everyone you meet in your travels in towns and villages must be interrogated – while most will be just scenery, some will hold important information on, for example, where to find a rune or mantra. Getting information from a character is done by asking a question and then picking a key word from the answer to carry on to the next question.

A typical conversation goes like this:

*The Shepherd in lodgings in Britain: I escaped Magincia!  
Player: Magincia?*

dreds of leagues hence (RPG-ese for "you'll get killed off a dozen times before you get this part of the puzzle"). Incidentally, speaking of characters, I've just come across a wonderful invention – Tracie the Starving Journalist. Incidental to the plot (I think), but a nice example of the inherent humour of the game.

You must sometimes use a bit of cunning in order to elicit the final drop of information – for example, beggars abound and by giving generously your humility and compassion ratings will go up. But in Skara Brae is a beggar who will give you important information as long as the gold you give her is the very last piece of money you possess (never mind, there's plenty more lying around!).

However, beware of the secret treasure room in Lord British's castle! It's a cinch to steal the gold, and this may seem an unbelievably easy way of getting wealthy very quickly, but your Honesty alignment will suffer, and this may eventually cost you the game.

But there is *something* there that will be useful to you. Get into the habit of pressing the S key as you wander around, this will initiate a search of your immediate



# Adventure Bridge

they are not conveniently set next to each other, but rather at all the corners of the land (and yes, I know there are four corners, not eight!), you'll have a long journey ahead of you. As well as all this

mantra-chanting, there are several earth-bound quests for you to go on. As you wander around the towns and

*Shepherd: Pride was too great in Magincia.*

*Player: Pride?*

*Shepherd: The City was destroyed by demons for its pride...*

There are dozens, hundreds of characters in the Brittania, and although most of them are either stupid or bang on rather sick-makingly about Love and Humility, just occasionally you'll be given directions to another character who will have an important part of the jigsaw – usually this other character is close by, but can sometimes be in another town hun-

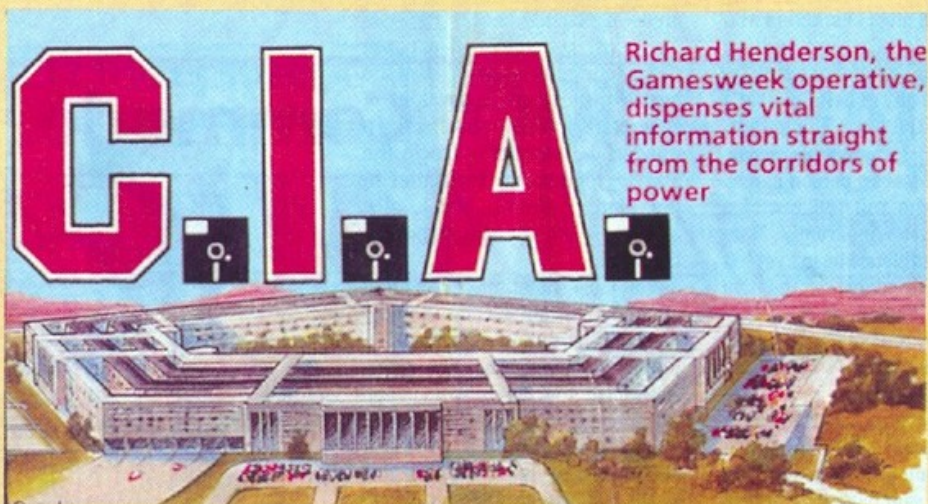
dreds of leagues hence (RPG-ese for "you'll get killed off a dozen times before you get this part of the puzzle"). Incidentally, speaking of characters, I've just come across a wonderful invention – Tracie the Starving Journalist. Incidental to the plot (I think), but a nice example of the inherent humour of the game.

To find the Treasure Chamber and other secret rooms in the buildings of Brittania, look out for a tiny white spot in the brickwork of the walls – monitor-owners are in luck here!

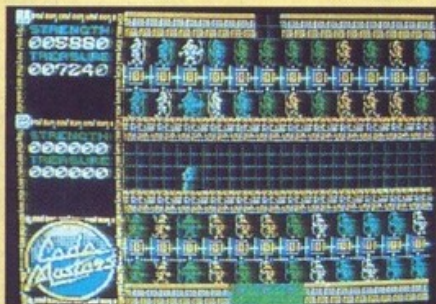
Another way of getting extra titbits of info is by paying more than the asking price for goods, for example ale. A barkeeper will help you with gossip if he is able. That's all this week, but there will be more on **Ultima** soon.







Would you believe that this is my 25th CIA, a sort of Silver anniversary, so to celebrate the occasion we've got oodles of pokes and tips, for a range of machines.



- Steve Haw gains his Black Belt.

### NINJA MASSACRE (Spectrum)

Steve Haw, from Warley, West Midlands, has sent in this important tip – "Sausages don't grow on trees, you know!!". Oh yes, he also gave us the level passwords for this budget bash.

SNOW – Level 5  
EASY – Level 10  
RACK – Level 15  
BLUE – Level 20  
STAG – Level 25  
HULL – Level 30  
BEER – Level 35  
BARD – Level 40

### DRAGON NINJA (C64)

Howard Williams, Derby, has found a bug, say "ooooh" everybody, in this great arcade conversion. As such he speaketh forth to educate the masses.

At the start of level 2 do a super jump (diagonal right with fire button pressed) and keep this position until you reach the end of the level (if you fall off, don't worry, you'll only jump back up again).

Also, here's a few tips.... When you get to the blue driver's cab (what's a blue driver?), jump onto the road and await the baddie. At the moment of his arrival keep performing a face kick until

you come into contact with him. Now do a super jump away from him and repeat the face kick method.

The next tip applies to all levels.... When strolling along and a red/green ninja appears, just super jump over him and he should disappear.

### SLUG (C64)

Welcome, with me, a long time CIA contributor, Robert Troughton, from Keighley, West Yorkshire, with a few pokes for this popular C64 game. Unfortunately it requires the 'reset' method, so get out your switches.

POKE 9420, 173 (Unlimited lives)  
POKE 4630, no of lives  
POKE 4663, start level  
POKE 4955, 252: POKE 5017, 252 (invulnerability)  
POKE 6689, 173 (Unlimited time)  
POKE 4965, (no of diamonds to finish level)  
SYS 11619 (To restart the game)

### ROBOCOP (C64)

Robert also delves into the world of canned violence. Again you must use a reset switch.

POKE 44416, 0 (Unlimited energy)  
SYS 32768 (To restart)

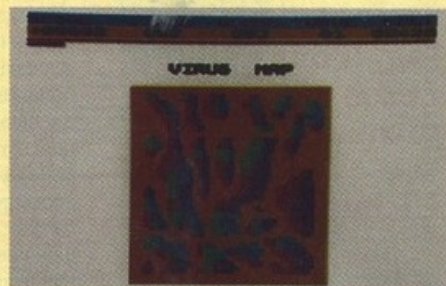


- There's no rust on Robert Troughton.

### VIRUS (Spectrum)

The Tefal Men have sent us this poke for this absolutely dire game. Type it and run it before loading the game, for infinite everything (it would also be a good idea to save it for future use).

10 REM VIRUS INF LIVES FUEL + BOMBS  
20 REM THE TEFAL MEN (C) MEL +



- A virus that won't go away.

```
STE
30 FOR f=40192 TO 40448
40 POKE f, 158: NEXT f
50 LET t=0
60 FOR f=40599 TO 40659
70 READ a: POKE f, a
80 LET t=t+a
90 NEXT f
100 IF t<>8930 THEN PRINT "ERROR
    IN DATA": STOP
110 PRINT AT 10, 1: "START VIRUS
    TAPE FROM BEGINNING"
120 DATA 62, 157, 237, 71, 237, 94
130 DATA 201, 229, 213, 197, 245
140 DATA 175, 50, 18, 252, 58, 160
150 DATA 252, 254, 195, 32, 18, 33
160 DATA 197, 158, 17, 160, 252, 1
170 DATA 15, 0, 237, 176, 62, 63
180 DATA 237, 71, 237, 86, 243, 241
190 DATA 193, 209, 225, 255, 201
200 DATA 62, 58, 50, 143, 175
210 DATA 175, 50, 203, 147
220 DATA 50, 123, 186, 195, 184, 153
230 RANDOMIZE USR 40599
240 LOAD ""RANDOMIZE
```

And finally we part on a sad note. It has been brought to my attention that the **Operation Wolf** poke for the Amiga, printed in the last CIA (two weeks ago), failed to work. Not only that, but it has previously appeared in another publication, errors and all. This is obviously not what we want here at Popular, so the money awarded to the sender of that particular poke has been withdrawn.

Please remember that all hints, tips, etc. submitted MUST be original, and should be sent to: RICHARD HENDERSON, CIA, COMPUTER GAMESWEEK, FOCUS MAGAZINES, GREENCOAT HOUSE, FRANCIS STREET, LONDON SW1P 1DG.

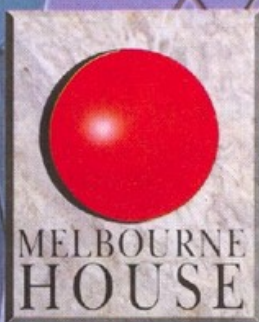
With that moan, I almost forgot something. Tipster of the Week is **Howard Williams**, for his **Dragon Ninja** cheats. Now that CIA is fortnightly, I suppose I'll catch up with you in two weeks time.



# VENON

NOW AVAILABLE ON CASSETTE & DISK  
FOR THE SPECTRUM & COMMODORE 64.

AMIGA £19.95



ATARI ST £19.95

*Setting New Standards*  
IN COMPUTER SOFTWARE

2-4 Vernon Yard, 119 Portobello Road, London W11 2DX · Telephone 01-727 8070 · Telefax 01-727 8965

A MEMBER OF THE VIRGIN MASTERTRONIC GROUP OF COMPANIES



YOUR OBJECTIVE IS VERY SIMPLE BUT FAR  
FROM EASY: TO BECOME A SUCCESSFUL,  
AND PREFERABLY NOT DEAD, COSMIC PIRATE.



"Every detail of this package is well considered  
and beautifully executed ... the challenge is lasting and compulsive"

**Computer and Video Games**

"A thinking man's shoot em up ... an engrossing and addictive challenge  
that will have you coming back for more"

**The One**

"This one'll have you coming back so often your joystick will beg for a break"

**ST Amiga Format**

Available for Amiga and Atari ST Computers.  
Coming Soon for Commodore 64, Spectrum and Amstrad.



Outlaw Productions, The Old Forge, 7 Caledonian Road, London N1 9DX

Please check for availability of individual formats



**PALACE SOFTWARE**



# FED UP WITH JUGGLING FLOPPIES?

# WIN AN ST HARD DISC!

Swindon based hardware dealer Systems 2000, in association with *Popular Computing Weekly*, is offering ST owners the chance to win a 20Megabyte Atari AT20 hard disc unit for their machines!

All you have to do is answer the two questions below, bung them in an envelope and send them off to us!

The first correct answer to be yanked from within the cavernous confines of the ed's *Jet Fighter* cap will win this competition's capacious contrivance, OK?

## Popular Computing Weekly ST Hard Disc Competition Entry Form

Tick the relevant boxes:

1. How does a hard disc store data

(i) Optically ☐

(ii) Magnetically ☐

(iii) Magically ☐

2. What was the earliest form of computer memory?

(i) Core memory ☐

(ii) Cathode ray tubes ☐

(iii) Transistors ☐

Send your answers to Popular Computing Weekly, Focus Magazines, Greencoat House, Francis St, Westminster, London SW1P 1DG.

Closing date Friday April 28th. Correct answers do not guarantee a prize. The competition will be judged by the editor. Multiple or incomplete entries will be disqualified. The judge's decision is final and no correspondence will be entered into.





# SAMDAL COMPUTERS LTD

"Better than the Best of the Rest!"

TELEPHONE: 0621 742617



Credit Card Hotline 0621 742617

**RING NOW!**

**OR CUT OUT AND SEND THE COUPON**

**\* FREE Delivery in UK \* Orders Despatched in 24 hrs \***  
For a Fast and Personal Service Ring Now!

## ATARI ST

Lombard RAC Rally	£19.90	Defender of the Crown	£23.90
Night Hunter	£19.90	Flight Simulator II	£31.90
Falcon	£19.90	Jet	£31.90
Purple Saturn Day	£19.90	Pool of Radiance	£19.90
Puffy's Saga	£19.90	Star Glider 2	£19.90
BAAL	£15.90	Batman	£15.90
Powerdrome	£19.90	War in Middle Earth	£19.90
Dungeon Master	£19.90	F-19 Stealth Fighter	T.B.A.
Carrier Command	£19.90	Bombuzal	£19.90
Virus	£15.90	Bubble Bobble	£15.90
Captain Blood	£19.90	Space Harrier	£15.90
20000 Leagues Under the Sea	£15.90	Return of the Jedi	£15.90
Times of Lore	£19.90	Test Drive	£19.90
Joan of Arc	£15.90	Garfield	£15.90
Elite	£19.90	The Kristal	£23.90
Marble Madness	£19.90	Powerplay	£15.90
Speedball	£19.90	Dragon Ninja	£15.90

### FALCON



F-19 STEALTH FIGHTER



### PURPLE SATURN DAY



LOMBARD RAC RALLY



## AMIGA

Pioneer Plague	£19.90	Marble Madness	£15.90
Dungeon Master	£19.90	Flight Simulator II	£31.90
Sword of Sodan	£23.90	Batman	£19.90
Battlechess	£19.90	War in Middle Earth	£19.90
F/A-18 Interceptor	£19.90	Fish	£19.90
Superman	£19.90	The Kristal	£23.90
Rocket Ranger	£23.90	Powerplay	£15.90
Lombard RAC Rally	£19.90	Dragon Ninja	£19.90
Falcon	£23.90	Heroes of the Lance	£19.90
Garfield	£15.90	Purple Saturn Day	£23.90
Captain Blood	£19.90	Speedball	£19.90
Starglider 2	£19.90	Fusion	£19.90
Carrier Command	£19.90	Puffy's Saga	£19.90
Virus	£15.90	Return to Atlantis	£19.90
Elite	£19.90	Ferrari Formula 1	£19.90
Phantom Fighter	£15.90	Garfield	£15.90
Bombuzal	£19.90	Test Drive	£19.90

### SWORD OF SODAN



DRAGONS LAIR



### ROCKET RANGER



SUPERMAN



**HUNDREDS OF OTHER TITLES AVAILABLE FOR BOTH MACHINES**  
**CALL US ON 0621 742617 OR SEND IN THE COUPON FOR A FULL PRICE LIST**

**WE ARE ALSO STOCKISTS FOR: IBM PC, AMSTRAD, SPECTRUM, C64, MSX & SEGA.**  
**WE ALSO STOCK EDUCATIONAL AND UTILITY SOFTWARE AND PERIPHERALS**

**OUR UNIQUE CUSTOMER CARE CARD FREE WITH YOUR FIRST ORDER!**

**RING 0621 742617 NOW WITH YOUR ORDER**

Mail orders to: Samdale Computers Ltd, 1a Austral Way, Highfield Rise, Althorne, Essex CM3 6DN

Software Title	Machine	Amount

Total Enclosed £

Name .....

Machine .....

Address .....

.....

.....

Postcode ..... Tel. No. ....

**\* Cheques or P.O. payable to: SAMDALE COMPUTERS LTD \***

*\* Overseas orders add £2.00 per item \**

*"WE GUARANTEE NOT TO Cash Cheques OR Debit Credit Cards Until Goods Despatched"*

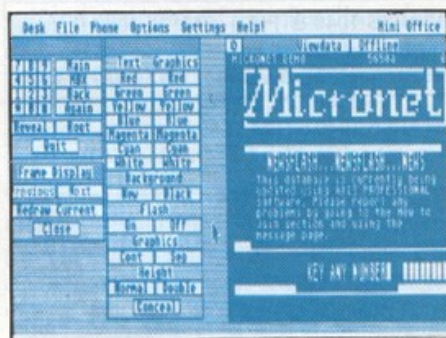


# Matching suite

The award-winning Mini Office package is now available on the ST. Unlike the 8-bit version the package is in five separate parts – spreadsheet, communications, presentation graphics, database, and document processor, each package retailing for £24.95 with the exception of the document processor which retails at £34.95.

The first two packages to be released are the spreadsheet and the communications software.

Mini Office Communications offers a wide range of facilities for both viewdata and terminal emulation from 300/300 baud rates to 9,600. A phone list can be created which contains the numbers and commu-

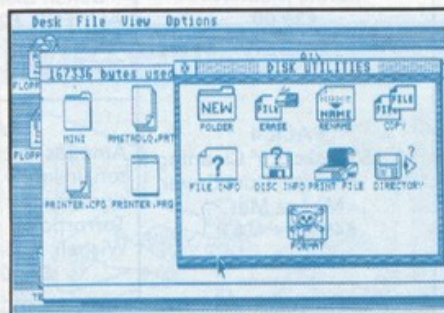


Communicating in medium resolution Viewdata mode.

nications protocol needed to log onto a system. It is also possible to use a log-on file which enters the codes automatically, such as passwords, needed to log on to a system. If you have an auto-dialling modem the dial option can be used to select the system you wish to access and the software will handle the connection and log-on sequences. If your modem does not support auto-dialling the settings can be loaded into memory for the system you require before you attempt to log-on manually.

The package allows you to create a log which will record all activity for later perusal. It is also possible to save frames when in viewdata mode and then convert them into ASCII files. By far the most useful feature of this package is the fact that you can change the protocol settings, even switching between terminal and viewdata emulations, while on-line without losing the connection.

This feature is most evident in viewdata mode where the program allows the user to switch between low and medium resolutions at the touch of a button. In low



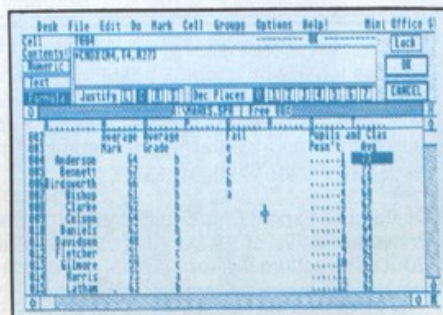
Mini Office accessories: disc utilities.

resolution you see the screen displayed in colour but in medium resolution it is black and white but you have access to the drop-down menus and two on screen tablets which are used to send commands through the modem, thus enhancing ease of use.

A thorough package which does everything except redial engaged numbers and allow a terminal greater than 76.

Mini Office Spreadsheet offers a wide range of commands with auto-recalculate and index-based sorting. Full configuration of cell size and type is possible, including a function which allows a string of text to overflow to other cells while still remaining a product of the originating cell. This allows long headings to be placed on the spreadsheet without altering the cell size. Data in a cell can be either a formula, text or numeric. Important data can be locked to prevent its accidental alteration.

A full range of block commands allows



Store your numbers in the phone book.

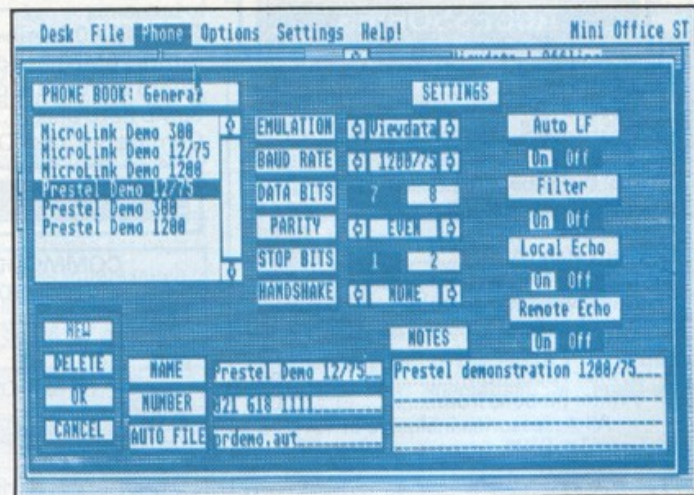
Adrian Pumphrey reviews the first two releases from the five packages comprising the ST version of Mini Office.

data to be copied either from one cell or block to another. When this involves the movement of formulae as they are adjusted automatically to allow for their displacement. Executable files can be created and run which will allow you to create and manipulate a spreadsheet from within program control. The commands used allow cells to be named for the program to perform jumps without the need for the user to remember cell numbers.

A comprehensive spreadsheet is fully GEM supported. My only dissatisfaction with this program is the time taken for to move from one cell to another.

With each of the packages there is a utility disc. It contains four desk-top accessories, a set of printer configurations and a utility for designing your own printer configuration files.

The accessories are a calculator – including everything from memory functions to hexadecimal calculations; a text editor – a



Making the grades with the spreadsheet.

reasonably sophisticated word processor memo pad – on-line notation at your beck and call; disc utilities – nine functions which allow you to organise and format your discs.

As stand-alone packages there is much to recommend these programs in their ease of use power but the real advantage of these and subsequent Mini Office packages is their compatibility, as data from the database can be transferred to the presentation graphics package and the Spreadsheet and so on.



# LAN COMPUTER SYSTEMS

SHOW ROOM OPEN MON TO SAT 10.30 am TO 5.30 pm

TELEPHONE 01-597-8851

## PRINTERS

Panasonic KXP 1081.....	£145.00
Star LC10 .....	£169.00
Star LC10 Col .....	£215.00
Star LC10 Sheet Feeder.....	£55.00
NEC P2200 .....	£279.00
Epson LX800.....	£169.00
Star LC24/10 .....	£279.00
Star LC24/10 Sheet Feeder.....	£55.00
Okimate 20 Col Printer .....	£120.00
NEC P6+ .....	£469.00
NEC P7+ .....	PHONE
Citizen 120D.....	£129.00

Large range of alternative Printers available.  
Please phone for quotation.  
ALL PRICES EXCLUSIVE OF VAT.

## MONITORS

Special offer Monitors .....	£189.00
Philips 8833 .....	£219.00
Philips 8852 .....	£259.00
Philips 9073 .....	£369.00
Philips Monitor Green.....	£69.00
Philips Monitor Amber.....	£79.00
NEC Multisys II .....	£459.00
Commodore 10845 .....	£239.00
Ferguson + V Monitor 14" .....	£189.00
Philips 14" R/C teletext.....	£217.00
Philips 15" FST .....	£189.00

All monitors complete with computer leads

## ACCESSORIES

Mouse Mat.....	£4.95
Dust Cover - Computer .....	£7.95
Dust Cover - Monitor .....	£9.95
Dust Cover - Disk Drive .....	£5.95
3.5" Disks (box 10).....	£14.95
5.25" Disks (box 10).....	£9.95
Disk boxes from.....	£2.00
Copy stand A4 .....	£19.95
Data Switch 2 way .....	£29.95
Data Switch 4 way .....	£39.95
Joysticks from .....	£7.00
Monitor stands .....	£7.00
Printer Paper from .....	£9.95
Printer Ribbons from .....	£3.00

All Accessories inclusive of VAT.

## LANSOFT CLUB LANSOFT CLUB

The computer club for  
Amiga and St Users  
everywhere, all prices  
include VAT

Membership £20 per year  
SO WHAT DO YOU GET?

	RRP	LANSOFT
Tau Ceti .....	£24.05	£5.00
Hacker II .....	£24.95	£5.00
Ogre .....	£24.95	£5.00

So you can save up to 80% off your software on our special club promotion

## AMIGA

**PACK 1**  
Winter Games, Out Run,  
Final Assault, Wizard, Warz,  
Leader Board, Birdie Golf,  
Marble Madness  
**£39.00**

**PACK 4**  
20 3.5" Disks 3.5" Cleaning  
Disk, Joystick, Dust Cover,  
Mouse Mat  
**£49.00 + VAT**

**A5000 COMPUTER**  
+ Introduction to the Amiga  
Manual + Amiga Basic Manu-  
al + Mouse Controller +  
The Very First Disk + Work  
Bench Disk + Extras Disk  
ALL FOR **£299 + VAT** YOU  
MUST BUY ONE OR MORE  
PACK WITH YOUR AMIGA

**PACK 2**  
Amegas, Art of Chess, Barba-  
ton, Insanity Fight, Ikari War-  
riors, Buggy Boy, Mercenary,  
Terrapods, Thundercats,  
Wizball, Marble Madness  
**£39.00 + VAT**

**PACK 5**  
Hellbent, Better dead than  
Allen, Quadrallian, Interna-  
tional Soccer, Star Goose,  
Winter Olympiad, Back Lash,  
Out Run, Attack, Marble,  
Madness  
**£45.00**

**PACK 3**  
**12 GAMES**  
Grid Start, Eco, Karting  
Grand Prix, Wizball, Thai  
Boxing, Terrapods, Fli-  
ghtpath 737, Barbarian,  
XR35, Obliterator, Las Vegas,  
Marble Madness  
**£59.00 + VAT**

Cumana 3.5" Disk Drive with TV Modulator .....	£21.00	<b>A2000 Computer .....</b>	<b>£849.00</b>
on/off switch.....	£86.00	Genlocks From .....	£99.00
A501 Ram .....	£120.00	Amiga 500 inc Mod .....	£320.00
20Mb Hard Disc .....	£599.00	<b>8Mb Ram Board .....</b>	<b>PHONE</b>
		<b>XT Bridgeboard.....</b>	<b>£299.00</b>
		<b>20 Mb Hard Disk .....</b>	<b>£199.00</b>

## ATARI

ATARI New Super Pack 520 STEM Com-  
puter with 1Mb integral drive plus 21  
games. All this for just **£289.00 + VAT**

ATARI'S 1040 STFM + SM124 1040 includ-  
ing Mouse, basic, cables, and SM124 high  
res monochrome monitor **£439.00 + VAT**

ATARI'S 520 STFM 520 STFM Explorer pack  
including Mouse, Basic, Cables,  
**£235.00 + VAT**

ATARI'S 1040 STFM 1040 including Mouse,  
basic cables **£359.00 + VAT**

Supra FD10 Removable hard disk .....	PHONE
Supra 20Mb hard disk .....	£419.00
Supra 30Mb hard disk .....	£469.00
30Mb hard disk .....	£469.00
Cumara 3.5" Disk Drive with PSU .....	£85.00

## PC

### COMMODORE

PC III SD	
MONO .....	499
COL .....	633
ECD .....	755
PC10 III DD	
MONO .....	553
COL .....	689
ECD .....	815
PC20 III HD	
MONO .....	735
COL .....	864
ECD .....	989

### AMSTRAD

1512 DDM .....	461.00
1512 SDC .....	461.00
1512 DDC .....	553.00
1640 SDM .....	474.00
1640 SDC .....	564.00
1640 SD ECD .....	654.00
1640 DDM .....	532.00
1640 DDC .....	632.00
1640 DDECD .....	722.00
1640 HDM .....	722.00
1640 III DECD .....	940.00

### WE ALSO STOCK

ARCHIMEDES  
BBC MASTER  
288 LATPTOP  
SAMSUNG PC  
TAPE STREAMERS  
HARD DISKS  
HARD CARDS  
VGA CARDS  
PHONE FOR DETAILS

We also stock full Commodore PC Range

### HOW TO ORDER

Enclose letter with cheque, postal order or credit card number for amount including VAT and delivery charge £10. Credit card holders may order by telephone. Contact sales desk. Despatch normally in 24 hrs. Official Orders from Educational Establishment, Local Authorities and Government departments welcome. Contact Educ. Dept EXPORT HOTLINE 01 597 8853.

FAX

Dealer and Export Enquiries: Contact Trade Dept.

Prices exclusive of VAT unless otherwise stated and correct at time of going to press. Education callers ask for Tony Judge or Mark Butler.

Come in and see us at 1063 High Street Chadwell Heath Romford Essex



# The long arm of the law

Should there be greater legislative control of on-line systems? Malcolm Arnold thinks it may have troubling implications . . .

In the wake of my article on hacking, I have received some useful feedback via MBX. Mike Fellows wrote to say that although he saw the difficulties posed by hackers, he thought "the intended law to make even an attempted hack into a system, even if it fails, illegal, slightly out of order. I think priorities should be put into place."

Dave Spink contacted me to ask about the position of the press in highlighting what might be seen as damaging influences in comms. I have always interpreted the journalistic position as being one which presents information and opinion in such a way as to generate and contribute to informed and balanced debate of issues.

If the controversial provokes discussion, its presence can be very positive, though that does not excuse press shock tactics when faced with such an 'attractive, and esoteric subject.

I know certain respected comms stalwarts and luminaries who have been very upset by certain quality papers refusing to present the constructive side of the BB scene as balance to their dramatic coverage of what might be seen as the minority.

Recent press reports that BBs may contain questionable content, and that hackers can cause damage in systems carrying sensitive data, will probably produce a deluge of calls for some kind of licensing of private comms capability. Should sysops be compelled to register? Should modems be licensed like television and radio sets? Should there be legislation against hacking.

A spokesperson at OFTEL told me it did not envisage a situation where British Telecom would be able to license BBs. Telecom is under a universal obligation to provide telephone lines to all. That is to prevent any commercially partisan approach. In the case of the recent chatline controversy, BT is being advised by the Independent Committee for the Supervision of Standards in Telephone Information Services.

ICSSTIS has no comms capability, so far as I am aware. Perhaps one answer would be to have a group like it set up to monitor on-line computer services. Apart from the tangled web we weave when considering the question of censorship *per se*, the idea of Telecom, or the Government, licensing boards - and therefore having the power to



pull the plug on services making unfashionable political or sociological points - is somewhat chilling.

As for making hacking illegal, what would that achieve? Any destructive or criminal results of the activity are illegal anyway - fraud, destruction of data. The computer criminals, and those who would make use of hackers to wage commercial or political war, would place themselves beyond the law already. They will not stop because of a new law aimed specifically at them, will they?

Thanks to Elliot Ness for letting me know about the Bitmap Brothers BBS - 0245 413728 - V21/23 - 24hrs. Mike Montgomery of the Bitmap Brothers software concern is the sysop of this BB but Ness inputs much of the board's content as co-sysop and he assures me that the board is completely



Log-on to the Bitmap Brothers' BBS and join the Hot Hands Club.

non-commercial.

The BB claims 200 users and almost 2,000 calls to date. It has sections for Amiga, PC and ST and also provides the Unofficial Kylie Minogue Fan Club and a section glorying in the name of the Hot Hands Club.

The latter is a SIG for swapping information on arcade and computer games, offering the Golden Joystick Award for the game of the month, an archive of games reviews and a newsletter. The BB also has the Trade Wars on-line game.

The Village Fayre - 01-569 1552 - Viewdata - 24hrs - carries the theme of its title through every aspect of the BB. At log-on you are asked to 'give Bob your password' for a 'free ride on the big wheel', and all the graphical elements of the board duplicate scenes from such a fayre.

The BB has 55 registered users and runs Qview - see the Atavachron review, November 10-16 - on a QL with a good deal of extra storage and an Astracom modem. The areas on the board are listed as Sideshows, including Ghost Train, Gipsy Tent, Bulgarian's Books and so on. I stepped into the Beer Tent, where I was able to drink an article describing the 21 types of beer available in the U.K. in loving detail. The Fayre is a painstakingly-crafted concept BB which is well worth a look.

Falcon BBS - 01-527 4165 - V21/23 - 24hrs - runs FoReM on an Atari ST. The BB opens with an impressive logo for a scrolling board, spelling the board's name in 3D lettering. Its specialism is multi-user games.

There is a general MUG players' SIG called Muggers' Domain, and a SIG for Shades players. There are also two on-line games, *Space Trader Elite* and *FoReM Wrestling*. The board was launched and continued for its first three weeks on an Amstrad CPC using software designed by Steve, the sysop.

The ST set-up has been available for only six weeks, so the BB is very new, but well-supported by MUG players. Steve says: "If you play MUGs and need help or just fancy catching up on the news, this is the place. No self-respecting MUGger would be seen dead on any other system."

Contact me on The Owl Service - 0532 605876 - V21/23 - 24hrs - or via Prestel MBX 011112661. □





# CHUCKIE EGG II

RELEASED DUE TO PUBLIC DEMAND  
GUARANTEED SALMONELLA FREE



(Choccy Egg)

If you have played the classic computer game Chuckie Egg you hardly need an introduction to this "cracking" sequel, which takes us from the hen house to the chocolate Easter egg.

This eggcellent game is guaranteed to be salmonella free on your Amiga, ST or PC machines. It will give hours of entertainment and no matter how many times you unwrap the disc and sample the goodies it will neither make you fat nor rot your teeth!



## CHUCKIE EGG II

Available on Atari ST/Amiga/Spectrum/Commodore/Amstrad soon on PC



## CHUCKIE EGG

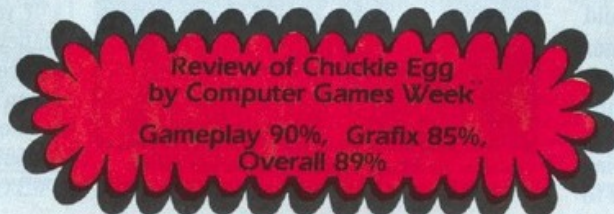
Available on Atari ST/Amiga/Spectrum/Commodore/Amstrad /Atari/MSX/Dragon/BBC/Electron soon on PC.



Screen shots from Amiga Version



Screen shots from Amiga Version



**P'n'C**  
Pick & Choose

Cheques & P.O. to: Pick & Choose (F.G.) Ltd, 45 Bury New Road,  
Manchester M8 8EG, Tel. 061 831 7922

**P'n'C**  
Pick & Choose



# MICRO-FILE

★ ★ ★ CERTIFIED DISKS ★ ★ ★

## NEW LOW PRICES

INCLUDING SLEEVES, LABELS AND A 100% NO-QUIBBLE GUARANTEE!

PSION ORG. XP £110	QTY.	5.25"	3.50"	IBM PC PRINTER LEAD £5.95
		DS/DD	DS/DD	
	25	£ 7.25	£ 21.00	
	50	£ 13.50	£ 37.00	
	100	£ 26.50	£ 70.00	
	200	£ 52.00	£130.00	
	500	£120.00	£300.00	

PRICES INCLUDE CARRIAGE AND V.A.T.

SAME DAY DESPATCH

## WESTONING LTD

DEPT. PCW, 12 SANDERSON ROAD, WESTONING, BEDFORD MK45 5JY

(H128)

(0836) 775060

### ALL COMPUTERS WANTED FOR CASH OR EXCHANGE

Tel: 01-727 0424

(867)

### ATARI ST PUBLIC DOMAIN

Why reinvent the wheel? We have a large selection of languages, demo's, utilities, comm's and games etc. available. A stamp for our list will save you hours of frustration.

Discs from £1.50

### MCSOFT

21 Purbrook Road, Tadley,  
Hampshire RG26 6PR (178)

Fuji Diskettes, 3½" 135 TPI  
£16; unbranded £12; Fuji  
5¼" 48 TPI £11; 96 TPI £14;  
unbranded £6. 80 3½" lock-  
able box £9. VAT included,  
postage £1.50. C.V.L.S.  
(JAGLA) 92 Firtrees, Thur-  
goland, Sheffield S30 7BG.  
Tel. 0742 884183 anytime.

Your home computer can  
provide you with a part-time  
or full-time income. For  
further details send stamp  
to: Willow Publications  
(PCW), 6 Moss Bank Drive,  
Hogganfield, Glasgow G33  
1LS.

### SPECTRUM TAPE TAPE - TAPE UTILITY B

Yes Tub will back up most of your TAPE based software, including most of the recent jerky loaders and those programs with a counter - converts for reliable loading. Can measure speed of faster loaders, manages 100% accurately many blocks over 51k, etc. etc. Unrivalled. On tape at £7.50.

### SPECTRUM TAPE TO DRIVE - TPS

A complete software package (includes TUB) to transfer hundreds of programs to your drive - manages some that hardware devices can not reach! Jerky and counter loaders managed easily, but program not for the novice. Only £12 (+£1 on m/drive cart). INFORMATION BOOK covering over 400 transfers, including many top 20 hits £2.50 extra with TPS.

### M/DRIVE OWNERS - MICROMATE

The only complete package for m/drive owners, and it pays for itself! These are just some of its features: Format (up to approx 104k), Clone, sector editor, reconditions cartridges, repairs and gives condition of files, 'boot' program, multiple ERASE, rename, true CAT. Copies tape to drive (unsecured), drive to drive, drive to tape. It has so many features and is unique. YOU MUST HAVE THIS PROGRAM IF YOU HAVE A M/DRIVE! £13.99 on m/drive cartridge.

### CODE COMPRESSOR, Z80 TOOLKIT

Code compressor - compresses machine code - many uses, but ideal with hardware devices that don't compress code. Only £4.50. Z80 Toolkit - An superb assembler (full screen editor), fast disassembler, single step to see how m/c works, loader, hex/dec toggle, tutorial - ideal for ALL particularly beginners - only £7.99. State TYPE of SPECTRUM + drive system when ordering. E.g PLUS 3 or 128k with Opus disc drive. M/drive cartridges £1.75 each (min 4).

ALL PROGRAMS CARRY OUR MONEY BACK GUARANTEE (not updates - phone for prices of these). All prices inclusive except add £1 Europe, £2 others. SAE for full details. LERM DEPT PCW, 11 BEACONSFIELD CLOSE, WHITLEY BAY, NE25 9UW. (Tel: 091-2533615)

## ADVERTISING RATES FOR MICRO-FILE

Semi Display £10 per single column centimetre (+VAT)  
Lineage 50p per word (+VAT)

CALL ELIZABETH SOLANKE or NICHOLAS CARR on  
01-834 1717 FOR SEMI DISPLAY ADVERTISING



## Panasonic Printers



**£129** + VAT  
= **£148.35**

## KX-P1081

- 120 CPS DRAFT
- 24 CPS NLQ
- IBM/EPSON COMPATIBLE
- FRICTION AND TRACTOR FEED
- CENTRONICS



**£160** + VAT = **£184.00**

## KX-P1180

- £192 CPS DRAFT
- 38 CPS NLQ
- 4 BUILT IN FONTS
- IBM/EPSON



**£273** + VAT  
= **£314.00**

## KX-P1124

- 24 PIN PRINTER
- 192 CPS DRAFT
- 38 NLQ
- EPSON LQ + IBM EMULATION MODE

## LASER KX-P4450

- 300 DPI
- 512 MEMORY
- SERIAL PAR
- 1 YEAR ON SITE WARRANTY

**£1400** + VAT  
= **£1610**

## HARD CARDS &amp; HARD DISKS

	EX VAT	INC VAT
21 MBYTE .....	190	219
32 MBYTE .....	225	259
42 MBYTE .....	286	329

ALL HARD DISKS ARE FORMATTED PLUS FREE SOFTWARE

## Archimedes

	EX VAT	INC VAT
305 BASE .....	£599	688.85
MONO .....	£668	768.20
COLOUR .....	£810	931.50

	EX VAT	INC VAT
310 BASE .....	£699	803.85
MONO .....	£749	861.35
COLOUR .....	£899	1033.85

	EX VAT	INC VAT
PC EMULATOR ...	£68	78.20

	EX VAT	INC VAT
410 BASE ..	£2147	2469.00
MONO	£2187	2515.00
COLOUR	£2300	2645.00

## NEC

MULTISYNC MONITORS

	EX VAT	INC VAT
GRAY .....	£160	184.00
COLOUR		
MULTI II .....	£460	529.00

REMEMBER OUR PRICES INCL  
VAT & FREE NEXT DAY DELIVERY

## CITIZEN



- 120 CPS DRAFT
- 24 CPS NLQ
- FRICTION AND TRACTOR FEED
- 4K BUFFER

**£120** + VAT = **£138**

HQ-P45 24 PIN  
WIDE CARRIAGE

**£340** + VAT = **£391**

## EPSON PRINTERS

## LX800

**£160** + VAT = **£184**

## LQ5000

**£280** + VAT = **£322**

## MANNESMANN TALLY

## The NEW

- DRAFT 130 CPS £120
- NLQ 24 CPS + VAT
- CENTRONICS = £138

## ATARI

★ 520 STFM ind 22  
SOFTWARE PACK

**£310** + VAT  
= **£356.50**

## ★ 1040 STFM

**£340** + VAT  
= **£391**

## PC's

We stock a wide range of PC Compatible incl. all types of AMS - ATARI - PC's - COMMODORE PC - SAMSUNG - OPUS - PACKARD - BELL...

Please phone for our best prices

## OKIMATE 20

- COLOUR PRINTER
- NEAR LETTER QUALITY
- 80 CPS
- A4 SIZE
- IBM, ST & AMIGA

**£120** + VAT  
= **£138**

DAISY WHEELS  
JUKI 6000

**£120** + VAT = **£138**

## TRIUMPH ADLER

**£160** + VAT = **£184**

## JUKI 6200

**£290** + VAT  
= **£333.50**

## AMIGA

AMIGA 500 incl  
MOUSE,  
JOYSTICK +  
23 SOFTWARE  
PUBLIC DOMIN

- KARATI KIT II
- SPITTING IMAGE
- BACKLASH
- ICON PAINT
- STAR GOOSE
- QUADRALIEN

**£340** + VAT = **£391**

## SERVICING

WE REPAIR MOST KINDS OF COMPUTERS AND PRINTERS.

FOR BUSINESS WE CAN GIVE 24 HOURS ON SITE WARRANTY.

PLEASE PHONE FOR DETAILS

## star Printers

## LC-10 &amp; LC-10c

	EX VAT	INC VAT
★ 6 BUILT IN FONTS		
★ 120 CPS		
★ 30 CPS NLQ	£170	195.50
★ 4K BUFFER		

## LC-10 COLOUR

	EX VAT	INC VAT
★ FULL COLOUR PRINTER		
★ PLUS ALL THE ABOVE FACILITY	£212	243.80

## LC-24

	EX VAT	INC VAT
★ EXCELLENT 24 PIN		
★ NLQ-BUILT IN FONTS	£276	317.40

## NB24

	EX VAT	INC VAT
★ INCL FREE CP	£420	483.00

## NX-15

	EX VAT	INC VAT
★ WIDE CARRIAGE	£286	328.90

## NB24-15

	EX VAT	INC VAT
★ 24 PIN W/DE/C	£550	623.50

## PHILIPS MONITOR

	EX VAT	INC VAT
MONO 7502	£68	78.20
COLOUR 8833	£225	258.75
COLOUR 8852	£260	299.00

## EPOS SYSTEMS

ELECTRONIC  
POINT OF SALES



- ELECTRONIC STOCKTAKING
- ACCURATE STOCK VALUATION
- AUTO STOCK REPLENISHMENT
- DETAILED SALES ANALYSIS
- FLEXIBLE REPORTING ROUTINES
- UNIT STOCK CONTROL BY W/H & BR
- PURCHASE ORDER CONTROL
- AUTO STOCK ORDERING
- LABEL PRINTING
- PRICE MARK UP
- PROFIT ANALYSIS
- VAT ANALYSIS
- TOTAL CASH TAKEN
- UP TO 8 SHOPS & W/H
- SOFTWARE RUNS ON ANY IBM COMPATIBLE

• SOFTWARE TILL •  
£499 + VAT = £573.85  
£800 + VAT = £920.00

**ACE**  
COMPUTERS

MAIL ORDER  
FROM BRISTOL  
ADDRESS  
ONLY



BRISTOL: 42 Cannon Street, Bedminster..... Tel: 0272 637981

BRISTOL: 3 North Street..... Tel: 0272 666341

CARDIFF: 87 City Road..... Tel: 0222 483069

SWINDON: 31 Faringdon Road..... Tel: 0793 512074/3

If you would like to run  
your own Franchise  
please write to:  
42 CANNON STREET,  
BEDMINSTER,  
BRISTOL BS3 1BN.

OPENING SOON: 16 WEST STREET, WESTON-SUPER-MARE AND ALSO 54 COMMERCIAL ROAD, NEWPORT



# MEDIAWARE

Dept. PCW

**BULK 5 1/4" DISKS**  
from **.22p** exc VAT

**BRANDED 5 1/4" DISKS**  
from **.29p** exc VAT

Our prices are THE LOWEST, and we pass on the saving.

Prices are per disk, including free delivery to mainland addresses. VAT must be added at 15%.

Purchase more than 100 disks, or order more than £50 nett value; and take advantage of the very low BONUS prices

PRICE PER DISK EX VAT  
FREE DELIVERY

**5 1/4" BULK DISKS, ENVELOPES AND LABELS**

Single sided 48tpi (min 100)	—	.22
Double sided 48tpi (min 100)	—	.25
Double sided 96tpi (min 100)	—	.29
High density 1.6Mb (min 100)	—	.49

**3 1/2" BULK DISKS AND LABELS**

Single sided 135tpi (min 50)	.69	.59
Double sided 135tpi (min 50)	.79	.69
High Density 2Mb (min 50)	1.69	1.49

**5 1/4" MEDIAWARE PREMIUM**  
— 2 for 1 WARRANTY!

Packed in plastic library boxes for total confidence

Double sided 48tpi (min 30)	.35	.29
Format-PC DS 48tpi (min 30)	.45	.39
FLIPIES 96tpi (min 30)	.49	.45
Double sided 96tpi (min 30)	.39	.35
Formatted HD 1.6Mb (min 20)	.80	.75

**3 1/2" PREMIUM MEDIA**

Japanese Quality Media & plastic boxes

Double sided 135tpi (min 10)	.89	.75
High Density 2Mb (min 10)	2.20	1.99

**3M/VERBATIM BRANDED**

5 1/4" 744/525 SS48tpi	.58	.49
5 1/4" 745/550 DS48tpi	.62	.55
5 1/4" 747/557 DS96tpi	.95	.88
5 1/4" 799/599 DSHD 1.2Mb	.99	.92
3 1/2" SS135 SS 135tpi	1.09	.99
3 1/2" DS135 DS 135tpi	1.19	1.09
3 1/2" HD135 HD 135tpi	2.75	2.60

Min order any 2 boxes of 10

**DISK STORAGE BOXES**

3 1/2" 40 Disk Lockable Box	3.99
3 1/2" 80 Disk Lockable Box	4.99
3 1/2" 10 Disc Box (Price per 6)	4.50
5 1/4" 50 Disk Lockable Box	3.99
5 1/4" 100 Disk Lockable Box	4.99
5 1/4" 10 Disk Box (Price per 6)	4.50

**MANUAL DATA SWITCHES**

SERIAL/RS232 2 WAY	18.50	16.00
SERIAL/RS232 4 WAY	27.90	25.40
SERIAL/RS232 X-OVER	27.90	25.40
PARALLEL/CENT 2 WAY	20.50	18.00
PARALLEL/CENT 4 WAY	28.00	25.50
PARALLEL/CENT X-OVER	29.00	26.50

## HARD CARDS

WESTERN DIGITAL 20MB 65MS	195.00
WESTERN DIGITAL 32MB 65MS	210.00
(Including XTREE Software)	
SEAGATE 20MB 40MS	199.00
SEAGATE 32MB 40MS	220.00
38% FASTER THAN THE AVERAGE 65MS CARD	

## HARD DRIVE KIT

ST-225 - MFM - 20MB - 65ms	179.00
ST-251 - MFM - 40MB - 40ms	269.00
ST-4096 - MFM - 80MB - 28ms	399.00
ST-138 - MFM - 30MB - 40ms	249.00
ST-138R - RLL - 30MB - 45ms	214.00
ST-125R - MFM - 20MB - 40ms	189.00

ALL SEAGATE DRIVERS INCLUDE CONTROLLER AND CABLE

## PRINTERS

### CITIZEN

120D 120cps DRAFT	129.00
180E 175cps DRAFT	169.00
MSP15E 160cps DRAFT	229.00
MSP40 240cps DRAFT	249.00
MPS45 240cps, 132 col	299.00
MPS50 300cps, 80 col	399.00
MPS55 300cps, 132 col	449.00

### EPSON

LX800 180cps DRAFT, 80 col	189.00
FX800 240cps DRAFT, 80 col	369.00

## SPECIAL OFFER

**ONLY 25 IN STOCK**  
**STAR NB24-15**

WITH FREE CUT SHEET FEEDER (RRP £195.00)

216cps DRAFT, 72cps LQ, 15.5" PAPER WIDTH

**ONLY £600**

**"FREE PRINTER CABLE WITH EVERY PRINTER SUPPLIED."**



FREE DELIVERY  
To U.K. Mainland

**ALL PRICES  
EXCLUDE VAT**

OFFICIAL TENDERS &  
QUOTATIONS WELCOME

## DEPT PCW

Unit 9 Huntsbank Industrial Estate,  
Crewe Road, Wistaston, Crewe, Cheshire CW2 6QT  
Telephone: 0270 666616/664236

# MEDIAWARE

Dept PCW

## PRINTERS

### Panasonic

**NEW!**



KX-P1124 24 PIN 132 COL DOT MATRIX (NEW)	295.00	279.00
KX-P1081 9 PIN 80 COL DOT MATRIX 120cps	145.00	135.00
KX-P1592 9 PIN 132 COL DOT MATRIX 180cps	269.00	259.00
KX-P1595 9 PIN 132 COL DOT MATRIX 240cps	380.00	365.00

### STAR

LC-10 9 PIN 80 COL DOT MATRIX 144cps	199.00	189.00
LC-10C 9 PIN 80 COL COLOUR 144cps	249.00	219.00
LC-10CC 9 PIN 80 COL COMMODORE/INT 144cps	199.00	189.00
LC24-10 24 PIN 80 COL DOT MATRIX 170cps	329.00	299.00

## LASER PRINTERS

**TOO CHEAP TO ADVERTISE!**



PANASONIC KX-P4450 STAR LASER PRINTER 8 CIT OVERTURE 110+	CALLU	1350.00
KYOCERA F1000 HQ	CALLU	1599.00
EPSON GQ3500		1295.00

## EXTERNAL DISK DRIVE

**NEW**

**5.25" 360K EXTERNAL DISK DRIVE**  
**FOR THE AMSTRAD 2086**  
**ONLY £249.00**

**DIAL-A-DISK**

0270 666616



Access



**FAX-A-DISK**

0270 665556





## NORTHERN PC SOFTWARE GROUP

AMSTRAD PCW PUBLIC DOMAIN

Collieston, Aberdeen AB4 9RT

Telephone and Help-Line: 035887-336

**NSG** offer to ALL Amstrad and IBM Compatible Users a Personal Service.

We are especially interested in NEWCOMERS to COMPUTING.  
OUR NON-PROFIT MAKING SERVICES INCLUDE THE FOLLOWING:

### PUBLIC DOMAIN:

Fine programmes available on 5.25" and 3.5" disks at IMB Compatible Material is offered for ALL USERS on 5.25" disks at a maximum of **£3.50 per disk inc VAT and Post**. We hold the largest PD Library in the north of Britain, which is being increased monthly.

### 24 HOUR HELPLINE:

Use this Service at any time Day or Night for instant assistance to any Member. Especially valuable to newcomers to these excellent PD programmes. *Help available on any aspect of Computing, at all times.*

### OTHER SERVICES:

INFORMATION, BBS, COMMS, NETWORKING, DISK EXCHANGE, NEW SOFTWARE, CONSULTANCY.

### SPECIAL INTERESTS:

Special Interest Groups encouraged. Share your expertise with other enthusiasts, through our News Letter.

***Send for information today without delay.***

**This is a service for all beginners, and the enthusiast.**

**Modest registration fee £20.00.**

**Includes credit for £10.00 PD software.**

***Special terms for  
OAP/students/unemployed.***

**EASTER SPECIAL EXTRA  
£10.00 PD software  
JUST MENTION THIS  
ADVERTISEMENT**



# BATH COMPUTER SHACK

**YOU CAN'T AFFORD TO GO ELSEWHERE**

## \*\*\*ATARI SUPER PACK\*\*\*

Atari 520stfm, 1 meg drive, 22 games and a joystick **ONLY £349.00**

Atari 520 stfm 1meg Drive (ex-pack) **£279.00**

Atari 1040stfm now with modulator **ONLY £419.00**

Atari 1040stfm with SM124 high resolution mono monitor **ONLY £529.00**

Atari SH205 Hard Disc **£529.00**

Atari SM124 High Res Monitor **£119.00**

Atari SC1224 Colour Monitor **£249.00**

Atari SL.M804 Lazer Printer **£1049.00**

## ATARI MEGA'S AND PC'S

Please call for our very best prices, you won't be disappointed.

## MONITORS

Philips CM8833 **£259.00**

Philips CM8852 **£299.00**

\*NB: All above prices include lead.

## PRINTERS

Citizen 120D **£159.00**

Panasonic KXP1081 **£175.00**

Epson LX800 **£199.00**

Star LC10 (with spare ribbon) **£215.00**

Star LC10 colour **£265.00**

Star LC24/10 **£339.00**

Star NB24-15 (free sheetfeeder) **£599.00**

\*NB: All above prices include lead.

## ACCESSORIES

Handykap Keyboard Cover **£7.95**

Monitor Stand **£24.95**

Mouse Mats **£4.50**

Monitor Master (ST Only) **£35.00**

Mouse Master (ST & Amiga) **£24.95**

Orders under £50 add £2.50 P&P.

All prices include VAT.

All Hardware is sent by next day courier F.O.C.

## SHOW ROOM

8c Chelsea Road

Lower Weston

Bath

Avon

BA1 3DU

TEL: (0225) 310300 FAX: (0225) 446827

## COMMODORE

Amiga 500 **£369.00**

Amiga 500, Deluxe paint, 5 games **£389.00**

Amiga 500, Deluxe paint, 2 games, 1084

Colour stereo monitor **£619.00**

Amiga 500, Deluxe paint, 2 games, modulator

**£399.00**

Amiga 500, Photon paint, modulator **£389.00**

Commodore 1084 colour stereo

monitor **£259.00**

Full range of PC's in stock please call for our best prices.

## AMSTRAD

Amstrad PC1640 DD Mono **£669.00**

Amstrad PC1640 SD Mono **£559.00**

Amstrad PC1640 HD ECD **£1099.00**

Amstrad PC1512 DD Colour **£725.00**

\*\*\*\*\*

Amstrad PC1640 DD Mono, DMP4000 Printer,

Wordstar, Supercalc 3.1, Accounts Master

**ONLY £899.00 — SOLD OUT**

**TRY US FOR AN ATARI PC**

\*\*\*\*\*

All other models available, please call for our very best prices.

Amstrad PPC512S **£429.00**

Amstrad PPC512D **£549.00**

Amstrad PPC640S **£549.00**

Amstrad PPC640D **£629.00**

## DISCS & BOXES

At UNBEATABLE Prices

10 x 3.5" DS DD Discs in Box **£9.95**

25 x 3.5" DS DD Discs in Box **£25.00**

25 x 5.25" Discs **£8.50**

100 x 5.25" Discs **£29.95**

Above Discs Certified & Guaranteed

40 Cap 3.5" Lockable Box **£4.99**

80 Cap 3.5" Lockable Box **£7.99**

120 Cap 3.5" Lockable Box **£9.99**

Access & Visa orders welcome

Mail order address below E & OE

## MAIL ORDER

Units 11/12 White Hays South

West Wilts Trading Estate

Westbury

Wilts

BA13 4JT

TEL: (0373) 858031 FAX: (0373) 858032

(1131)



# NEW FROM TRILOGIC

BACK-UP AND TRANSFER PROGRAMS  
FROM DISK TO TAPE TAPE TO DISK  
DISK TO DISK TAPE TO TAPE

## LAUNCH AHEAD!

WITH THE NEW  
'ROCKET POWERED'

Including V3.2R Software

**Expert**  
CARTRIDGE

COMPLETE BACK-UP SYSTEM  
MAIN FUNCTIONS

- Freezes all Programs.
- Creates a back-up onto Disk or Tape. Regardless of whether the original was loaded from Disk or Tape.
- Independent tests show the Expert to have the most effective compactor so you can save more games per Disk and have faster reloading.
- Saves a back-up in one file.
- Expert is not needed for reloading a back-up.
- Programs reload in less than 10 seconds using New Rocket Loader.

**ROCKET — A SUPER-FAST  
DISK TURBO LOADER**



### UTILITY FUNCTIONS

- Sprite Saver & Editor with Animator
- Infinite Lives Command
- Joystick Autofire mode — even better than Autofire Joysticks
- Joystick Port Swap — Your back-ups can use the same port
- Powerful & Professional 64k M-Code Monitor
- Printout Hires & Lores Screens
- Expert Express — Use the Expert as a Disk Turbo Loader
- Loads independently of the Cartridge.
- Reload on average back-up in 6 seconds.
- Loads any size of file. One file format

## COMPUTER PROBLEMS?

### CALL A DOCTOR!

**64 DOCTOR**  
A professional diagnostic  
CARTRIDGE for your C64.

#### TESTS:

- Keyboard
- Joystick Port
- Serial Port
- User Port
- Cartridge Port
- Basic Rom
- Kernal Rom
- CIA Chips
- Video Chip & Video Banks
- Sound Chip
- NMI & IRQ Interrupts
- Cassette Key Press
- Cassette Data
- Even tests your Joystick

**£18.99**

COMPRISES 64 DOCTOR CARTRIDGE,  
USER & SERIAL PORT TESTERS, AND  
**FREE** — The only comprehensive  
fault diagnosis and Repair Guide available

- Explains step by step, how to locate faults and identify chips.
- How to dismantle the keyboard.
- Includes Commodore part number guide.
- Full of tips and hints many known only to the trade.
- How to desolder chips the professional way.
- Written by professionals with a vast knowledge of 64 faults and repairs.

## LOADING PROBLEMS?

**DATASETTE  
DOCTOR**

THE ONLY COMPLETE DATASETTE  
SERVICE & ALIGNMENT KIT

- Check and adjust alignment. Two tests with very precise adjustment.
- Check Datasette Circuitry. Shows up electronic faults.
- Check for Electrical Interference. Shows up noise from TV's & main wiring.
- Check Saving Performance. Special high Baud rate saving test.
- Check Loading Performance. Special Turbo loading test.
- Clean & Demagnetise Tape Head. Cleaner/Demagnetiser supplied.

**£8.99**

**DRIVE  
DOCTOR**

With this complete kit  
you can check:-

- HEAD ALIGNMENT — Unique test makes accurate setting easy.
- HEAD MOVEMENT — Shows up wear and friction.
- BACK STOP SETTING — Critical but easy to adjust.
- MOTOR SPEED — Show speed errors.
- ALSO shows up free play & faulty Simotor

COMES COMPLETE WITH  
PROGRAMME TAPE,  
SPECIAL ALIGNMENT DISK  
AND FULL INSTRUCTIONS.

**£14.99**

ALL 3 DOCTORS ARE HIGH PERFORMANCE, ORIGINAL TRILOGIC  
PRODUCTS OUTPERFORM SIMILAR RIVAL PRODUCTS OFTEN COSTING MUCH MORE.

## BARGAINS ON DISKS, BOXES, JOYSTICKS, DUSTCOVERS ETC.

- DISK BOX FOR 50 5 1/4" DISKS, LOCKABLE £8.99
- DISK BOX FOR 100 5 1/4" DISKS, LOCKABLE £10.99
- DISK NOTCHER — USE BOTH SIDES OF DISKED DISKS £4.99
- 5 1/4" DS/DD DISKS PACKS OF 10 WITH LABELS £6.75
- 5 1/4" DS/DD DISKS SEALED PACKS OF 25 WITH LABELS £14.99
- QUICKSHOT MK 2 JOYSTICK WITH AUTOFIRE £8.99
- QUICKSHOT 2 TURBO JOYSTICK — FAST ACTION MICROSWITCH TYPE WITH AUTOFIRE £11.99
- JOYSTICK 3m EXTENSION LEAD £3.99
- C64/C64C DUST COVER (STATE WHICH) £3.49
- C128/128D DUST COVER (STATE WHICH) £4.99
- 1541/1571 DUST COVER (STATE WHICH) £4.99
- 1701/1901 DUST COVER (STATE WHICH) £6.99
- MPS801/MPS803 DUST COVER (STATE WHICH) £5.99
- CBM COMPATIBLE DATARECORDER £22.99
- DCL1 BACK-UP BOARD FOR 2 DATARECORDERS £7.99
- 15 DATACASSETTES, PACKS OF 5 £3.75
- TITAN HEAVY DUTY C64 POWER UNITS £31.95
- TITAN POWER UNIT WITH SUPPRESSORS £39.95
- 4 WAY 3m EXTENSION LEAD WITH SPIKE SUPPRESSORS £8.99

**FREE  
CATALOGUE  
WITH  
EVERY  
ORDER!**

**SHOWROOM  
NOW OPEN!**

**PLEASE ADD  
75p POSTAGE  
TO ALL ORDERS  
UNDER £15.00**



Trilogic, Dept. C.C.I. Unit 1  
253 New Works Road  
Bradford BD12 0QP  
Tel: 0274 - 691115

Fax  
0274 -  
600150



**EXPRESS  
DELIVERY  
£1.95**

FAST MAIL ORDER SERVICE. PROMPT DISPATCH. ALL PRICES FULLY INCLUSIVE PLUS 10 DAY MONEY BACK  
GUARANTEE ON ALL ITEMS. PAYMENT BY CASH, CHEQUES PAYABLE TO TRILOGIC BY POSTAL ORDER.  
ACCESS OR VISA. ADD £1 EXTRA FOR EXPORT ORDERS. PAYMENT IN STERLING ONLY PLEASE

## NEW FOR YOUR COMMODORE FROM TRILOGIC!

**AMIGA  
AUDIO  
DIGITISER**

MK II VERSION WITH  
IMPROVED PERFORMANCE



**TRILOGIC**

Only TRILOGIC could bring you a high quality audio digitiser at an amazingly low price. It has SUPERB PERFORMANCE, with adjustable sensitivity, a LED level indicator to help you set the input signal for perfect results, & even a lead to connect to your personal stereo, radio or portable keyboard is included. Works with most software including Prosound, Audiomaster, Datal Prosembler & Perfect Sound.

NEW Improved A500 Digitiser, Leads & Instructions — ONLY £27.99

Public Domain Disk with Sampling Software — ONLY £4.99\*

(\* Supplied by George Thompson Services, Dippin Brodick, Arran, Scotland)

Gender Changer Required for A1000 — £2.00 EXTRA

## GET THE PICTURE? — IT'LL BE SHARPER, AND CLEARER WITH A TRILOGIC AMIGA TO TV RGB LEAD AND COULD SAVE YOU £££'s.

We have leads to connect all AMIGAS to your TV or colour monitor provided it has an RGB input socket. All leads give a much clearer picture than using the AMIGA MODULATOR, permit ALL 4096 colours to be displayed and include the audio lead (to give stereo with stereo TV's).

ORDER AL 1 FOR TV'S WITH 21 PIN EURO (SCART) SOCKET. FITS PHILLIPS, FIDELITY, SONY, GRUNDIG, NORMENED, ETC. ONLY £9.99

ORDER AL 2 FOR FERGUSON TV'S WITH 7 OR 8 PIN DIN SOCKET. MODELS MC01 & MC05, ETC. ONLY £9.99

ORDER AL 4 FOR HITACHI & GRANADA TV'S WITH 7 PIN DIN SOCKET. MODELS CPT1444, ETC. ONLY £9.99

OUR LEADS ARE GUARANTEED TO WORK WHERE OTHERS DON'T!

LEADS ALSO AVAILABLE FOR ATARI ST RANGE. PLEASE CONSULT US IF IN DOUBT.

### ATTENTION 1901 MONITOR OWNERS.

Why not have your 1901 monitor converted to work with the AMIGA OR ATARI ST — the performance is indistinguishable from the CBM 1084 monitor. After conversion, your 1901 will display all 4096 colours & existing inputs are NOT affected so it remains compatible with the C64 & 128. Conversion costs only £29.95 including lead for callers (carried out while you wait). Or £53.95 including nextday collection & delivery by courier. Please phone to arrange an appointment or collection.

## AMIGA HARDWARE

A500 WITH MOUSE	£369.99
A500 WITH MODULATOR	£389.99
A500 + MODULATOR & £160 SOFTWARE PACK	£429.99
A500 WITH 1901 CONVERTED MONITOR	£588.98
3.5" EXT DRIVES + SWITCH — CUMANA LOW POWER TYPE	£99.99
A500 RAM EXPANSION + CLOCK, 512K (incl ram chips)	£147.99
1901 COLOUR MONITOR CONVERTED FOR AMIGA NEW	£219.99
CITIZEN 120D PRINTER FOR AMIGA INCL LEAD	£149.99
1084S STEREO COLOUR MONITOR FOR AMIGA	£279.99
COMMODORE PCI + MONO MONITOR	£360.00

Add £6 for next day delivery (credit card orders).

## OTHER INEXPENSIVE AMIGA LEADS

	PART NO	PRICE
2nd DRIVE SWITCHED LEAD — Disables external drive to permit programs to load.	ADE 2	ONLY £12.99
2nd DRIVE SWITCHER — Fits between drive connector and Amiga disk drive port. Can be used when power is on.	ADE 3	ONLY £8.99
MOUSE/JOYSTICK SWITCHER & PORT EXTENDER — Extends the port and has sockets for mouse and joystick with push-button switch for mouse or joystick selection.	DJA 1	ONLY £9.99
AMIGA 64 EMULATOR LEADS — Connects 1541 ETC to your AMIGA. There are several programs which need this lead.	AEL 1	ONLY £4.99
MODULATOR EXTENSION LEADS	MEL 1	ONLY £8.99
AMIGA PRINTER LEAD — Parallel Type 1 - M long 3.0M long	AMP 1	ONLY £6.99
	AMP 3	ONLY £9.99

PLEASE STATE WHICH AMIGA YOU HAVE WHEN ORDERING.

## NEW — AMIGA HI-FI LEADS & AUDIO ACCESSORIES

TAKE FULL ADVANTAGE OF THE AMIGA'S AMAZING SOUNDS BY CONNECTING IT TO YOUR HI-FI SYSTEM. OUR STEREO LEADS FIT MOST HI-FI, MIDISYSTEMS ETC.

STEREO PHONO PLUG	(RCA JACK) 3M LONG	AHL1 — ONLY £3.99
TO PHONO PLUG	AS ABOVE BUT 5M LONG	AHL2 — ONLY £4.99

## AMIGA MINIAMP 1 NOW COMPLETE WITH REMOTE VOLUME CONTROL

This neat stereo amplifier connects directly to your AMIGA & boost the audio output so that you can enjoy the AMIGA's amazing stereo sound in complete privacy.

MINIAMP 1 NOW WITH REMOTE VOLUME CONTROL — ONLY £14.99

QUALITY STEREO HEADPHONES IF PURCHASED WITH MINIAMP 1 — ONLY £3.99

## AMIGA MINIAMP 2 — WITH TWIN STEREO SPEAKERS

MINIAMP 2 combines a mini stereo power amp with two neat speaker units which connect directly to your AMIGA. They are ideal for use with mono TV's & monitors, & simply plug in for instant stereo sound. You'll be amazed at the difference.

MINIAMP 2 WITH REMOTE VOLUME CONTROL & ALL LEADS ONLY £19.99

## SUNDRY ITEMS — BARGAIN PRICES

3 1/2" DISKS, QUALITY DS/DD BULK PACKED DISKS, PER PACK OF 10	ONLY £12.99
3 1/2" DISKS, QUALITY DS/DD BULK PACKED DISKS, PER PACK OF 25	ONLY £27.49
3 1/2" DISK BOX FOR 40/50 DISKS, SMOKED LID, LOCKABLE	DSB4 — ONLY £8.49
3 1/2" DISK BOX FOR 80 DISKS, SMOKED LID, LOCKABLE	DSB5 — ONLY £10.49
3 1/2" DISK BOX FOR 100 DISKS, SMOKED LID, LOCKABLE	DSB6 — ONLY £12.49
QUICKSHOT 2 JOYSTICK WITH AUTOFIRE	QSJ1 — ONLY £7.99
QUICKSHOT 2 TURBO, MICROSWITCHES & AUTOFIRE — GREAT	QSJ2 — ONLY £11.99
PRO5000 MICROSWITCH JOYSTICK	JPR1 — ONLY £12.99
A500 DUSTCOVER, FLAMEPROOF MATERIAL	ADCL — ONLY £4.99
A4 ANTISTATIC NON SLIP FOAM MOUSEPAD	AFM1 — ONLY £4.99

Please add 75p part postage + packing to orders under £15.00



Trilogic Dept. AC., Unit 1,  
253 New Works Road  
Bradford, BD12 0QP. Tel. 0274 691115

Fax 0274 600150



FAST MAIL ORDER SERVICE. PROMPT DISPATCH. ALL PRICES FULLY INCLUSIVE PLUS 10 DAY MONEY BACK  
GUARANTEE ON ALL ITEMS. PAYMENT BY CASH, CHEQUES PAYABLE TO TRILOGIC BY POSTAL ORDER.  
ACCESS OR VISA. ADD £1 EXTRA FOR EXPORT ORDERS. PAYMENT IN STERLING ONLY PLEASE



# DATAWORLD

13 Trinity Street, Gainsborough, DN21 2AL. Tel: Gainsborough (0427) 810151



**CALLERS WELCOME AT OUR SHOP**



	ST	AMIGA		ST	AMIGA		ST	AMIGA
Afterburner.....	16.99	16.99	Outrun .....	13.99	13.99	TV Sports Football.....		19.99
Wec Le Mans .....	13.99	16.99	Captain Blood.....	16.99	16.99	Spitting Image.....	13.99	13.99
Elite .....	16.99	16.99	Platoon .....	13.99	16.99	Garfield.....	13.99	16.99
Crazy Cars II .....	13.99	16.99	Off-Shore Warrior.....	13.99	16.99	Hits Disc Vol 1 .....	16.99	16.99
Starglider II .....	16.99	16.99	Rocket Ranger .....		19.99	Sargon 3 .....	16.99	16.99
Operation Wolf.....	13.99	16.99	Joe Blade II .....	13.99	13.99	Federation of Free Traders .....	19.99	
Robocop .....	13.99	16.99	Alien Legion .....	16.99	16.99	Triad.....	19.99	19.99
Speed Ball.....	16.99	16.99	Football Director II.....	13.99	13.99	Hot Balls.....	16.99	16.99

**Please Telephone for titles not listed. Many Business/Utility titles held in stock**  
**QUICKSHOT II TURBO £8.50** **COMPETITION PRO EXTRA £12.99**

## IBM

Many games/business/utility titles held in stock.  
Telephone for prices

### 3.5" DISKS

Lifetime Guarantee  
3M Unbranded DS/QD  
10 Disks with Plastic Case  
**£12.50**

### DISK BOXES

3.5" x 80  
Lockable  
**£6.50**

### MOUSE MATS

**£2.50**

### PRINTER STANDS

80cm **£9.99**

### AMIGA

512K RAM Extension  
**£99.99**

Order by Phone (0427) 810151. Goods normally despatched within 24 Hours.

All prices include VAT and FREE Delivery in UK. Overseas orders Please add £2.00 per item.

\*Customers paying by Cheque, goods will be despatched when cheque is cleared.

**\* CALLERS WELCOME AT OUR SHOP \***

(PCW1)

## 20mb hard disk subsystem for atari st still only £299\*

### SYSTEM at20

Atari Hard-Disk, Substation Inc,  
20 Mb Miniscribe, Hard Disk and  
Utilities Software  
RRP £399  
Limited offer price

**£299\***

### SYSTEM at40

Atari Hard-Disk, Substation Inc,  
40 Mb Miniscribe, Hard Disk and  
Utilities Software  
RRP £499  
Limited offer price

**£399\***

### SYSTEM at70

Atari Hard-Disk, Substation Inc,  
70 Mb Miniscribe, Hard Disk and  
Utilities Software  
RRP £899  
Limited offer price

**POA\***

**OFFER ENDS 7PM, MONDAY APRIL 3**

The Hard-Disk subsystem is manufactured in the UK to an impressively high standard and utilises quality components such as ASTEC POWER SUPPLY – the choice of the majority of quality IBM compatible personal computers – and MINISCRIBE HARD DISKS – chosen for their proven reliability.

The Hard-Disk Subsystem comes housed in an 11" by 11" rigid metal case and comes complete with mains cable and utilities software.

**Tel: 0793 481 333 today**

For your order directly from the manufacturers, or write to:

**SYSTEMS 2000**

THE SHAFTESBURY CENTRE, PERCY STREET,  
SWINDON, WILTSHIRE SM2 2AZ

CHEQUES WELCOME • ALL PRICES INCLUDE VAT & DELIVERY



P.S. Yes! If you do win the competition on page 41 then we will take it back



**COMPUTER STATIONERY (U.K.)**

COMMERCIAL HOUSE, COMMERCIAL ROAD  
SOUTH SHIELDS, TYNE & WEAR NE33 1RW  
Tel: (091) 455 4300. Telex: 537390. Fax: (091) 455 1847

**PROBABLY THE BEST PRICES IN THE UK!**  
**ALL INCLUDE VAT AND DELIVERY**

**Diskettes**

NASHUR 5¼" DS/DD 48TPI.....42p each  
NASHUR 3½" DS/DD 135TPI.....£1.07 each  
AMSOFT 3" CF2 .....£1.99 each

**Ribbons**

CITIZEN 120D .....£2.29  
EPSON MX100/FX100 .....£2.52  
COMMODORE MPS501 .....£1.38  
OKI MICROLINE 192/193 .....£3.32  
STAR LC24-10 (ORIE) .....£5.68  
AMSTRAD DMP 2000/3000 .....£2.50  
AMSTRAD 8256/8512 .....£3.25  
STAR LC10 Nylon .....£2.89

(All other makes at opt. 50% off RRP)

**Disk storage**

5¼" 10 Capacity .....£1.20  
5¼" 50 Capacity .....£4.50  
3½" 40 Capacity .....£4.50

**Stop Press...**

Laser Cartridges CANON MK1/MKII .....£57.90 incl.

These are just samples of our fantastic offers.

Please send £1.00 for our full product listing (refundable),  
or telephone for a price.

**Cheques/Postal Orders/Official Orders to:**  
**Computer Stationery U.K., Dept PCW, Commercial House,**  
**Commercial Road, South Shields, Tyne & Wear NE33 1RW**

(All orders under £10.00 - please add £1.00 postage and packing.)

**EALING  
COMPUTER CENTRE**

**No.1** Place for ATARI ST Computers  
in West London

*This Month's Special Promotions*

**20 MbHD-£348**

"SYSTEM 2000" HARD DISK FOR  
ATARI ST. Also 40Mb .....£499  
70 Mb .....£799  
Only limited quantities at these prices!!

**Hardware**

All ST with Starter Pack worth up to  
£200: 1st Word, Spell-it, ST Basic  
Sourcebook (rev B), ST Basic refer-  
ence guide, mouse mat and 30%  
discount off RRP voucher for 'Star'  
printers.

New Atari 520STFM Super Pack  
(£450 of software) .....£359  
Atari 1040STFM (mod TV) .....£399  
Atari 1040STFM + Business Pack  
(VIP Microsoft Write, Superbase Personal) .....£449  
New Atari 520STFM (1Mb drive) .....£279  
Atari SM124 Monitor .....£100  
Star LC10 Colour (UK ver) .....£245  
Star LC10 Printer (UK ver) .....£199  
Star NB24-10 Printer (UK ver) .....£459  
Star LC24 10 Printer (UK ver) .....£339  
Philips 8833 col monitor .....£249  
Panasonic 1081 Printer .....£159  
Panasonic KXP 1124/24 pin .....£339  
Atari SC1224 col monitor .....£279  
Atari Mouse ST/PC .....£25  
CUMANA 1Mb .....£89

**Software and Disks**

**TIMEWORKS (30% off RRP)**

Data Manager .....£29  
Swift Calc .....£29  
Data Manager prof. ....£49  
Desktop Publisher .....£69  
Word Writer .....£35  
Partner ST .....£35

**ANTIC (up to 30% off RRP)**

Spectrum 512 .....£42  
Cyber Studio .....£56  
Cyber Control .....£42  
Cyber Paint .....£49  
Cyber Sculpt .....£56  
Cartoon Designs .....£25  
Video Titling Designs .....£25  
3D Developers disk .....£25

**GST**

1st Word Plus vers 3 (new) .....£59  
All above software in stock.

**DISKS**

3½" DSDD 10pcs KODAK .....£16  
3½" DSDD BULK 25pcs .....£24

**19 Queens Parade, Ealing, London W5 3HU. Tel: 01-991 0928**

All prices include VAT and delivery UK. For next day courier add £7. Above  
prices for mail order, shop prices may vary. All offers subject to availability.  
E&OE. We are the corner of Hanger Lane, (North Circular) and Queens Drive.  
Easy Parking. Most models in stock. VISA and ACCESS.

**Star**  
PRINTERS FOR BUSINESS

**ATARI**  
Power Without the Price™

**Altec**  
SPEAKERS

**POP CAREERS PAGES****PROGRAMMERS**

280, 8086(8) and 68000

We are looking for talented game programmers to join us in our Harrogate office.

We are a new software company who are concentrating on licensed product. You will be working on industry standard development systems and will have the back up of top graphic artists and musicians. The working atmosphere is relaxed but we would expect dedication from the successful applicant.

If you feel that you could fit in with our team we would be delighted to hear from you especially if you can show us demos of previously published games although keen newcomers would also be considered.

Phone Richard or Mark on 0423 523884  
or write in confidence to

**15 UNITY GROVE, HARROGATE, NORTH YORKSHIRE HG1 2AQ**



# TREBLE H COMPUTING

## 16 BIT SPECIALIST

### Hardware

Atari 520 STFM 1 meg Drive	£275.99
Atari 520 STFM 1 meg Drive + Super Pack	£369.99
Atari 1040 STFM 1 meg Drive + Professional Pack	£449.99
Atari 1040 STFM 1 meg Drive	£394.95
Atari 1040 STFM + SM124 Mono Monitor	£549.99
Atari SM124 Mono Monitor	£109.99
Commodore Amiga A500 including Modulator	£379.99
Philips CM8833 Med-Res Stereo Monitor	£259.95
Commodore 1084S Med-Res Stereo Monitor	£249.95
Cumana 1 meg 3.5" Drive for ST inc PSU	£99.95
Cumana 1 meg 3.5" Drive for Amiga inc on/off Switch	£94.95
Triangle 1 meg 3.5" Drive for ST inc internal PSU	£94.95
Triangle 1 meg 3.5" Drive for Amiga inc on/off Switch	£84.95
Citizen 120/D Mono Printer	£159.95
Star LC10 Colour Printer inc Cables	£269.95
Star LC10 Mono Printer inc Cables	£249.95
A501 Memory Expansion for Amiga	£129.95
Prosound Designer for Atari ST	£49.95
Prosound Designer V.2 Gold Edition for Amiga	£79.95
Midi Interface for Amiga	£24.95
Romantic Robots ST MultiFace (disk organiser also available)	£49.95
80 Capacity 3.5" Storage Box	£9.95
10 x 3.5" DS/DD Disks	£8.99

### Atari Gift pack

Atari 520 STFM 1 meg Drive, Mouse + Leads + Manual, Free Joystick, Free 80 Cap Disk Box, Free 10 x 3 1/2" DS/DD Disks, Free Mouse Mat, 21 Games, Source Book & Tutorial  
**ALL FOR ONLY £384.99**

### Amiga Gift Pack

Amiga A500, Mouse + Leads + Manual, Free Modulator, Free Joystick, Free 80 Cap Disk Box, Free 10 x 3 1/2" DS/DD Disks, Free Mouse Mat, Workbench + Basic Manual  
**ALL FOR ONLY £399.99**

### Atari ST Software

	Our Price	R.R.P.
Barbarian II	£14.99	£19.99
Galdregon's Domain	£14.99	£19.99
Falcon	£17.99	£24.99
F16 Combat Pilot	£17.99	£24.99
Elite	£17.99	£24.99
Speedball	£14.99	£19.99
Dungeon Master	£17.99	£24.99
Steve Davis World snooker	£14.99	£19.99
Ballistix	£14.99	£19.99
Int Karate +	£17.99	£24.99
K. Dalglish's Soc. Mgr	£14.99	£19.99
Roy of the Rovers	£15.99	£19.99
Blasteroids	£14.99	£19.99
Purple Saturn Day	£17.99	£24.99
Leisure Suit Larry II	£24.99	£29.99
R-Type	£15.99	£19.99
Operation Wolf	£14.99	£19.99
Inc. Shrinking Sphere	£14.99	£19.99
Teenage Queen	£14.99	£19.99
Zak McKracken	£18.99	£24.99

### Amiga Software

	Our Price	R.R.P.
Dragon's Lair (1 Meg)	£34.99	£44.95
T.V. Sports Football	£20.99	£29.99
Super Hang On	£17.99	£24.99
Rocket Ranger	£20.99	£29.99
Elite	£17.99	£24.99
F16 Falcon	£20.99	£29.99
Roger Rabbit	£17.99	£24.99
Speedball	£17.99	£24.99
Dungn. Master (1 meg)	£17.99	£24.99
Sword of Sodan	£20.99	£29.99
Int. Karate +	£17.99	£24.99
World Class leaderbrd	£14.99	£19.99
Ballistix	£14.99	£19.99
K. Dalglish's Soc. Mgr	£14.99	£19.99
Baal	£14.99	£19.99
Purple Saturn Day	£17.99	£24.99
Galdregon's Domain	£14.99	£19.99
Steve Davis World snooker	£14.99	£19.99
Inc. Shrinking Sphere	£17.99	£24.99
Zak McKracken	£18.99	£24.99

### Specials



**Atari ST**  
 Orbitor  
 RRP £24.99  
**Special Price £16.50**

**Amiga**  
 Blasteroids  
 RRP £24.95  
**Special Price £16.50**

### TREBLE H COMPUTING

DEPT PCW  
 CROMER HOUSE, CAXTON WAY, STEVENAGE, HERTS  
 SG1 2DF

Tel: 0438 361738 Fax: 0438 740794

For all other 16-Bit Hardware + Software. Please contact for competitive prices.

All Prices are correct at time of going to press and are subject to change without notice.

Personal callers welcome  
 Now open  
 9 till 6 Mon-Sat.  
 Shop prices may differ

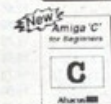
Please send Cheques/PO made payable to: 'Treble H Computing'  
 All prices include VAT packaging + delivery in the UK.  
 Add £2.00 for Europe + £3.00 for overseas

# 'ABACUS BOOKS FOR THE AMIGA'



### Amiga C for Advanced Programmers

- contains a wealth of information from the pros: how compilers, assemblers and linkers work, designing and programming user friendly interfaces using intuition, combining assembly language and C codes, and more. Includes complete source code for text editor.  
 ISBN 1-55755-046-8 £22.95



### Amiga C for Beginners

- an introduction to learning the popular C language. Explains the language elements using examples specifically geared to the Amiga. Describes C library routines, how the compiler works and more.  
 ISBN 1-55755-045-X £18.45



### Amiga 3-D Graphic Programming in BASIC

- shows you how to use the powerful graphic capabilities of the Amiga. Details the techniques and algorithms for writing three-dimensional graphic programs: ray tracing in all resolutions, light sources and shading, saving graphics in IFF format and more.  
 ISBN 1-55755-044-1 £18.45



### Amiga Disk Drives Inside & Out

- is the most in-depth reference available covering the Amiga's disk drives. Learn how to speed up data transfer, how copy protection works, computer viruses. Workbench and the CLI DOS functions, loading, saving, sequential and random file organization, more.  
 ISBN 1-55755-042-5 £27.95



### Amiga For Beginners

- the first volume in our Amiga series, introduces you to Intuition (Amiga's graphic interface), the mouse, windows, the CLI, and Amiga BASIC and explains every practical aspect of the Amiga in plain English.  
 ISBN 1-55755-021-2 £12.95

Includes Workbench 1.3



### AmigaBASIC Inside & Out

- THE definitive step-by-step guide to programming the Amiga in BASIC. Every AmigaBASIC command is fully described and detailed. Topics include charts, windows, pulldown menus, files, mouse and speech commands.  
 ISBN 0-916439-87-9 £18.95

### AmigaDOS Inside & Out

- covers the insides of AmigaDOS from the internal design up to practical applications. Includes detailed reference section, tasks and handling, DOS editors ED and EDIT, how to create and use script files, multitasking, and much more.  
 ISBN 1-55755-041-7 £18.45

Includes Workbench 1.3

### Amiga Machine Language

- is a comprehensive introduction to 68000 assembler machine language programming and is THE practical guide for learning to program the Amiga in ultra-fast ML. Also covers 68000 micro-processor address modes and architecture, speech and sound from ML and much more.  
 ISBN 1-55755-025-5 £14.95

### Amiga System Programmer's Guide

- comprehensive guide to what goes on inside the Amiga in a single volume. Only a few of the many subjects covered include the EXEC structure, I/O requests, interrupts and resource management, multi-tasking functions and much, much more.  
 ISBN 1-55755-034-4 £32.95

### AmigaDOS Quick Reference

- an easy-to-use reference tool for beginners and advanced programmers alike. You can quickly find commands for your Amiga by using the three handy indexes designed with the user in mind. All commands are in alphabetical order for easy reference.  
 ISBN 1-55755-049-2 POA

### Computer Viruses: a high-tech disease

- describes what a computer virus is, how viruses work, viruses and batch files, protecting your computer, designing virus proof systems and more.  
 ISBN 1-55755-043-3 £17.45  
 'Probably the best and most current book... a bevy of preventive measures' PC Week 11.21.88

### Amiga Tricks & Tips

- follows our tradition of other Tricks and Tips books for CBM users. Presents dozens of tips on accessing libraries from BASIC, custom character sets, AmigaDOS, sound, important 68000 memory locations, and much more!  
 ISBN 0-916439-88-7 £14.95



# D.T. DISTRIBUTION

Amiga and Atari ST book specialists

18 Norwich Avenue, Rochdale, Lancs. OL11 5JZ. Tel: 0706-5 24304 for best dealer prices



## The BEST service at the LOWEST prices We will usually BETTER any other bona fide offer

Atari 520 STFM Super Pack: 1 Mb disc drive, 21 quality games, Wordprocessor and Spreadsheet, free joystick £349  
520 STFM with 1Mb disk drive £379  
Atari 1040ST FM V.I.P. MS Write, Superbase, BASIC £435  
Atari 1040ST FM + mono monitor, V.I.P. MS Write, Superbase, BASIC £520  
Atari SM124 monochrome monitor including cable £135  
Atari SC1224 colour monitor including cable £265  
Triangle 1Mbyte ST compatible disc drive with built-in power supply £109  
Atari MEGA ST and DTP packages please enquire POA  
Amiga A500: 1Mb drive, 1/2Mb RAM, mouse, + free modulator, Photon Paint £370  
Amiga A500: mouse, Photon Paint, A1084 colour monitor £599  
Amiga A501 RAM expansion board with clock £132  
Amiga A1084 colour monitor including cable £321  
Amiga A1900 monochrome monitor including cable £119  
Triangle 1Mbyte Amiga compatible disc drive £99  
Philips CM8833 14" med-resolution colour monitor, two speakers £270  
Philips CM8852 14" hi-resolution colour monitor, one speaker £295

Leads for these monitors: free for ST and S6 extra for Amiga

SOFTWARE see other advertisements or phone to discuss your requirements.

Amiga 2000 Archimede: 1/2 PC/XT/AT systems and expansions: please enquire POA  
MODEMS Other makes, models and PC card based modems please enquire

Miracle WS2000, V21, V23, manual £115  
Miracle WS4000, V21, V23, V22 optional, Hayes compatible, multispeed £169  
Pace Linnet, V21, V23, Hayes compatible, multispeed £134  
Pace series four 2133S, V21, V23, Hayes compatible, multispeed £253  
Pace series four 1200S, V21, V22, V23, Hayes compatible, multispeed £371  
Pace series four 2400S, V21, V22, V22bis, V23, Hayes compatible, multispeed £469  
RS232 Modem cable £13.80

PRINTERS Other makes and models please enquire

Citizen 120D £159 Printer cable Centronics NEC P6 + (P660) £595  
MP135+ £159 parallel £13.80 Star LC-10 colour £253  
Epson LX800 £265 NEC P2200 £359 Star LC-10 mono £230  
Star LC-24-10 £357 MP165+ £217 NEC P7 + (P760) £764

DISCS - DISCS - DISCS -

ALL DOUBLE SIDED AND ALL WITH WARRANTY new lower prices per 10  
3.5" 135tpi £9.99 Unbranded  
5.25" 48tpi £6.40 5.25" 96tpi £7.50 Goldstar branded

On Site Service Contracts - Full After Sales Support - Consultancy and Software Development

NOTE: Prices include courier delivery on computers, printers and monitors.

Callers welcome, by appointment only please. All prices fully inclusive of VAT and first class delivery any where in UK. E&OE. Overseas orders welcome, please remit in sterling. Europe, no extra delivery charge, outside Europe at cost. Cheques/P.O.s should be made payable to Cygnus Trading Company and sent to

# Cygnus Trading Company

Dept PCW, 77 Mayes Road,  
London N22 6TN  
Tel: (+44-1) 01-889 4233

(H61)

## T.C. COMPUTERS

at: 12a BARNARDS WAY, CHARLTON HEIGHTS,  
WANTAGE, OXON OX12 7EB

AMIGA A500 Pack 1 £349  
AMIGA A500 Pack 2 £369  
AMIGA A500 Pack 3 £379  
AMIGA A500 Pack 4 £599  
AMIGA A500 Pack 5 £648  
AMIGA A500 Pack 6 £489  
AMIGA A500 Pack 7 £439  
AMIGA SYSTEM 500 Pack 1 £669  
AMIGA SYSTEM 500 Pack 2 £749  
AMIGA SYSTEM 500 Pack 3 £845  
COMMODORE C64 Hollywood Pack £140  
COMMODORE C64 Entertainment Pack £179

ATARI 520 ST-FM New Super Pack £340  
SINCLAIR +2 incl. Games & Joystick £129  
SINCLAIR +3 incl. Games & Joystick £179

### GO TO T.C. COMPUTERS



We Accept  
EXPRESS  
VOUCHERS

ALL PRICES INCLUSIVE OF VAT

OXFORDSHIRES PREMIER COMMODORE DEALER  
WANTAGE 02357 - 60177

IT'S A PITY HE DIDN'T...



COMMODORE PC-1 SD Mono £345  
COMMODORE PC-1 SD Colour £449  
COMMODORE PC-10 III SD Mono £575  
COMMODORE PC-10 III SD CGA Colour £735  
COMMODORE PC-10 III SD EGA Colour £899  
COMMODORE PC-10 III SD 30Mb HC Mono £949

COMMODORE PC-10 III SD 20Mb HD Mono

ATARI PC-3 SD Mono £610  
ATARI PC-3 DD Mono £660  
ATARI PC-3 DD CGA Colour £760  
ATARI PC-3 DD EGA Colour £899  
PACKARD BELL PB 500 SD Mono £635  
PACKARD BELL PB 500 SD CGA Colour £740  
PACKARD BELL PB 500 SD EGA Colour £760  
PACKARD BELL PB 500 DD CGA Colour £820  
PACKARD BELL PB 500 SD 20Mb HD EGA Colour £1079  
COMMODORE PC's incl. FREE software and 102 keyboard on PC 10's/20's.  
PACKARD BELL PC's incl. FREE software and 12 month on-site warranty.  
ATARI PC's incl. FREE software and mouse.

## The Instant Catalog

ALL TITLES IN STOCK

SPECTRUM	CASS	COMMODORE 64	CASS	DISK	ATARI ST	DISK
4 Soccer Simulators	6.45	4 Soccer Simulators	6.50	9.25	5 Star Compilation	14.75
After Burner	6.45	10 Great Games Vol 3	9.99	11.99	Action ST Compilation	11.99
Barbarian II	6.45	Afterburner	6.95	9.99	After Burner	13.99
Bard's Tale	6.50	Armalite	6.45	8.75	Batman	12.50
Batman - Caped Crusader	5.95	Barbarian II	6.45	8.75	Bombuzal	14.75
Command Performance	9.99	Batman - Caped Crusader	6.45	9.45	Captain Fizz	9.99
Cyberoid II	5.50	Bombuzal	6.45	8.75	Crazy Cars II	12.50
Exploding Fist Plus	5.25	Caveman Ugh-Lympics	7.25	10.50	Double Dragon	11.99
Fists 'N' Throilles	8.75	Command Performance	9.99	10.75	Dungeon Master	14.75
Football Manager II	5.75	Crazy Cars	6.50	9.50	Eliminator	13.99
Frank Bruno's Big Box	8.75	Cyberoid II	6.45	9.99	Elite	14.75
Game Over II	6.50	Double Dragon	6.50	9.99	Falcon	15.50
Game Set and Match 2	8.75	Emlyn Hughes Int Soccer	6.45	8.75	Flying Shark	14.75
Giants	9.99	Exploding Fist Plus	6.45	8.75	Garfield	11.99
Gold Silver Bronze	9.99	Fists 'N' Throilles	8.75	9.99	Heroes of Lance AD&D	17.25
Heroes of the Lance	7.99	Football Manager II	6.45	9.99	Hostages	14.75
In Crowd - Compilation	8.75	Frank Bruno's Big Box	8.75	9.99	International Karate (IK+)	11.99
Laser Squad	6.25	Game Set and Match 2	8.75	11.99	Joan of Arc	13.99
Last Ninja II	8.95	Games: Summer Edition	9.99	11.99	Leaderboard Birdie	13.99
Leader Board Par 3	9.99	Giants	9.99	11.99	Leisure Suit Larry II	21.50
Mega Games Vol 1	9.95	Last Ninja 2	8.75	9.99	Lombard RAC Rally	14.75
Mickey Mouse	5.25	Leader Board Par 4	10.99	12.99	Manhattan Dealers	12.50
Operation Wolf	5.50	Mega Games Vol 1	9.99	10.99	Mickey Mouse	13.99
Pacmania	5.95	Menace	6.75	12.25	Nebulus	13.99
R-Type	6.45	Dragon Ninja	6.75	9.99	Operation Wolf	11.99
Rambo III	5.95	Microprose Micro Soccer	9.95	12.99	Pacmania	11.99
Return of the Jedi	6.45	Operation Wolf	6.45	9.99	Powderdome	17.25
Road Blasters	5.99	Pacmania	6.45	9.99	Purple Saturn Day	14.75
Robocop	6.25	Rambo III	6.45	9.99	R-Type	17.25
Savage	5.95	Robocop	6.45	9.99	R-Type III	11.99
Splitting Image	6.45	R-Type	6.45	9.99	SDI	13.99
Supreme Challenge	8.75	Sports World 88	9.99	10.99	STOS: Games Creator	19.49
Taito Coin-op Hits	8.95	Supreme Challenge	8.75	11.50	Speedball	14.75
Techno Cop	5.50	Taito Coin-op Hits	9.99	12.99	Splitting Image	11.99
Thunder Blade	6.50	Thunder Blade	6.95	10.99	Terrage Queen	11.50
Tiger Road	6.25	Tiger Road	6.95	10.99	Thunder Blade	13.99
Total Eclipse	6.45	Times of Lore	6.45	8.99	Times of Lore	15.25
Ultimate - The Works	8.95	In Crowd - Compilation	9.99	11.99	Triad Vol 1	17.49
		Techno Cop	7.45	10.75	Wanted	11.50



INSTANT, Boston House, Abbey Park Road, Leicester LE4 5AN  
Mail Order Only. State Computer's make and model.  
P&P: 50p on orders under £5. EEC 75p per title.  
Whole World £1.50 per title for Air Mail.  
New titles sent on the day of release.



0533 510102

FOR DISK PRICES & NEW RELEASES PLEASE RING US.



# MAIN MEDIA

FREEPOST, ANDOVER,  
HANTS SP10 4BR

## BRANDED DISKS • PRICE PER BOX OF 10

	51/4" DS/DD 48	51/4" DS/DD 96	51/4" DS/HD 1.6	31/2" DS/DD 135	31/2" DS/HD 2.0
3M	£9.75	£16.75	£18.75	£16.75	£45.75
VERBATIM	£9.75	£16.75	£18.75	£16.75	—
SONY	—	—	—	£16.75	£45.75
DYSAN	£12.75	£18.75	£20.75	£18.75	—

## UNBRANDED LIFETIME GUARANTEE

QUANTITY	10	20	30	40	50	100
31/2" SS/DD 135TPI	£7.95	£15.50	£22.75	£29.50	£35.75	£89.95
31/2" DS/DD 135TPI	£8.50	£16.50	£23.95	£31.25	£37.95	£74.95

QUANTITY	25	50	100	250	500
51/4" DS/DD 48TPI	£7.25	£13.95	£26.95	£64.95	£124.95
51/4" DS/DD 96TPI	£7.95	£15.50	£29.95	£77.50	£139.95

All 31/2" Disks come complete with labels. All 51/4" Disks supplied with Write Protect Tabs, labels and envelopes and come with our No Quibble Money Back or Replacement Guarantee.

1 WEATHERBY GARDENS, CHARLTON, ANDOVER, HANTS SP10 4DH

## DISKETTE STORAGE BOXES

		Price Each
50 x 51/4"	Hinged Lid Lockable	£5.50
100 x 51/4"	Hinged Lid Lockable	£7.50
140 x 51/4"	Hinged Lid Lockable	£9.50
50 x 31/2"	Hinged Lid Lockable	£5.50
100 x 31/2"	Hinged Lid Lockable	£7.50

## DISK BOXES WITH DISKS

50 x 51/4"	Hinged Lid Lockable with	25 DS/DD	48TPI	£11.95
50 x 51/4"	Hinged Lid Lockable with	25 DS/DD	96TPI	£12.75
100 x 51/4"	Hinged Lid Lockable with	50 DS/DD	48TPI	£20.95
100 x 51/4"	Hinged Lid Lockable with	50 DS/DD	96TPI	£22.50
140 x 51/4"	Hinged Lid Lockable with	100 DS/DD	48TPI	£35.95
140 x 51/4"	Hinged Lid Lockable with	100 DS/DD	96TPI	£38.95
50 x 31/2"	Hinged Lid Lockable with	20 DS/DD	135TPI	£21.50
100 x 31/2"	Hinged Lid Lockable with	50 DS/DD	135TPI	£44.95

All prices include VAT and Carriage.  
All Goods despatched within 24 hours subject to availability.

Cheques/PO's to:

MAIN MEDIA Dept PCW  
FREEPOST, ANDOVER, HANTS SP10 4BR  
Telephone: 0264 333830 (24 hours)



## Computing for Profit In the smaller business Made Easy!!

ABC provides all the software that the small business needs wrapped in one super package. Just flick between word processing, database filing, mini spread sheet, diary, unbelievably, a full business accounts package plus lots of other really useful business functions.

A true nine to five workhorse. Only one program to learn and then harness your business admin. It treats you like a human being. It's tame, it's easy, it gets the job done.

Together, ABC Systems Ltd and Saffron have solved the dilemma of computing in the small business.

At Saffron, we train you to get the most from this highly acclaimed PC software in a matter of hours. And if you're new to computing. Our private tuition courses in the basics put you in command of your PC.

To order ABC's NEW version 2 at the special price of £143 (RRP £199) + VAT, phone us now.

**Special ABC training offer** including ABC software pack, private tutor, tutorial disks, and customisation for your business – all for £170 + VAT!

Complete ready to go PC systems including printer, disks, software suite incl. ABC: call for bundle prices.

## Saffron Computer Services

Pebworth Fields, Pebworth, Nr Stratford on Avon,  
Warwicks CV37 8XP. Tel: 0789 720928. Fax: 0787 720607

Opus, Amstrad, SBC, Samsung,  
Star, etc, plus most PC software,  
all at rock bottom prices!!

Free on-site maintenance contracts with all PC systems

# NORTHERN SINCLAIR COMPUTER SHOW

SATURDAY, APRIL 8

at Stokes Hall, Church Road, Leyland, Lancashire

10.00am until 6.00pm

Over 35 stands specially for the home computer user

**HARDWARE ★ SOFTWARE ★ PERIPHERALS**  
**PRINTERS ★ DISKS AND DISK DRIVES ★ GAMES**

Plus the first public showing in the North of  
**CAMBRIDGE COMPUTERS**

★ **Z88 PORTABLE COMPUTER** ★

Also on show: Cambridge Computers' new Satellite TV system

Meals and refreshments available all day • Bar open throughout the exhibition.

**Admission £1.50 (payable at the door)**

For further information contact the organiser

DAVID BATTY on Leyland (0772) 454328. FAX: 0772 454680



## C64 video control

Stuart Simpson of Harringay, London, writes:

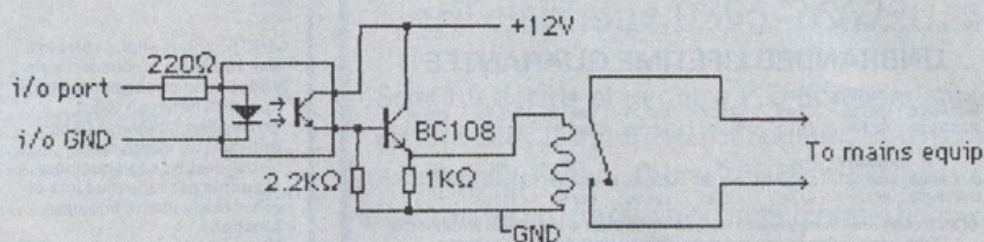
I have a rather old video recorder which does not allow more than one program to be pre-recorded at a time. I should like to use my Commodore 64 to interface to it to allow me to select a number of on and off times and even change channels. Could you describe an easy way to do this or will it be very difficult?

Probably the easiest way to record a number of programs in advance on a single tape is to obtain a mains timer switch. A seven-day version is available from Maplin Electronic Supplies - 0702 554161. All you need to do is plug the video recorder into this and pre-set the on/off times. The recorder will then go on and off at the selected times. The disadvantage with this is that it may not be very accurate, although you might get a better switch.

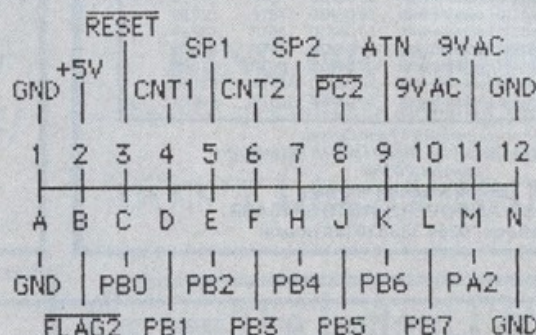
Using your computer will give the flexibility and accuracy required and using the C64 user port is easy. The way in which you turn the recorder on and off is a little more complicated. You can use the computer either to drive a mains relay which turns the machine on and off or you can go inside the recorder and find the timer system, if it has one, and tap into it. Changing channels will have to be done in the same way and using electronic analogue switches is probably the best method. They can be attached across the channel selection switches inside the video recorder.

As with all systems which operate with mains-powered equipment, great care should be taken to make sure that no live mains cables can make contact with the lower-powered computer cables. At best, this can ruin the computer and, at worst, it could ruin you.

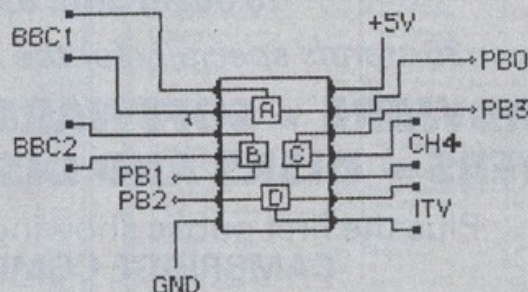
The user port on the C64 is bi-directional, i.e., signals can come in or go out, depending on the setting of Data Direction Register B at 56579. A 0 in any bit position defines the corresponding bit of the port to be input, a 1 makes it output. The port is at 56577 and peeking this address gives inputs; poking it sets outputs, depending on DDRB. For example POKE 56579,255 and then POKE 56577,3 sets bits 0 and 1 of the port to 1 and bits 2 to 7 to 0.



Using an opto-isolator and transistor to drive a mains relay



The Commodore 64's User Port



Possible wiring on an analogue switch (4066BE) to change channels

The outputs on the port give +5V for a 1 and 0V for a 0 and those voltages can be used to drive either a relay via an opto-isolator and a transistor - see diagrams - or directly to drive an analogue

switch. If you have no experience with interfacing computers it is wise to experiment a little with the circuits shown. Obtain an electronics catalogue, say the Maplin catalogue, as it will list the various

integrated circuits available and describe what they do, sometimes with example circuits. Once you have a good idea how everything works, you can attempt to hook your computer to the real world.



## ST drive fault

*C.P. Rolls of Crosby, Liverpool, writes:*

I bought an Atari 520 STFM on May 17, 1988, the summer pack with the 1MB disc drive. When I first used it, one disc would not load and it was changed, told, there was a fault with the disc.

I then bought a copy of STAC and it also refused to load within a few days of purchase. That disc was changed as well.

Since then I have had eight discs which refuse to load and have sent them back to where I bought them and have been told there is nothing wrong with the discs or the disc sectors. The disc drive refused to believe there is a disc in the drive and displays the following alert box see below.

Could you explain why this alert box appears when there is a disc in the drive and refuses to load programs?

I have also noticed that the fault occurs mainly after the computer has been on for some time. After a few discs displayed the alert message I took them to a friend and they worked satisfactorily on his Atari 520STFM.

Also I have been using two programs which use random access filing and I am finding that after running the programs two or three times I get the same alert box.

I would say there is something wrong with the disc drive – not the discs. By the sound of it, the problem is more than one of alignment. If the drive head is not positioning properly the computer will think that there is something wrong with the disc. Most alignment problems are reasonably easy to fix by adjusting the position of the head; if you are experiencing problems with discs formatted on your computer, the problem is a little more serious and you will probably have to replace the drive. If the head is aligned in a set way, it will format discs and read them in the same set way.

Assuming you have a year's guarantee on the machine, you should take it back where you bought it and ask for a replacement. If the guarantee has expired, look through the small advertisements or even the Yellow Pages to find a repair shop to fix it for you.

Drive A: is not responding. Please check the disc drive and insert a disc. If it is a hard disc, check its connections.

**CANCEL RETRY**  
Alert box given by the ST

## ST cables and drives

*N.R. Norton of Tamworth, Staffs, writes:*

Concerning Goodwin's letter in the March 2 issue, I had the same problem of connecting an Atari ST to an Amstrad CTM 644 colour monitor. Not being an electronics wizard, my problem was solved by Lightwave Leisure, PO Box 23, Wallasey, Merseyside L44 1EW. Tel: 051 639 5050. I supplied the necessary cable and although there were problems with the first cable, the staff assisted and my ST-to-CTM 644 system has been working perfectly for almost a year. The cable is MVDU-074 and costs £9.95.

As for the quality of the display, I

find that the picture produced by the ST is markedly clearer and steadier than that produced by my Amstrad CPC6 128, especially when comparing the Amstrad 80-column mode to the Atari medium-res mode.

I am considering changing my half-megabyte internal drive to a full 1MB drive. Would it be possible to use the half-megabyte drive as a second drive using the 12V DC output from the CTM monitor as a power supply?

**T**hank you for the information about the cable. I cannot see why you should not use the 12V DC supply from the monitor since it is used to power the CPC6 128 internal drive, which should have similar power requirements.

## Flashy ST

*Stewart Burdon of Darlington, writes:*

Recently I bought an Atari 520STFM. The problem I wish to relate concerns some corruption which appears on the screen of the TV set used as a monitor. The programs run satisfactorily but the corruption appears as random flashing pixels on the screen.

When a word processor or text is installed, the flashes appear as random areas of shimmering at different locations on the screen. Sometimes switching off and on appears to solve the problems.

The machine has been returned to the place of purchase for inspection and repair on three occasions but the fault remains the same – I have had the computer for only three months.

I have tried the discs on a similar 520ST at a local shop and there does

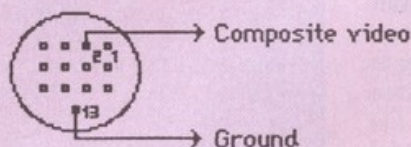
not appear to be any fault on them. Could you advise on the possible cause of the problems?

Also could you advise on linking a Ferguson MM02 green screen monitor to the Atari 520STFM?

**I**f your ST has been inspected and tested with a TV it should be satisfactory. It is possible that your TV is at fault and it may be something to do with tuning it to the ST modulator frequency. If you use the ST with a monitor the problem should not occur. There is a modification made to the aerial inputs of most modern TVs which allows them to tune to a video recorder more accurately. It may be that this change, or lack of it, is the problem – have a TV repair man check it. It may be that you are expecting the picture to be better than a TV is capable of; without seeing the fault in action, it is difficult to tell.

Unfortunately, I know nothing about the MM02 monitor but, if it is, as you say, a green screen monitor it should take a composite video signal. The ST puts this out on its video socket on pin 2. Without the specifications for the MM02, I cannot tell you how to wire it. You should be able to figure this from the monitor manual and the ST video socket composite video connection.

ST Video Socket



ST video socket composite video connection.

## ST assembler

*Kambiz Memarzia of Leeds, West Yorkshire, writes:*

I am an Atari 520ST owner. I have had the machine for almost a year and I would like help to find a suitable language. I used to pro-

gram with Spectrum Assembler and I already have STOS, which I find to be good. The problem is that it is not so fast as assembler; after all, it is a Basic. I am ready to pay around \$50 for a good language to program games and serious software. Could you give me the name of a package and where I can obtain it?

**T**he package you need is an assembler and the best one for the ST is Devpac ST version 2 from HiSoft. This is a complete macro assembler, monitor, debugger, and normally costs around \$60. I have seen it available for \$45.50 from Klik, tel: 0753 683965, which is a good price.



# Address file – Psion Organiser II

James Willsher



The Psion Organiser is useful and one of its capabilities is handling files in any way required. To use that facility to its full the programming language has to be entered, a daunting prospect for many users.

I have written a series of routines which will hold the names and addresses of people but they could be re-written for a different purpose. The main reason the program was written in a series of small routines as opposed to one large one is because it makes the program easier to understand, as each program deals with one function. It is also easier to trap errors and if a user becomes more competent in programming, perhaps he could modify the routines to suit his needs or even write a new one.

The only requirement for the program to work is a Psion Organiser II. It was written on a 16K Organiser but, because all the routines are short, it should run on a model CM – a datapack may be needed. If a user require the programs can be changed to suit his needs by changing the prompts in AADD, ADDRESS and AEDIT. Also some of the file-variables may need altering. They all start with 'B'.

The program supports the Psion Comms-link; APRINT may be omitted and the menu in ADDRESS should be changed if this is not available.

The programs are very user-friendly and have full error-trapping. Note that when entering a record a null string (" ") returns control to the main menu. ON/CLEAR, while on the main menu, exits the program. When entering the programs, do not type-in the ONERR statements; if an error occurs the Organiser may be stuck in an endless loop.

```
ADDRESS:
GLOBAL CO,DEV$(1),F$(15),I%,M%,NAM$(10),OK,OK$(3)
ONERR A::
A:: :CLS :M%=MENU("RAM,PCK-B,PCK-C")
  IF M%<1 OR M%>3 :RETURN :ENDIF
I%=M%+64 :NAM$=CHR$(I%)+":ADDRESS"
  IF EXIST(CHR$(I%)+":MAIN") :GOTO W:: :ELSE GOTO A:: :ENDIF
W::
  IF EXIST(NAM$)
    OPEN NAM$,B,SN$,FN$,HO$,RD$,VI$,TN$,CT$,PC$,PN$
  ELSE CLS :PRINT"CAUTION-NO FILE"
  PRINT"SET UP ON ";CHR$(I%);CHR$(63)
  AT 13,2 :INPUT OK$
  IF OK$="YES" :CREATE NAM$,B,SN$,FN$,HO$,RD$,VI$,TN$,
    CT$,PC$,PN$ ELSE GOTO A::
  ENDIF
ENDIF
MEN::
ONERR MEN::
M%=MENU("ADD,FIND,CURRENT,EDIT,ERASE,PRINT")
CO=COUNT :IF M%=1 :AADD:
ELSEIF M%=2 :IF CO>0 :AFIND: :ENDIF
ELSEIF M%=3 :IF CO>0 :ACURR: :ENDIF
ELSEIF M%=4 :IF CO>0 :AEDIT: :ENDIF
ELSEIF M%=5 :IF CO>0 :AERASE: :ENDIF
ELSEIF M%=6 :IF CO>0 :APRINT: :ENDIF
ELSE CLOSE :RETURN
ENDIF :GOTO MEN::
```

```
AADD:
REM ONERR P:: :B.SN$="" :B.FN$="" :B.HO$=""
:B.RD$="" :B.VI$="" :B.TN$="" :B.CT$
="" :B.PC$="" :B.PN$=""
CLS :PRINT"SURNAME>";:INPUT B.SN$
  IF B.SN$="" :RETURN :ENDIF
CLS :PRINT"FORENAME(S)>";:INPUT B.FN$
  IF B.FN$="" :RETURN :ENDIF
CLS :PRINT"HOUSE>";:INPUT B.HO$
  IF B.HO$="" :RETURN :ENDIF
CLS :PRINT"ROAD>";:INPUT B.RD$
  IF B.RD$="" :RETURN :ENDIF
CLS :PRINT"VILLAGE>";:INPUT B.VI$
  IF B.VI$="" :RETURN :ENDIF
CLS :PRINT"TOWN>";:INPUT B.TN$
  IF B.TN$="" :RETURN :ENDIF
CLS :PRINT"CITY/COUNTY>";:INPUT B.CT$
  IF B.CT$="" :RETURN :ENDIF
CLS :PRINT"POSTCODE>";:INPUT B.PC$
  IF B.PC$="" :RETURN :ENDIF
CLS :PRINT"PHONE>";:KSTAT 3 :INPUT B.PN$ :KSTAT 1
  IF B.PN$="" :RETURN :ENDIF
  IF LEN(B.SN$)+LEN(B.FN$)+LEN(B.HO$)+LEN(B.RD$)
+LEN(B.VI$)+LEN(B.TN$)+LEN(B.CT$)
+LEN(B.PC$)+LEN(B.PN$)>254 :GOTO P:: :ENDIF
APPEND :FIRST :RETURN
P:: :CLS :PRINT" SORRY, TOO BIG" :BEEP 100,100 :GET :AADD:

AFIND:
CLS :PRINT"FIND>";:INPUT F$
B:: :FIRST
  WHILE FIND(F$) :I%=DISP(-1,"") :IF I%=1 :RETURN :ENDIF :NEXT
  :ENDWH
CLS :PRINT"NO MORE RECORDS";CHR$(33) :DEV$=GET$
  IF ASC(DEV$)=1 :FIRST :RETURN :ENDIF
FIRST :GOTO B::

ACURR:
  WHILE DISP(-1,"")<>1 :ENDWH :RETURN

AEDIT:
C:: :ONERR Q:: :M%=MENU("SURNAME,FORENAME,HOUSE,ROAD,
VILL.,TOWN,CITY/COUNTY,PCOD
E,PHONE,SAVE")
  IF M%=1 :EDIT B.SN$
  ELSEIF M%=2 :EDIT B.FN$
  ELSEIF M%=3 :EDIT B.HO$
```

CONTINUES ►



```
ELSEIF M%=4 :EDIT B.RD$
ELSEIF M%=5 :EDIT B.VI$
ELSEIF M%=6 :EDIT B.TN$
ELSEIF M%=7 :EDIT B.CT$
ELSEIF M%=8 :EDIT B.PC$
ELSEIF M%=9 :KSTAT 3 :EDIT B.PN$ :KSTAT 1
ELSEIF M%=10 :UPDATE :FIRST :RETURN
ELSE FIRST :RETURN :ENDIF :GOTO C::
Q:: :CLS :PRINT " SORRY, TOO BIG" :BEEP 100,100 :GET :GOTO C::
```

```
AERASE:
CLS :PRINT "ERASE Y/N"
I%=VIEW(2,(B.SN$+", "+B.FN$))
IF I%=89 :ERASE :ENDIF :FIRST :RETURN
```

```
APRINT:
CLS :PRINT "PRINT Y/N"
I%=VIEW(2,(B.SN$+", "+B.FN$))
IF I%=89
LPRINT B.SN$:", "+B.FN$
LPRINT B.HO$:", "+B.RD$
LPRINT B.VI$
LPRINT B.TN$
LPRINT B.CT$
LPRINT B.PC$
LPRINT B.PN$
ENDIF
RETURN
```

# Snowflakes – Spectrum

John Exell

**S**nowflakes abound as this program gets into the generation game. As the program runs you will see a selection of eight patterns, each forming its own exceptional flake.

```
10 LET S = 2

30 FOR C = -1 TO 1 STEP 2
40 FOR D = -1 TO 1 STEP 2
50 FOR E = -1 TO 1 STEP 2
60 PLOT 65,5
70 LET A = P1/2
80 GOSUB 160
90 GOSUB 530
100 PAUSE 200: REM : INSERT
    PRINT PROGRAM HERE.
110 CLS
120 NEXT E
130 NEXT D
140 NEXT C
150 STOP
160 FOR N = 1 TO 3
170 GOSUB 210
180 LET A = A-2*P1/3
190 NEXT N
200 RETURN
210 GOSUB 290
220 LET A = A-P1/3
230 GOSUB 290
240 LET A = A+2*P1/3
250 GOSUB 290
260 LET A = A-P1/3
```

```
270 GOSUB 290
280 RETURN
290 GOSUB 370
300 LET A = A+P1*C/3
310 GOSUB 370
320 LET A = A-2*P1*C/3
330 GOSUB 370
340 LET A = A+P1*C/3
350 GOSUB 370
360 RETURN
370 GOSUB 450
380 LET A = A+P1*D/3
390 GOSUB 450
400 LET A = A-2*P1*D/3
410 GOSUB 450
420 LET A = A+P1*D/3
430 GOSUB 450
440 RETURN
450 DRAW S*COS A, S*SIN A
460 LET A = A+P1*E/3
470 DRAW S*COS A, S*SIN A
480 LET A = A-2*P1*E/3
490 DRAW S*COS A, S*SIN A
500 LET A = A+P1*E/3
510 DRAW S*COS A, S*SIN A
520 RETURN
530 PAUSE 100
540 PLOT 173,5: REM THIS
    PRINT MAY BE DIFFERENT
    FOR EACH MAKE OF
    COMPUTER, FIND BY TRAIL
    AND ERROR ON X-AXIS.
550 LET A = 5*P1/6
560 GOSUB 160
570 RETURN
```



The Data Protection Act came into force on November 11, 1987. It was introduced in answer to media pressure about the power of the micro and the potential of its data handling capability. Television programmes suggested that anyone armed with a reasonably-specified home computer could use it to take on the world and win. The abuses were endless, from simple blackmail by putting together seemingly uninteresting trivia to make a picture, to complex mailing systems to produce customers willing to be duped by mail order. Political data could be used to swing the result of elections, or people's personal details could be correlated to set up fraudulent and highly-lucrative religious sects.

That kind of science fantasy soon had politicians worried. Few were aware that to get a computer to perform even a simple task a great deal of study and effort is needed.

Although the power in terms of random access memory and processing speed of micros will approach and equal that of mainframes only a few years older, to run serious data processing large and expensive peripherals will always be needed.

It would not be possible to issue the entire country's car tax discs on one £100 printer. If it were, why is the DVLC in a huge office block? It is not possible for one person to type in all the data — many terminals are needed.

People's fears about the power of data are usually based on data held by the authorities, not the average home computer user running some amateur newsletter with a few tens of subscribers, or small mail order

## Data protection racket?

business with a few hundred customers. Yet all such data users have to register.

Initially the fee was £22 for three years. In addition, data users could charge anyone asking for their particulars — "data subjects" — £10 a time, so if three people enquired in a three-year period they would be into profit. On the face of it, it looked an eminently sensible system. Things have worked out rather differently. Most people are worried about data held by the authorities and much such data is exempt from the Act. Attempts have been made to include various authoritarian databanks and they are meeting fierce opposition.

More than 165,000 applications for registration had been received by the Government under the Data Protection Act by October, 1988, the result of fear of prosecution and fines into thousands of pounds. By October, 1988 there had been four prosecutions and fines of up to £700 were imposed. Two search warrants have been applied for and executed.

The Data Protection Registrar has received complaints at a rate of 1,300–1,400 per year. At present, during the period when people are getting used to the Act, most complaints are dealt with outside the courts.

The real claim to replace the word "Act" with "racket" comes from the registration fee structure. When it started the fee was

£22. In November, 1987 it was increased to £40 and in January, 1989 it was increased again to £56. There is no feedback between data user and the fee. He cannot withdraw except by closing his business or ceasing to use his microprocessor for data handling. Neither is there feedback about how many people use the system to check their personal data and its costs. An interesting corollary is that it would appear that if one were to keep a highly contentious database, and advertise the fact, one could have a very good "racket" sending £10 printouts to all and sundry worried about the accuracy of their entries.

If the public really needs such a system it should pay for it. I would propose that there should be no fee for registering but that all requests for data should be forwarded to the Registrar, not the data user, together with the £10. The Registrar could then send the data user the request, together with reply-paid mailing materials, and the data user could provide the data in the mailing material for either no fee or a substantially lower fee, say 50 pence.

The Registrar would then keep the £10 — or possibly £9.50 — for the running of the service. If the service could not pay its way on that basis, one would question whether it is really needed.

Meanwhile, anyone worried about whether they should register should contact the Data Protection Registrar, Springfield House, Water Lane, Wilmslow, Cheshire SK9 5AX, who will provide a set of booklets.

John de Rivaz

## NEXT WEEK

On sale Thursday, April 6th

### Peripheral Visions

Tony Hetherington examines the add-ons for the Amiga. Mouse-mats are all very well but what about the turbo-thrust?

### DTP Update

A round up of the latest launches. Write your own newsletter and one day you could be another Rupert Murdoch.

### Gamesweek

Tune in for reviews of the hottest, meanest and most spectacular games around, Arcade Ace and Adventure Bridge.

### Plus

News, Kenn Garroch's amazing *Fountain Simulator*, letters, hotlines and much, much more... don't miss it!

## INTERFACE BY BRIAN COOKMAN







**THERE WILL BE MOMENTS WHEN YOU'LL WISH  
YOU HADN'T TAKEN OFF!**

It is daybreak. You join the other pilots in the squadron crewroom to discuss objectives for the day ahead. Tactics, combat manoeuvres; all are captured completely by F-16 COMBAT PILOT. During your pre-flight briefing you instruct the ground crew on weapon loading and plan your attack...

The threat of imminent destruction and the stress of high-g combat you take in your stride. Your training perfected, you are now master in all five roles of the F-16, from air-to-air interception to interdiction strike.

# F-16 COMBAT PILOT



**BLACK  
BOX**  
SIMULATION

Atari ST screen

But now – Operation Conquest – the conflict you hoped would never happen. Aircraft, ground forces and the entire strategic infrastructure is under threat.

You haven't faced anything like this before... ever!

ORDER YOUR F-16 COMBAT PILOT NOW.

Simply phone (0276) 684959 quoting VISA or ACCESS credit card number, name and address.

  
**Digital Integration**  
The Real World of Simulation

Digital Integration Limited,  
Watchmoor Trade Centre,  
Watchmoor Road, Camberley,  
Surrey GU15 3AJ (0276) 684959.



# FRIGHT NIGHT

## THE ARCADE GAME

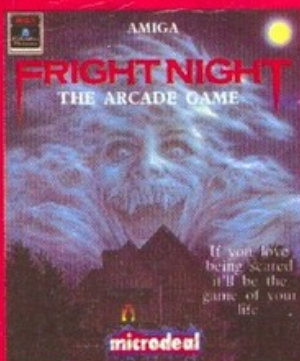
If you love being scared this'll be the game of your life! The explosive gameplay of Steve Bak coupled with the incredible graphics of Pete Lyon join together to make this arcade game adaptation of the hit RCA-COLUMBIA picture.

AVAILABLE NOW FOR YOUR  
AMIGA AND SOON  
ON YOUR ST

AMIGA £19.95



**FRIGHT NIGHT**  
SCREEN SHOT FROM  
ARCADE GAME



**microdeal**



**FRIGHT NIGHT**  
SCREEN SHOT FROM  
ARCADE GAME