

ONLY
58p!

COMPUTER EXPRESS

First news, best buys - every week • Issue 35 • 8 July 1989

REVEALED: THE WORLD'S FASTEST COMPUTER

- **Fifteen thousand times faster than an Archie**
- **A billion times more storage than an Amiga**

Full details and analysis page 2

FREE SOFTWARE!



GET THE BEST OUT
OF PD SOFTWARE

page 15

WIN!

A COMPLETE
ARCHIE
SYSTEM!



FUTURE SHOP!

The man who'll change
the world

page 6

XYBOTS

Another coin-op classic?



ALSO INSIDE EXPRESS

- Laptops special
- £10 vouchers free!
- Computer nightclubs
- Tech tips

SECTIONS FOR Amiga • Atari ST • PC • Spectrum • CPC • C64 • PCW • QL • BBC • MSX • Archimedes

MIND-BLOWING!

Fastest machine on earth unveiled

An inconceivably fast computer has been launched in the US which is capable of mind blowing power.

The machine is so powerful that it will be used to make calculations hitherto impossible. It took America's top scientists three years to develop and costs a staggering \$30 million (about £19 million).

● The NCube 2 Scalar super-computer delivers 60,000 million instructions per second. State of the art home micros can muster up about four MIPS. In effect, the NCube is 15,000 times faster than the Archimedes.

● It is massively parallel utilising 8,192 processors all running simultaneously. Low end computers only have one central processor.

● Storage capacity weighs in at 500 million Megabytes - enough to hold a 2,000 page biography of every man, woman and child in the UK.

● It can deal with 1,000 business transactions in a second, which is ten times faster than ever before.

Oregon based NCube hopes the computer will be used for business applications as well as

scientific research - the traditional home of super computing.

Sales of the machine aren't likely to exceed 200 throughout the world. In the UK the University of Wales in Cardiff has ordered a cut down version to deal with incredibly difficult mathematical problems and the British Medical Research Council will use one for work on DNA frequency and genetics work.

The NCube's speed is astonishing. It can work out a typical Mandelbrot set equation in 0.1 of a second. That would take an Archie six minutes and a Beeb around six days.

"This really gives people power which they've never seen before. It's truly awesome," said Andrew Gladstone of NCube's UK distributor Arrow. "You don't sell one of these every day but we expect some companies to



• Taking the NCube route: Incredibly fast, monstrously expensive

implement it as a massive database."

NCube's Bob Angus told Express: "This machine will have a much broader appeal than super computers of recent years. It's very, very efficient."

Shell Oil will use an NCube for

Seismic imaging. The machine will be able to plot underground maps in hours rather than days.

One company uses the machine to store retinal identification records. It has seven million pairs of eye scans on the computer any one of which can

The NCube has the storage capacity of a billion Amigas. To duplicate that storage using Commodore machines you would need a desktop the size of Bristol.

If you laid the Amigas in a row end to end they would circle the globe fifteen times. It would take an F16 Fighter 17 days going flat out to fly from one end of the row to the other.

be called up within one second.

NCube's president Stephen Colley said: "This is the most powerful computing system available and it can tackle not only today's largest problems but also open new realms of problem solving, larger computing formulations and the definition of currently unimaginable problems." ■

Anyone contemplating saving up for an NCube has a hard task ahead. It would take you 1,200 years working full time at McDonalds to get that sort of money together after tax. If you're still interested call Arrow on 03727 42557.

Sega handheld on the way?



Expectation is mounting that Sega will launch a handheld games machine in the near future.

The firm is understood to be in the process of development although details are terribly thin on the ground. However, given the activities of Atari and Nintendo on the handheld front (Express passim) such a move would appear to be logical.

Indeed, Sega's representatives in the UK are publicly agreeing that it would "make sense" to launch a small version of its successful console. "It would be a logical move but when and how I don't know," offered a spokesman. ■

• Putting the console in your hands? Sega handheld in the offing

Radiation: public concerned

An overwhelming 71 per cent of computer users fear there is a health risk from prolonged use of monitors, according to a survey published last week.

It also reveals that 94 per cent of users would prefer low radiation monitors rather than their present

standard models, if they were given the choice.

PC Business World magazine polled some 350 computer users on behalf of Taxan which manufactures low radiation monitors. The mag's Robert Walczyk told Express: "There's no evidence that radiation

from monitors is a health risk but people's perception is that there's a danger."

Speculation has increased in recent years that radiation from monitors can cause miscarriages, sterility problems in men, and skin complaints. ■

Joys of spring

Every now and again you're targeted with the wackiest of ways to improve the performance of your machine.

The latest idea is a way to enhance the feel of the ST's keyboard. All you have to do is insert a tiny spring under each of the keys giving typing that extra bouncy feeling. This luxury, from ISM, costs £15.

ISM is keen to stress that the tedious task of prising every key open and fitting the key in takes minutes. Express's ST has promptly undergone the fiddly operation and does indeed feel better for it.

Apparently, 5,000 ST owners in the USA have already made the change. If you're interested ISM is on 0983 864674. ■



• Spring into action: ISM's curly cure

ST RISC SENSATION

The eventual upgrade to Atari's ST will be a RISC-based machine, it was revealed this week.

Atari wants to abandon its 68000 configuration and opt for an Archimedes-like micro boasting brilliant graphics and faster operations.

And, according to trade paper CTW, the new machine will be completely compatible with existing STs. As yet it is not known when Atari will unleash the new system but it is understood that the machine will begin life as an up-market specialist model.

Then, over the next three years, it will come down in

price and take the ST's place as Atari's flagship machine. When launched it will probably cost around £1,000.

Atari UK boss Bob Gleadow explained: "The ST has come down-market to become what we believe to be a first time buyer's machine for the next three years. What we need to do now is look at providing a new up-market second time buyer's machine. It has to be very fast and almost a workstation."

RISC (Reduced Instruction Set Chip) has been successfully utilised at the low- to middle-end of the market by Acorn with its Archimedes. ■



• Taking a RISC: Atari's Bob Gleadow

SHOWING OFF



• The show must go on: Atari show to continue

The computing world was buzzing with excitement last week with the announcement of a new multi-format computer show and the resurrection of two old shows.

The completely new event - called The Spring Computer Show - has been pencilled in for spring 1990. The organisers say it will fill the gap left in that part of the computing calendar. The spring event will be held at Olympia - home of the original PC show.

Meanwhile, the Commodore and Atari shows are to be brought back to life. Both hardware manufacturers are to stage their own events after Database decided to scrap the shows.

It is understood that Commodore will be working with Database to organise the event whilst Atari is going it alone. The Commodore show

will be held at Novotel, Hammersmith on 17th to 19th November. Dates and other details concerning the Atari show are yet to be arranged.

The organiser of the Spring show hopes some 30,000 people will attend the event and it is pitching for 200 vendors including all the major hardware manufacturers.

The show will be held from 4th to the 6th of May 1990. Organiser Peter Brameld told Express: "There is a feeling that there are too many machine-specific shows which are boring. We want to change that."

Although the period from January to September is seen as comparatively quiet on the low end computing front, spring usually signals a blip in purchases of products and new launches. "It will be an excellent platform for new products," said Brameld. ■

Turn your telly into an Amiga

If you can't afford to buy an Amiga but want to see excellent graphics here's your chance.

Ace Computer Supplies has put together a video featuring twenty top public domain demos of colourful graphics and animation. The firm reckons owners of humble machines crave for the chance to view top notch computer generated colour and sound.

Initial demos include *The Juggler*, *Flight of Dreams 2* and *World of Wonders*. Ace also plans to include game demos in the near future. It costs £4.99 and is available on 0430 872395.

Meanwhile, HotShot is about to let loose its second games demo video which includes an interview with Domark. That's on 0206 751217. ■

Clik crashes out

Long-established mail order company Clik has gone bust with debts of more than £140,000.

The company has been put into voluntary insolvency by boss Lynn Clarke. She said the bills simply could not be

paid. Clarke is selling her house to pay back money owed to the bank.

Anyone who has sent money off to Clik and is waiting for games faces, unfortunately, the prospect of losing their cash. ■

Football frenzy



• Soccer Spectacular: Kicking off

Soccer mad computer owners are being offered a five strong compendium of famous footie games.

Supreme Challenge Soccer Spectacular is coming out on the big three 8-bit micros and boasts a line up of *Football Manager*, *Peter Beardsley's International Football*, *World Champions*, *Peter Shilton's Handball Maradona* and *Soccer Supremo*. It costs £12.95 (£16.95 disk).

Publisher Beau Jolly isn't stopping at a football compilation. Sports-specific packs are being planned for the near future. More on 07372 22003. ■

CONTENTS

FEATURES

- CURRY AND CHIPS** 6
How High Street shops will come to your front room
- WIN AN ARCHIE** 8
A brand new A3000 system could be yours!
- LAST LAP** 10
The best in laptops
- PUBLIC ACCESS** 15
Your complete guide to software for free
- A to Z** 21
P for power!
- NIGHTCLUBBIN'** 24
Will the night out of the future be like this?

REGULARS

- COMMENT** 4
- CHARTS** 5
- LETTERS** 12
- JOBS** 34
The best in computer vacancies
- TECH TIPS** 36
- READERS' CLASSIFIED** 37
- EXPRESS SALES** 38
Pick up some great bargains here
- PREVIEWS** 39
Eye of Horus, *Freddy in Manhattan*, *Grand Prix Master*, *Lone Wolf*, *After the War*, *Animal Games*
- GAMES** 40, 42
Xybots, *Astaroth*, *Circus Attractions*, *African Raiders*, *Colony*, *Spherical*
- VOUCHERS** 43, 44
Buy Express for 58p and save £10!
- COMPETITION WINNERS** 46

YOUR MACHINE

- Amiga** 26
- ST** 27
- PC** 28
- CPC** 29
- Spectrum** 30
- Commodore 64** 31
- PCW, QL** 32
- BBC, MSX** 33
- Archimedes** 35



COMMENT

Cut and paste

The new National Curriculum requires schoolchildren to be familiar with computers: word processing, database and spreadsheet management and so on.

Now the Government cuts spending on information technology education by £5 million - by nearly a half.

This will reduce the number of advisory IT teachers by a similar margin, thus putting more pressure on already overworked teachers who will presumably be expected to take more of the computer teaching responsibility themselves.

Learning to use a computer is far more complicated than learning to drive. Few people would want their children to be taught to drive by someone just learning to drive themselves, yet it seems that computing is to be taught by people who are just picking up the subject on their own (probably in their own time too).

Computers can be an invaluable time and tedium-saving tool - any micro owner can tell you that. They can be a legitimate leisure tool. But they can also degenerate into a glorified toy. If children don't get the right impression first off they will treat computers as a mystical box of tricks that can play nice games which are far more interesting than the patchily taught and boring 'proper' uses being demonstrated in lessons.

Time and again Britain has lost out because of insufficient investment in education and technology. If cuts like this are made at such a grass roots level it is difficult to see how any amount of training investment made later by trade and industry is going to remedy things.

EDITOR Rob Ainsley
 NEWS EDITOR Colin Campbell
 FEATURES EDITOR Andy Storer
 REVIEWS EDITOR Rik Haynes
 TECHNICAL EDITOR Jerry Glenwright
 ART EDITOR Angela Neal
 ART ASSISTANT Harriet Athay
 PRODUCTION EDITOR Rod Lawton
 ADVERTISEMENT MANAGER Mark Salmon
 AD EXECUTIVES Sarah King, David Lilley
 AD TYPESETTING Terry Turner
 PUBLISHER Greg Ingham

© Future Publishing Ltd

4 QUEEN ST, BATH, BA1 1EJ

TEL: 0225 446034 • FAX: 0225 446019 Printed by Redwood Web Offset, Trowbridge, Wilts Distributed by Comag, West Drayton, Middx

QUEEN OF THE HACKERS

A Chicago based woman faces ten years in jail after allegedly recruiting impressionable youngsters to defraud large companies by computer hacking.

Lynn Doucett has been accused of setting up a network of 60 teenagers throughout the US who were employed to hack into computers and obtain people's credit numbers which they then used to access services. Doucett, 35, then pocketed some \$1.5 million raised by the teenagers, some of whom were as young as 14.

She is currently being detained in Chicago charged with computer fraud - her trial is pencilled in for early August. Some of the young hackers are also being charged although they will not be incarcerated.

Like Charles Dickens' devils Fagin she set about exploiting the dubious talents of youngsters for her own

ends, say US secret service agents. Doucett made contact with the teenagers by logging onto bulletin boards around the country. She then taught them how to hack into computers and told them which networks to break into.

US Secret Service agent James Huse - who helped track Doucett down - told Express: "She was the leader of a national conspiracy which at one time consisted of about 60 young hackers. This is the largest hacking network I've ever come across."

He said: "She got them intrigued by the prospect of gaining access over telephone lines to forbidden places. For them it wasn't defrauding anybody. It was just playing a game."

Secret Service agents (who are responsible for tackling computer crime in the US) were alerted to the operation when various companies found they had been defraud-

ed. They followed Doucett because she is well known as "an old hand at white collar crime". She was previously convicted of computer fraud in Toronto.

"When we began our investigation we assumed that we

would find adults sending out the phoney orders," said Huse. "We were jolted to discover the kids were 14 year-olds. This woman was exploiting their fascination in a new medium. We all hate to see kids getting involved in something like this."

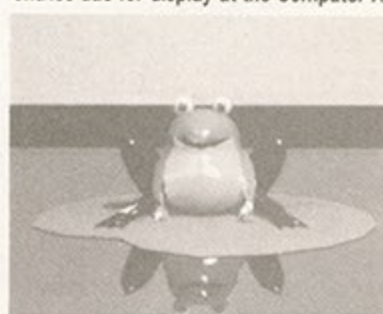
Leading the case was Chicago-based secret agent Mike Cleary. He told Express: "We tracked back some of the hackers after they had penetrated various systems and found her to be at the centre of the operation. We arrested her last April and she's now being detained at the Metropolitan Correction Centre in Chicago."

"We call her the Queen of the Hackers."

Arting around

Budding Amiga artists now have the chance to show off and win some exciting prizes by entering the Edinburgh International Festival 2nd Computer Animation Competition.

Leading Commodore hardware and software distributor Amiga Centre Scotland is again organising the competition, with the finalists entries due for display at the Computer Animation Exhibition.



Closing date for the entries - which can be on disk or PAL VHS videotape - is 24th August. Further details from Amiga Centre Scotland on 031 5574242.

• Spawning a masterpiece: Can you beat this?

Amstrad the benevolent

Amstrad's first venture into charity sponsorship has raised a tasty £165,000 for the Muscular Dystrophy Group.

Boss Alan Sugar was in the thick of the Amstrad Pro-Celebrity tennis tournament. Indeed, the tough tycoon managed to win along with Vijay Amritraj stuffing Terry Wogan and John Lloyd in the process.

Other names on hand included Frank Bruno, Jimmy

Tarback, Janet Street-Porter and Nigel Dempster. Sir Richard Attenborough - who is president of the MDG - presented the silverware to the winners.

Although Sugar is said to be extremely generous in private to worthwhile causes this is the first time his usually surly company has openly backed a charity. ■



• Sir Richard, Amritraj, and Sugar - winning for charity

SNIPPETS ● SNIPPETS ● SNIPPETS

● A new monthly magazine is to be published concentrating on the virus problem. Virus Bulletin will be full of editorial and will include contributions from various experts. More on 0844 290396...

● Tandy tells us that all the unsavoury hacks covering this year's Wimbledon are using its special computer support service. The journals are basically doing their thing on Tandy portables and then wiring it through to the sports desk.

● Business software firm Lifetree has undergone a simultaneous management buy out in the UK and its US offices...

● Clares has just finished a sequence of animations for HTV Wales put together on the Archimedes. The work was done for a new Welsh language quiz show. It features aeroplanes flying around and scrolling background. Clares was responsible for work on kiddies show Going Live...

This is the modem world

Portable PC owners can now send and receive data on the move via cellular telephone and the latest cellular modem from Racal-Vodata.

Weighing in at 710g (1.5lbs), the £600 modem allows you to communicate with other modem users and access networks like Micronet and Prestel. Even in severe reception conditions, data throughput is claimed to be sharp.

With full autodial/ autoanswer facilities, the modem has a low power consumption, minimising any reduction of "talk-time" on battery-powered Vodafones. According to Racal-Vodata, the CDLC modem brings the "portable office" one step closer - the unit is itself certainly small enough to make little difference to anyone already carrying a portable computer and Vodafone.

Versions of the modem compatible with the the NEC 11A and Panasonic C series of cellular telephones are available now, and others for the Autoline and new Talkman ranges from Nokia Mobira and the MCR40 from Philips are on the way. An NEC 9A version is also under development, and the modems will thus cover nearly 40% of the total Vodafone subscriber base.

Nomadic executives can find out more on 0635 33251. ■

Six million disks drafted in...

Amstrad has bought six million blank three inch disks in an attempt to quench the disk drought.

The firm has acted swiftly after talk that the disks would run out in this country. Amstrad PCW, CPC and Spectrum +3 owners can now breathe a sigh of relief. But Amstrad says the very number of PCWs sold threatened supplies.

"The success of that range has soaked up vast quantities of the disks, but I can now assure users that they will have no problems buying these," said the firm's Peter Roback.



• Disks galore: Amstrad bought six million of 'em

Top of the Populous!

Playing God is as popular as ever given the success of the Electronic Arts game *Populous*.

Now the American firm is releasing a data disk for players looking for new challenges. *Populous: The Promised Lands* will run on the ST and Amiga and contains five new worlds such as The Wild West, Samurai Land and Revolution Francais. It costs £9.99.

TOP 20 Full Price GAMES

1	Robocop OCEAN Spectrum, C64, CPC, ST, Amiga, Others	1
2	Silkworm VIRGIN Spec. C64, CPC, ST, Amiga	13
3	Forgotten Worlds US GOLD Spectrum, C64, CPC, ST, Amiga	2
4	Microprose Soccer MICROPROSE Spectrum, C64, CPC, ST, Amiga	3
5	Dragon Ninja OCEAN Spectrum, C64, CPC, ST, Amiga	5
6	Emlyn Hughes AUDIOGENIC Spectrum, C64, CPC	6
7	Run the Gauntlet OCEAN Spectrum, C64, CPC, ST, Amiga	4
8	Out Run SEGA/US GOLD Spec. C64, PC, ST, Amiga, Others	16
9	Football Manager 2 ADDICTIVE Spectrum, C64, CPC, ST, Amiga, Others	7
10	Populous ELECTRONIC ARTS ST, Amiga	12
11	Kenny Dalglish COGNITO Spectrum, C64, CPC, ST, Amiga	10
12	Running Man GRAND SLAM Spectrum, C64, CPC, ST, Amiga	8
13	Operation Wolf OCEAN Spectrum, C64, CPC, ST, Amiga	14
14	Crazy Cars II TITUS Spectrum, CPC, ST, Amiga	9
15	Rampage SEGA Sega	NE
16	Kick Off ANCO C64, ST, Amiga	19
17	Millenium 2.2 ACTIVISION ST, Amiga	NE
18	Renegade 3 IMAGINE Spectrum, C64, CPC	18
19	Double Dragon MELBOURNE HOUSE Spec. C64, PC, ST, Amiga	20
20	Red Heat OCEAN Spec. C64, CPC, ST	NE

£5m SLASHED OFF SCHOOL COMPUTERS

The Government has lopped £5 million off its planned expenditure on computer education.

This follows a report last week from the National Curriculum Council recommending that more emphasis

should be placed on computer education.

Spending on information technology in schools has been slashed from £13.8 million to £8.28 million. According to the Government the cuts are being made to

divide up monies amongst all sections of the new national curriculum.

However, teachers view it as a lack of willingness by civil servants to back the bold new ideas with hard cash

The successful 650 strong posse of advisory computer teachers looks to be in anger. That was set up last year to advise on computer education throughout England and Wales. At the time it looked as if the Government really would give

support to widespread computer education.

Many are now worried that those ideals have gone out of the window.



• Classroom cutbacks: Youngsters will suffer

Stick to the point



• Clickety click: Megablaster

A sub-£10 joystick offering the advantage of microswitches has been unveiled.

Wagging leader Konix has fitted its Megablaster with the clickety mechanism. Microswitches are becoming increasingly popular since

they offer more feedback and accuracy, and tend to last longer than normal "engines". Most microswitch sticks cost at least £15.

The Megablaster costs £8.99. More on 0495 305972.

New look Microlink

Bulletin board Microlink is promising comms fans a bagful of new features on its service.

The board has recently switched from residing on Telecom Gold to Istel Inet. Microlink says it wanted to leave Telecom in order to expand.

The board's roots are very much in the hobbyist area but now it wants to get serious. Users are promised access to thousands of databases covering everything from business to the weather as well as a bigger leisure board.

Boss Derek Meakin told Express: "We were dissatisfied with Telecom Gold and wanted to go elsewhere. With Istel Inet we'll really have room to expand and offer users the best."

All-in-one PC for £500

PC manufacturer Micro-vice is to bundle its low end PC2 with a dot matrix printer for under £500.

The Cubpack will come with a Manesman-Tally 80 column printer as well as Ashton-Tate's integrated package *First Framework* for £495. The software includes spreadsheet, word processor, database and graphics application.

The more expensive PC4

will also be bundled - that machine comes with a 20 Mb hard disk and will cost £940. However, buyers will have to move quickly. The offer only lasts until the end of July.



• In at the cheap end: PC2

TOP TEN Budget GAMES

1	Postman Pat ALTERNATIVE Spectrum, C64, CPC	1
2	Enduro Racer HIT SQUAD Spec. C64, CPC, ST, Others	2
3	Daley Thompson HIT SQUAD Spec. C64, CPC, Others	5
4	MiG 29 CODE MASTERS Spectrum, C64, CPC	NE
5	Bomb Jack 2 ENCORE Spectrum, C64, CPC, Others	RE
6	Treasure Island CODE MASTERS Spec. C64, CPC	3
7	Game Over ALTERNATIVE Spectrum, C64, CPC, Others	NE
8	Army Moves ALTERNATIVE Spectrum, C64, CPC, ST, Amiga, Others	8
9	1942 ENCORE Spectrum, C64, CPC, Others	4
10	Arcade Flight Sim CODE MASTERS Spectrum, C64, CPC	9

RE re-entry • NE new entry • Last week's positions
Compiled by Gallup
The charts shown are based on the Open Market, that is, retailers who stock a broad range of products. All charts shown are copyright of Gallup.

THE LINE ON KEYLINE

The Keyline terminal could be in as many as three million homes by the early nineties. Express sent Andy Storer to interview the brains behind the box, ex-Acorn main-man, Christopher Curry...

The Keyline computer is an A4-sized, battery powered terminal masterminded by Christopher Curry, founder of Acorn and designer of the BBC micro. At first sight its built-in calculator, text editor, calendar/clock/alarm and phone number store features might lead one to place it in the same familiar territory as the Z88 and Psion Organiser. But there the similarity ends. Keyline represents a much wider and far-reaching concept altogether.

The intention is to provide the world's first armchair access to hundreds of data bases, ranging from home shopping to financial and information services. What's more, the terminals will be free and communications conducted in everyday English. By March next year some 500,000 Keyline terminals will begin to be made available across the country; the first batch of a planned 3 million units.

Since leaving Acorn in 87, Curry's devoted all his time to the project, but its seeds go back to 1982 when Acorn brought out The Communicator. This was an all purpose comms device designed to hook up to Local Area Networks, Teletext and telephone services such as E-mail and financial data. But, as Curry is the first to point out, The Communicator never took off. "Although it tried to explore the emerging market of people with information to sell, it failed because it wasn't worth people investing several hundred pounds in a unit that could only provide a few up market facilities".

The concepts of Keyline arose from its ashes. Curry believed there was a revolution happening out there and it needed to be tapped, but it all depended on achieving a take-off point. "We're a knowledge-based society, but knowledge is disseminated in a pedestrian fashion...What is needed is a terminal that accepts natural language input, has a low-cost of manufacture, a low-cost of operation and a large number of suppliers. These equal a large number of consumers". That take-off point is just around the corner, he believes.

Supplying the Suppliers

In the last six months, Keyline has attracted twenty members to join its Keyline Club - a means of pooling information to set the ground rules for the innovative electronic shopping Keyline represents. Club members include the NatWest and Midland banks, Gateways, Asda, Mothercare, Freemans, Grattan, Ladbroke and Littlewoods. Curry has a building society on the books too but points out, "we have a nice cross-section of very significant information and retail suppliers already committed but we're still after a major department store".

But the haul in attracting big spenders has been a long one and the Keyline group has come



• Red hot Curry? Ex-Acorn boss is putting his money where his mouth is on home shopping

Cutting costs

Keyline connect time will be charged at local rates wherever you're calling, as the system uses the Packet Switch Network for long distance calls. PSN charges will be paid

for by the service suppliers. Keyline terminals will be made available free save for a small deposit of around £35. A 'weeding' process, similar but unlikely to be as in depth as

that operated by credit card companies, will also determine who can get their hands on a terminal.

Security

- or, how do you stop little Johnny ordering 5 grand's worth of Cola? Securing purchasing will be in the hands of the suppliers but is likely to involve a series of passwords depending on the amount and cost of goods ordered and the type of

business being conducted. Otherwise each terminal will have its own password for general use.

In order to make the unit completely secure though, which it'll need to be if it's to be used for personal banking, Keyline claim the ROM

contents will be unreadable as there'll be no external buses. Try taking the top off the chip and reading it with a laser and it'll scramble itself. This is the same protection technology going into smart cards.

But is it that revolutionary?

Teleshopping has existed in the States for some time now, having sprung up with the growth in the huge cable TV network where several channels are solely devoted to commercials. These range from guys in studios selling the likes of vacuum cleaners

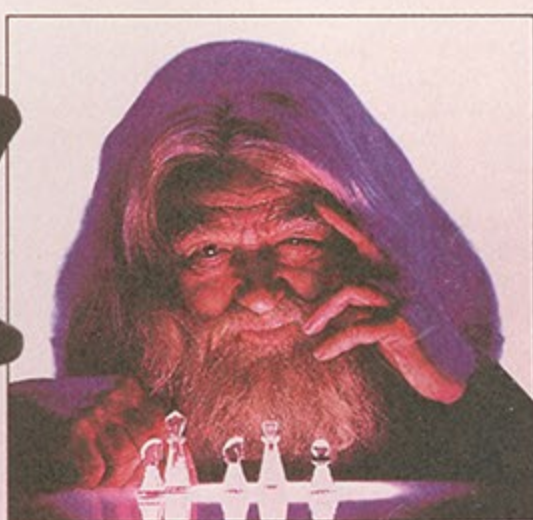
("Only 13 left now, ring in and buy yours now by leaving your credit card number...") to specially constructed supermarkets where remote cameras track along aisles focusing on goods and awaiting your touch on the remote control to freeze frame


the picture and order the item. But the whole phenomenon there is culturally different from over here and, in any case, Keyline is so technically unique as to dispense with the catch-all notion of teleshopping.

The BEST^{*} Just Got Even Better!

First we took the Chessmaster 2000 and added 10 Man-Years of work by our programmers and graphic artists . . . then we supercharged its brain with the latest, most powerful, chess playing technology.

THE FIDELITY CHESSMASTER 2100



Best Chess Program in the World 

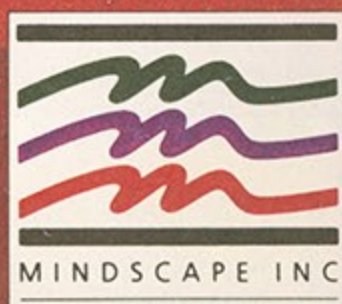
On-screen menu driven features include †

- Unlimited levels of play from "Newcomer" to "Grandmaster".
- Take back and replay moves.
- Change sides at any time.
- 2D, 3D and "War Room" board designs.
- Save and/or print games.
- Joystick, mouse or keyboard control.
- Complete illustrated booklet with tutorial.

- Graphically turn the board 90 degrees to view every angle.

†Some features are hardware dependent and not available on all computers.

Distributed by



Available for IBM and compatibles, Commodore 64/128, Apple II/Mackintosh, Amiga and Atari ST.

**From reviews and awards by The New York Times, PC Magazine, Compute! and many others.*

M I N D S C A P E

For further information on Mindscape Products and your local dealer contact.
Mindscape International Limited, PO Box 1019, Lewes, East Sussex BN8 4DW. Tel. (044 486) 545/547

up against a lot of misconceptions. "Major retailers say 'we've spent the last twenty five years trying to get people into our shops'... they believed shopping to be fun... they pump more money into building huger and huger supermarkets thinking they're providing a social event, but our research has shown that people only enjoy shopping for clothes and jewellery...shopping for food is an absolute chore". Probably the key factor in changing their minds has been the gradual move into distance shopping as seen in the growth of mail order. "It proves you don't need to see goods in order to purchase them."

Once the Keyline scheme is launched, familiarity will doubtless attract more suppliers but in the meantime, Keyline is also provoking interest from specific information suppliers. The 6 million elderly and infirm people who can't get to shops constitute a large market as does the supply of information targeted at them by the Social Services and groups like Help the Aged.



• Terminal One: Keyline's shopping centre

Everyday English

If a terminal is to be designed to give access to a large number of suppliers for millions of consumers it goes without saying that the means of communication needs to be plain and simple. It's no use expecting the public to get to grips with some DOS style Command Line Interface. But, as Curry points out, even multiple choice systems like Prestel are fundamentally flawed in their design for 'distance selections'.

"Research at Cambridge into Naive User Interfaces showed that systems like Prestel,

where you had six or eight menus with categories and sub-categories, meant that any choice you made needed to go through half a dozen levels. Apparently on each level you had a 20% chance of making a mistake so by the time you went through all six your chances of getting what you wanted were minute. By the time you make two or three mistakes and have to start again you feel insulted. And humiliated by a machine of all things... and that's after you've spent a fortune in on-line costs."

So the Keyline terminal will dispense entirely with menu systems by using a restricted natural language interpreter. The key is to make the enquiry system task-orientated: "You give the machine a task to do to the best of its abilities... if you want to buy a train ticket you just say 'what's the best route between two towns and what train do I catch to arrive by 6'". Obviously, such sophisticated parsing can't reside in a home terminal, the secret is to put the real computing power at the supply or 'head' end. Each supplier will have their own host computer system costing up to £800,000 running software allowing that supplier to design its own 'front-end' for greetings and special offer routines.

So to keep things practicable, simple and low-cost, Curry suggests that you do the first pass on your machine at home "You say you want to know about the price of something - and then interpretation passes to the head-end where the host computer, using the same interface as the domestic terminal, uses artificial intelligence and expert systems to supply a full transaction system, a full accounting system and a full stock control system."

But Curry reckons the interpreter will go even further than that. "Besides providing spelling mistake correction and partial matching it will be able to anticipate a users' mistakes once it gets to 'know' him".

Delivering the Goods

After selecting ordering an item via your terminal you might wonder how you actually get your hands on the thing. The options here are decidedly open. Besides delivery direct to the home, Curry suggests an imaginative use of pubs and petrol stations as drop-off points for deliveries. There'll no doubt be drive-in pick-up points too. When it comes to perishable items then the motor bike courier services across the country could be in for a big surge in demand. ●

WIN AN ARCHIMEDES!



Yes, you can win a brand-new Acorn Archimedes A3000 plus colour monitor, worth £1000, in our mindbending competition.

We had one for review in issue 29, and we were impressed! The Archie is undoubtedly the Rolls-Royce of home micros, with blinding speed, astounding graphics and a fantastic sound chip - ideal for everything from games to high-powered academic and research applications. It's not bad at word processing either!

The machine isn't officially unveiled until the 1989 BBC Acorn User show on July 21st-23rd at Alexandra Palace. Most people will be going for a glimpse of the new Archie - but the lucky winner of the *Express* competition will be presented with theirs free at a VIP lunch on the first day.

To stand a chance of winning you have to answer ten questions. The first five are this week, the second five next week.

As easy as ABCDE

Here's what you have to do this week. Study the list of five characters below who've each bought an Archimedes. Then look at the list of software for the Archie which might be on display at the Acorn User Show and, using your skill and judgement, decide which software package each is most likely to buy. If, for example, you think that Dr. Brayne will most likely buy *Deathmash IV*, write 'A-1' and so on.

DON'T send in your answers yet - you need the answers to next week's questions as well to win.

- A Dr Richard 'Dick' Brayne: Economics fellow at the Queen's College, Oxford. Using his Archie to work on his latest paper 'New perspectives on Monetarism'.
- B Ron Turning: Taxi driver from Southend, Essex. Runs his firm and plans routes with the help of his Archimedes. His ambition is to be a racing driver.
- C Wayne Pratt (17): Games playing freak from Surrey whose favourite film is Rambo.
- D Robin Cash: Comedian from Ashby de la Zouch. Uses his machine to work out how much tax he can avoid paying.
- E Owen Monet: Great-grand nephew of the famous painter. Penniless Fine Art student from Cardiff. Preparing a portfolio of computer art on his Archie.

- 1 Deathmash IV
- 2 Milton Friedman's Spreadsheet
- 3 Nigel Mansell's Breakdown Simulator
- 4 Tom Keating's Painting by Numbers
- 5 Ken Dodd's Accounts Planner

Electro-channel to France

Kays, the U.K.'s brand leader in mail order shopping, already has a 1,000-page teleshopping catalogue up and running. But the service is only available in

Belgium and France - via the French Minitel videotex service - with terminals in some five million homes and offices. Shoppers can order up to

35,000 items by credit card and have them delivered to their homes or to any address in the world.

Keyline tech spec

Processing

- 8/16 bit HCMOS 11 MHz processor
- 128K program and database ROM
- 32k battery backed RAM

● Memory paging allowing expansion to 256K RAM and ROM

Modem

- V22 1200 b.p.s full duplex

auto dial, pulse or tone auto-answer capability

Interfaces

- Smart card
- Printer

A smart card interface?

Curry believes smart cards will all but replace cash in the future. "One day I suppose people will exchange money by sliding their smart cards through cash exchangers". In

Keyline they'll be used as application cards and for financial transactions but, as Curry concludes, "Such is the power of appeal of smarts and the momentum behind them,

they're going to be a major force and they're going to change our lives more than anything else... people like to pay by cash and smart cards look very much like cash."

TWO TIMING?

We know you're all doing it! Nobody likes to talk about it, but you are. Perfectly respectable PC-users sneaking out of the office to ... play games. Using a Spectrum, an Amiga, an ST!
MGT knows all about you. That's why our product range is for business and pleasure.

AMAZING OFFER

You can now use your money-saving EXPRESS VOUCHERS at your local MGT dealer. This offer is only valid till 31 July 1989, PLUS All VOUCHERS used in this way go into a grand draw. The prize? A hand-made pre-production SAM Coupé Computer, a real collector's item.

GOODS IN

MGT Lifetime Drives

The problem with buying drives is that they are machine specific. To the owner or user of several machines this represents an added expense. The Lifetime Drive overcomes this problem. By setting switches and changing cables one Lifetime Drive can be used with a wide range of different machines including PC, Amiga, ST, QL, BBC, CPC, and Spectrum.
The disc mechanism is the high quality Citizen 3.5" 1 megabyte drive and comes with its own internal power supply. External power source and 5.25" drive versions are also available.

Other MGT Drives

Home user, business user, O.E.M.? We've got the drives for you. MGT are THE disc drive specialist. Just tell us what you need.

SAM Coupé
256K of RAM, 6 channel synthesiser, MIDI, networking. This autumn sees the launch of the best specified, best value home computer yet. For the latest news ring the SAM Coupé hotline on 0792 791275.

Sinclair Owners
From its beginning MGT has looked after Spectrum owners. Enhancements, peripherals, upgrades. From the famous Plus D disc interface to the new +3 DiscMate (quadruple disc drive capacity and powerful new commands).

MILES GORDON TECHNOLOGY plc

Lakeside, Phoenix Way, Swansea Enterprise Park, Swansea SA7 9EH • Tel 0792 791100 • Fax 0792 791175

For further information, phone Sally or Penny on 0792 791100 or fill in the coupon and send with SAE to

Miles Gordon Technology,
Lakeside, Phoenix Way,
Swansea Enterprise Park,
Swansea, SA7 9EH.

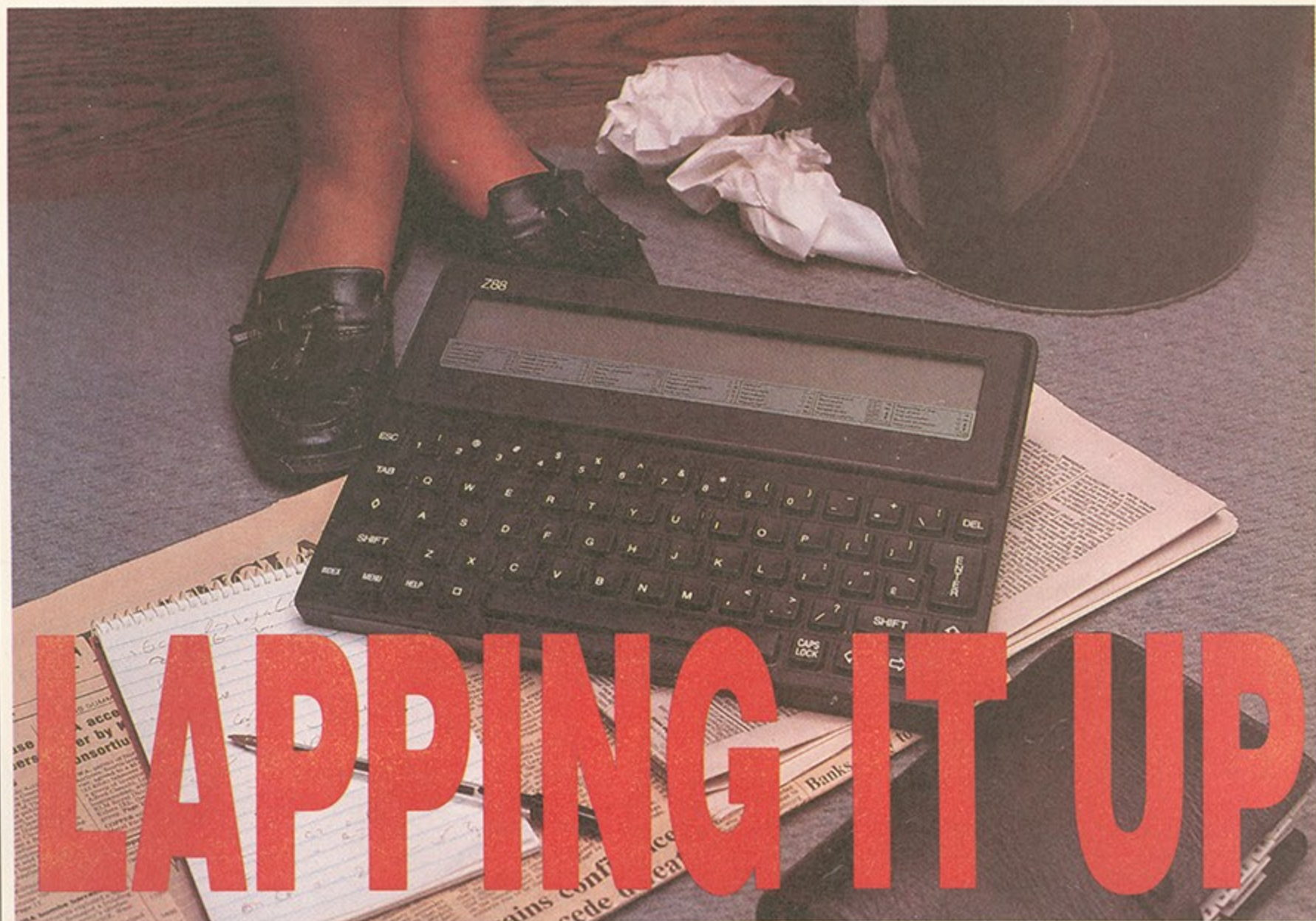
We'll send you product details and the address of your nearest dealer.



Name

Address

I am interested in



Do you need the power of a word processor, but with the portability of a notepad and pen? A laptop micro could be the machine you're looking for. Rik Haynes explains why...

Laptop micros offer probably the best trade-off between functionality and portability. You have the power of a word processor, which you can use in any location – from a train to a plane – for extended periods of time, thanks to their low power consumption. As we discovered last week, with the PC-compatible portables, the price for this much sought-after compatibility is the overbearing weight and size, coupled with the limited length of operating time due to the power demands of the displays and disk drives. With a laptop you just don't experience these problems.

The main strengths with laptops lie in their compactness, light weight and ease of use. Disadvantages come in the form of relatively poor (small) screen displays, and software and hardware incompatibilities with mainstream systems. To compensate for this failing, laptop manufacturers normally provide communications link-up hardware and software, enabling you to transfer data files between your laptop and, say, a PC or Mac.

LAPTOPS, GREAT! BUT WHICH ONE?

From student to journalist, from stock controller to business executive, if you need a mobile word-processor – and have access to a standard micro at home – a laptop computer would be the perfect machine for you.

But which one should you buy? Despite its advancing years, the Epson HX-20 laptop is still a viable proposition, with its built-in mini-printer and cassette unit, and a varied range of peripherals and third-party applications software. Unfortunately, it's let down by the small LCD display. However, the current laptop market is dominated by two great decks – the Cambridge Z88 and Tandy 102...

CAMBRIDGE Z88

Processor: Z80 (CMOS) • **RAM Memory:** 32K expandable to 1.5Mb • **Display:** LCD (80 characters x 8 lines) • **Built-in software:** word-processor, database, communications, diary, spreadsheet, calendar and BASIC • **Price:** Z88 (on its own) £199.95 ex VAT, All-in-One Pack (Z88, 128K RAM expansion cartridge, mains adaptor, updated user manual, carrying case) £249.95 ex VAT, MacLite Pack (Z88, Z88-to-Mac software and cable, 128K RAM expansion cartridge, mains adaptor, updated user manual, carrying case) £299.95 ex VAT • **Add-ons:** 32K RAM expansion cartridge (£19.95), 128K RAM expansion cartridge (£49.95), 512K RAM expansion cartridge (£199.95), 32K EPROM expansion



cartridge (£19.95), 128K EPROM expansion cartridge (£49.95), Z88-to-Mac Link (£59.95), PC Link II (£34.95), BBC Link (£24.95), modem (£172.45), mains adaptor (£9.95) • **Manufacturer:** Cambridge Computer on 0223 312216

Rob Ainsley: "Ideal as a word processing terminal, a sort of notepad for the micro you have at home. Watch the batteries though – they don't last as long as claimed and rechargeables lose your data if you're not careful. Your data is volatile, so you're best downloading it to your micro as soon as you get home. Great for writing on the train, but risky for writing up your six-month trip to India while you're there – unless you have a modem (but then of course you'd have the problem of finding a telephone in India). The rubber keyboard is odd, the space bar is sticky and a few commands quirky, but the screen is quite adequate, and overall it's perfect if what you want is to write on the move."

Colin Campbell: "It's light on the lap and on the pocket, which goes a long way when it comes to portability. Fast-moving word processing freaks can have no worries about carrying this around. All the wibbling about the Sinclairish dead flesh keys is a bit strong. Unless you're a complete fussy spot you should find it comfortable and quiet. Switching such machines on for the first time is sometimes a dreadful experience but the Z88 is a doddle to get to grips with. It's no surprise that this laptop has won favour amongst diehard gadgeteers as well as pragmatic users."

Jerry Glenwright: "The Z88 micro – whilst enjoying moderate sales – has remained relatively obscure. Software houses are reluctant to support the machine and so, with only one third-party package available, the Z88 is severely lacking in usable software. Yet in spite of these setbacks, Sinclair's latest micro is actually one of the better laptops on the market. The keyboard – although constructed of the "dead-flesh" so typical of Sinclair – is fine for even prolonged sessions, file transfer is simple, it's light and highly portable and it has one overriding advantage: it's cheap! Think I'd probably use the £200 necessary to buy it as the basis for the purchase price of another portable though."

Rod Lawton: "The Z88 is attractively styled, has a neat

display (albeit with tiny characters) and is both light and incredibly slim. It would get an unreserved thumbs-up from me, but for the keyboard. Opinion is divided, but I find the squidgy keyboard ghastly. Inevitably two-finger typists might not find it much of a problem, but touch-typists beware."

EXPRESS VERDICT ★★★★★

Undoubtedly a great machine, in terms of both performance and price, the Z88 is definitely the best laptop to go for – its a pity about the spongy keyboard though.

HIGHLIGHTS

- Very competitive price
- Well supported
- Light and compact

DRAWBACKS

- Horrible keyboard

squeezed so much software into this. The designers clearly know what power laptop users want. So many features have a nasty side effect though. It's outrageously expensive for the home user and a teeny bit too heavy. Try and get the company to buy you one."

Jerry Glenwright: "Tandy's baby has been with us for quite some time now and is firmly established in the laptop market. And rightly so! A full-travel keyboard, excellent screen display, and wonderful collection of built-in software has guaranteed the 102 a large following. Why does it have to be so expensive though?"

Rod Lawton: "The Tandy starts off with the disadvantage of looking like it was designed in the sixties, yet it's extremely functional. The display is crude, ugly and only 40 columns wide, but the characters are easily read from a distance, and the contrast can be adjusted for any angle of view. Perhaps the machine's worst feature is its pitiful 32K RAM – even

with maximum expansion. It's still enough, however, for several thousand words of text – more than enough to keep you going between downloading sessions at the office. Finally, the keyboard. It is very, very good, if a little noisy."

EXPRESS VERDICT ★★★★★

The Tandy 102 is a nice little machine, with a good keyboard and plenty of features – albeit at a seemingly inflated price, especially if you don't need the built-in modem. Still, it's well worth a look, but we think the Z88 has the edge.

HIGHLIGHTS

- Brilliant keyboard
- Retains memory for 30 days

DRAWBACKS

- A little too expensive
- Display rather small

TANDY 102

Processor: 80C85 8-bit (CMOS) • RAM Memory: 24K expandable to 32K • Display: LCD (40 characters x 8 lines) • Built-in software: word-processor, communications, addresses, scheduler and BASIC • Built-in 300 baud auto-dial modem • Price: £299 ex VAT • Add-ons: 8K RAM expansion (£24.95), mains adaptor (£11.45) • Manufacturer: Tandy Computers on 0922 710000

Rob Ainsley: "The Tandy has a much more robust feel than the Z88, both physically and in terms of data storage. Keyboard is much better than the Z88 and easier on the fingers. Like a Yorkie bar, it's good and chunky. The inbuilt software isn't as comprehensive or useful as the Z88's, but then both machines are really word processing notepads and the extras are largely irrelevant. If you have one for Christmas, or are allergic to rubber, fine; otherwise go for the Z88."

Colin Campbell: "It's wonderful how Tandy has



★ ★ DIRECT FROM AMERICA AT AMERICAN PRICES !! ★ ★

A500 Units Including Stylish Case/Power Supply/Fan ★ ★ FREE ★ ★ 2Mb RAM Board (OK)

A500: 40 Mb £650.00

A2000 Including Drive/Controller on one Card. (Optional 2Mb RAM Board) (Powered from Amiga Bus)

A2000: 40 Mb £599.99 A2000 80 Mb £850.00

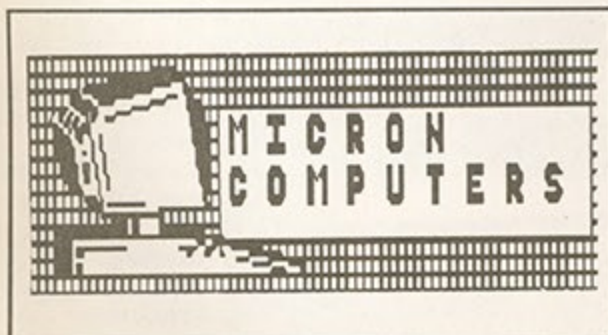
Top Quality Amiga Hard Drive Systems
(All Units Contain Fast 11ms Quantum Pro-Drive)

Low Cost Upgrades available.
Trade Enquiries Welcome. All Prices include VAT
Goods/Prices subject to availability.
Fully Guaranteed Immediate Delivery.



AMIGA CENTRE

Art/Graphics/Animation/Desk Top
Publishing/Desk Top
Video/Communications/Music
Midi/Training Installation



73 Kempson Drive
Great Cornard
Suffolk
CO10 0YE
Fax: 0787 881226



TELEPHONE: 0787 881 998



Dear Reader

More pages packed with another selection from our postbag and Rob Ainsley's replies. Have you got something to say? Make your voice heard in computing's liveliest letters page! Send your contributions to:
Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ
 PS. Sorry, we just don't have the time to give personal replies, whether you include an SAE or not. We're too busy putting Express together!

PLAYING SILLY BOGNORS

I must say I was somewhat surprised at Alan Reed's recent letter - I too have recently started attending the Bognor computer club and have found it a very lively and friendly group. True, people didn't fall upon me and go into raptures at my attendance, but what can you expect?

Alan states he was subjected to rudeness and downright abuse (does he own an ST?) I have experienced none of this nor have I found it the least bit cliquy.

As a student psychiatric nurse I find Mr Reed's feelings of persecution very interesting, if he needs to discuss his problems further perhaps he would like to get in touch with me, my rates are very reasonable!

Andrew Hardy, Chichester, West Sussex

● Well, there you go. I must admit, Alan's letter didn't strike me as paranoid, just genuinely surprised that certain club members could be so unwelcoming. Let's hope it was just a one-off.

A FELLOW OF INFINITE JEST

Last week you mentioned that Robert Cook (10 Thompson Ave, Kings Norton, Birmingham B38 8YD) runs *Oric User Monthly*. There is also a disk-based magazine, in English, called *Club Discoric*, available from a group of very enthusiastic ORIC users over in France. Subscription is 200 French Francs per year and for this you receive a quarterly disk or cassette-based magazine plus monthly bulletins, in print. The disk version uses SEDORIC DOS format which is one of the most powerful DOSs for an 8-bit computer. Each disk contains all the Public Domain. Games are also included but the French are particularly strong on utilities. Membership forms are available from myself and subscriptions are now being handled by an ORIC user in this country.

Here are some suppliers of ORIC products:-

- **Capri Marketing** (24a White Pit Lane, Flackwell Heath, High Wycombe, Buckinghamshire, HP10 9HR - tel: 06285-31244);
- **Software Cellar** (The Basement, 1

Hightown Road, Luton, Bedfordshire - tel: 0582-400861).

Disk systems:

- **Opelco**, Imperial Court, Station Parade, Virginia Water, Surrey, Buckinghamshire, GU25 4DH, or;
- **Dave Utting**, 47 Gainsborough Road, Leicester, LE2 3DE.

Finally, there is myself (the self-interest has crept in). A very large amount of Oric software is available on disk and I can supply it on 3", 3.5" or 5.25" format.

If I encourage 50 or so Oric users to write into you, will you start an Oric column? Dare you say no after what you have done for the 30 or so Atari 8-bit users or the 3 Archie users?

Allan Whitaker, Stalybridge, Cheshire

● Thanks very much for the info, and if the correspondence on the Oric continue we might get these letter headlines going to the end of the speech in 'Hamlet'.

As for the Oric column, if I get 500 people to write in saying they don't want an Oric column, can we keep the ones we've got at the moment instead?

ENGINE PROBLEMS

Do you know if Micro Media have ever supplied anybody with a PC Engine? Or do they just spend all their time advertising saying that they're the only "official" importers of it?

I ordered one from them in early December, sent a cheque for £235 which was promptly cashed, and apart from a confirming letter, I have heard no more from them. For the last few weeks whenever I phone them up they say the SCART leads aren't of a good enough quality to send out. Are they telling me it takes over a month to make up a connector anybody with the smallest amount of electronic knowledge could do in ten minutes? If they cannot supply from last year, why are they still advertising - to keep their ailing company afloat perhaps.

M J Burley, Purley, Surrey

● Micro Media says it's now sorted this out with you. The story just highlights the problems of buying stuff which is imported in this way - though it seems unlikely there'll ever be an official way of buying the PC Engine, save going to Japan.

ENABLED

My name is John. I am 44. I am also disabled in body, but not in mind.

Re the news item 'Disabled Interface Spreads its Magic' (Express 33 p5). Do you have an address to see if they could help me with my disabilities?

Can you also put me in touch with other Atari users? I have an Atari 520STFM, 1/2Mb internal disk drive and 1Mb external, and a colour TV/Monitor.

Please could you give me the address of Frames in Liverpool because if I could get permission to visit and get an insight to the working of such a place, I would be grateful indeed.

John A Pritchard, Liverpool, Merseyside

● Only too glad to help, John. In case anyone didn't see the news story, it was about a headset by Bit 32 that can be used as a mouse to aid disabled computer users. It's now coming out for the ST and PC. Bit 32's address is Century Buildings, Tower St, Brunswick Business park, Liverpool L3 4BJ, tel. 051 227 3232.

The Atari National User Club is at 13 Weavers Walk, Courthouse Green, Coventry CV6 7LG, and I'm sure you can reach plenty of other ST users through them (we'll forward letters from readers to John as well, of course).

Afraid we have no info on Frames - perhaps some readers can help?

HEAVY PETTING

In this week's Tech Tips section there is a letter from a reader who has recently acquired a Commodore PET. Supersoft still stocks (as we have for over ten years) a wide range of software and reconditioned hardware for the Commodore PET range, from the 2001 and 3000 series to the 4000 and 8000 series. We even have brand new 8296 models for sale.

As far as we know we are the only company which still publishes software for the PET, although admittedly it is a couple of years since we last released a new program. However our catalogue lists over a hundred programs from utilities to business programs to games, plus all sorts of add-ons. We do also offer a repair service. Details of this, and



● Who says the Commodore PET is going down the pan?

a free catalogue can be obtained by calling 01-861-1166.

Peter Calver, Harrow, Middlesex

● Thanks for the info, and before you persuade 50 of your friends to write in, there's absolutely no chance of getting a PET column.

CHART TIME

My top ten worst things about computing:

1. BASIC and all types of non-modular programming
2. Horizontally scrolling beat-'em-ups: *Dragon Ninja*, *Renegade*, *Double-Dragon*
3. Owners of that Sega with a keyboard, the big toy, the Commodore Amiga, those self-righteous owners of the most useless article since the Sinclair C5
4. People who say "It's all done with computers nowadays"
5. Morons who knock the PC because "the graphics re rubbish" - after all you wouldn't rally in a Rolls Royce, would you?
6. 58p computing weeklies who never answer my faxes
7. Software piracy - at all levels
8. Any system that doesn't have a hard disk
9. Anything with 'Ninja' in the title
10. Workbench

Paul Quinn, Bit by Bit Computer Services

● What are your most unfavourite things about computing? We might start giving mystery prizes for the best entries.

MORE POINTS

1) Regarding my last letter (Express 31) Bedford is not in Buckinghamshire - we're called Bedfordshire (look on a map if you don't believe me.) So no more insults, OK? End of Geography lesson.

2) Please could you print the bit of my last letter you missed out.

3) In your A-Z, you claim the FIFO structure is a stack. Well, you're wrong.

4) Your system of rating games is a little

crude to say the least. I think (but I am a BBC owner) you ought to make it a bit more comprehensive - say, marks out of 20 for sound, graphics etc and an overall rating so I still know which reviews to read.

5) Your Back Page of issue 30 - you know, the "Radio Times" was very funny but let's get this clear. Scott (who?) could not have bought "Virus" for Charlene's (ditto) A3000 because virus never came out on the Arch! It was called *Zarch*. And you interviewed Braben the week earlier. You must have amnesia or something.

6) Continuing on the A3000 theme, yes I do think it is overpriced, but not as much as you make out. It is not merely a slightly faster,

slightly more colourful Stamiga. That is like saying the ST is the same as a Spectrum. The A3000 may only look like that, but that is because a) you haven't considered the wealth of business and educational software available, and b) because no one has exploited it to its full potential by any means yet.

I think Acorn ought to get rid of the Beeb badge to bring down the price, bung in a decent monitor and they ought to be able, and with a bit of luck leave the price where it is. Now that would be good value, agreed?

Jeremy Benson, Bedford, Bedfordshire

● 1) OK, OK, this was what we in the computer trade call a 'mistake'.

2) No - like this letter before we cut it, it was too long.

3) No, you're wrong. We didn't say it was a stack, we said it was "...method of storing data in a list or "stack". If you don't know the difference made by inverted commas, ask your English teacher. There just isn't enough room in the A-Z to go into the differences between pipes and stacks.

4) Fair request, but this is a weekly, and we don't have time to go into such detail. Anyway, if you want my honest opinion, I think giving game ratings even in 10% gradings is a waste of time; subjective opinions are just not measurable like that. Films and books don't get percentage ratings in reviews, so why computer games, which are hardly less superficial?

5) OK, so we made another mistake. I'm flattered that you obviously read Express so carefully!

6) Agreed, but you seem to be suggesting that the Archie is therefore overpriced by the price of a monitor - say £150-£200 - which is what we've been saying anyway.

FUNNY BUSINESS

It's a little stupid to keep on comparing one computer with another. Like every other part of sales, different computers are for different markets, e.g. the ST is a fairly low price games/ mild business machine, whereas the Acorn is a big powerful computer with a big powerful price tag! We don't compare Minis with Porsches so why do so in computers!

I think your magazine is brilliant because of the humour which goes into every copy. Rik Haynes is a great journalist alongside Fielding Mellish (I go Bananas over that name).

By the way I own an ST, and while skimming through the computer columns I stopped on the Spectrum one. I used to own a Spectrum back in the mists of time but this column was great. I read it just because I like the writing style.

I don't really mind the odd copied piece of software as long as it's between friends and is a one-off, but I get really miffed when those stupid ignorant prats boast about how great hacking is, giving themselves pseudonyms like Jumpin' Jack Ass or something. If they're so cavalier in their attitudes then why not give your real name and then face the music!

I know a couple hundred hackers, crackers and packers will be catching the next train to Scotland but I don't care...

Dave "Yes, this is my real name" Boyle, Crieff, Perthshire

● Interesting to read the attitudes to humour in the recent questionnaire in Express. Of those who mentioned it, about 90% liked it strongly and about 10% disliked it strongly. (A good mark of someone who

has no sense of humour at all is that they describe any joke they don't understand as 'juvenile' or 'schoolboy'). In any case it's part of the magazine and isn't going to go away.

Glad you like the Spex column - take a bow (but no more money) Robin Alway.

HACKING OFF

It seems that some hackers have hacked into two Scottish poll tax computer systems, and implanted viruses into them. What a shame (ha, ha, ha). Just remember who suggested it first. On to the subject of hacking in general, I see that WC Flush is like me a hacker, and I agree with everything he says. I know what you mean about the AA and their mailing lists, I made the mistake of joining them. Perhaps you'll feel better if I give your name to the Reader's Digest.

The Mad Man, Cambus

● Too late. The Reader's Digest have been plying me with their infernal Prize Draw nonsense for years. How come mainframes all have names like 'Catherine MacDonald' and not 'IBM System 38'?

REPAIR YOUR EYESIGHT

In your 'Repairs' feature (Express 33) ST and Amiga owners are advised that they have no alternative but to return their machines to Atari or Commodore.

Ten pages further on, there is our advert which clearly states "our Atari trained engineers can

repair all hardware in minimum time at competitive rates". This ad, in one form or another, has been stating this fact in Express for 12 months and ST/ Amiga Format for 18 months.

B Davies, Ladbroke Computing

● Well, first, we don't see the ads in an issue until the finished issue comes back, and unfortunately we have to write the articles before that. I'm curious as to how your ad has been running for 12 months in Express (which started on November 12 1988) and 18 months in ST/ Amiga Format (which started in July last year)!

Fair enough, your ad is regular and it does state that you do repairs. Maybe we should have spotted it, but it's in extremely small print in one of several sections on the page.

Ladbroke Computing International
The Country's Leading Amiga Specialist

YOU CAN'T AFFORD TO SHOP ELSEWHERE. LOOK AT THESE PRICES (INC. VAT)

Product	Price	Product	Price
Amiga 500	£199	Amiga 500	£199
Amiga 500	£199	Amiga 500	£199
Amiga 500	£199	Amiga 500	£199

Phone for best prices

Amiga 500

● This advert clearly states...

SCREEN TEST

Did you know that every single week in the advert for the Tenstar pack from the Silica Shop, that the screen shots

shown for *Terrorpods* and *Thundercats* are both exactly the same.



● Has anyone noticed the amazing resemblance between *Thunderpods*...



● ...and *Thundercats*?

The fact that no-one seems to have noticed raises some questions, i.e. that a) either the Amiga is not that popular so nobody even reads the ads for it, b) the sort of people who do buy Amigas are too dumb to notice or c) it has been noticed but no-one can be bothered to do anything about it.

Seriously though, even though the coverage for my machine (the MSX) is virtually non-existent, I still think you have got a great mag. and is worth the cover price just for the humour in it.

David Honeyman, Perth, Scotland

● Well, so many games look like so many other games these days...

Snippets

WHAT A BIND

...Someone asked if they could obtain binders for Express. Your magazine is the same size as the *Which?* magazine therefore their binders could be used...
Allan Whitaker, Stalybridge, Cheshire

● Brilliant! Saves us having to get some of our own made up.

BACK HANDED

...Can I obtain back issues of *New Computer Express*?
Andy Braid, Fife, Scotland

● Yep. 75p per issue inc. p&p from The Old Barn, Somerton, Somerset TA11 7PY.

COPY CATS (BUGS, ACTUALLY)

Thought you might be interested in these bugs. Top row are real McCoy, and the bottom are just cheap budget Code Masters simulators... or is it the other way round?
W M Brouard, Bath, Avon

● Hmm; is this evidence for the evolutionary inevitability of budget simulators?



● Only their mothers can tell them apart

SUMMER SPECIALS**TRILOGIC****ALL PRICES INC VAT**

- AMIGA A500 + free TV MODULATOR + MOUSE + AMIGA BASIC + WORKBENCH 1.3 & MANUALS£359.99
 AMIGA A500 + FREE TV MODULATOR + MOUSE, WORKBENCH 1.3 + £230 OF GAMES SOFTWARE ..£389.99
 AMIGA B2000, 8833 MONITOR, XT BRIDGE BOARD + 5.25" DRIVE + 20Mb HARD DISK+ DOS 3.2 £1469.99
 THOMPSON 12" RGB & VIDEO MONITOR FOR AMIGA/ST/C64/128 ETC 0.41MM DOT PITCH +LEAD£159.99
 PHILIPS CM8833 RGB / VIDEO STEREO MONITOR + LEAD, MEDIUM RES, 0.41MM DOT PITCH£219.99
 PHILIPS PRO8CM852 HIRES RGB MONITOR + LEAD. 0.39MM DOT PITCH, MONO SOUND£269.99
 VISION 4200 RGB MED RES MONITOR, MONO SOUND. AMIGA & ST COMPATIBLE + LEAD£209.99
 AMSTRAD DMP3160 PARALLEL DOT MATRIX PRINTER & LEAD 160 CPS DRAFT, 40CPS NLQ£129.99
 CITIZEN 120D PARALLEL PRINTER & LEAD (IMPROVED 180E = £169.99)£135.99
 STAR LC10 (NX1000 EURO BADGED VERSION) FOR CBM 64 & 128 (STAR LC10 PARALLEL £199.99) ... £184.99
 AMSTRAD PC1512 SINGLE DRIVE MONO WITH MOUSE, GEM DESKTOP + DOS 3.2 ETC£425.99
 AMSTRAD PC1512 SINGLE DRIVE COLOUR (CGA) WITH MOUSE , GEM DESKTOP + DOS 3.2 ETC £535.99

SPECIAL PRICES QUOTED ABOVE ARE FOR LIMITED PERIOD.

CARRIAGE ON ABOVE £3.50 PER ORDER. NEXT DAY DELIVERY £6.99

AMIGA EXTERNAL DRIVE

880K FORMATTED + THROUGH PORT & SWITCH
 LOW POWER CONSUMPTION, QUIET & RELIABLE.
ONLY £79.99 UK MADE

REPLACEMENT INTERNAL DRIVE FOR AMIGA£77.99
 CUMANA CAX354 3.5" 880K AMIGA DRIVE£94.99
 CUMANA ATARI 3.5"1Mb DRIVE.....£107.99
 OC118N 51/4" DRIVE FOR C64 & 128 £118.99
 HIGHLY COMPATIBLE, WITH DEVICE SELECT SWITCH
 SEPARATE MAINS POWER UNIT.

SONY DISK BARGAINS

SONY 3.5" DS/DD DISKS PER 10 £12.99
 SONY 3.5" DS/DD DISKS PER 25 £28.49
 SONY 3.5" DS/DD DISKS PER 50 £55.99
 SONY 3.5" DS/DD DISKS PER 100 £100.00

AMIGA ADD-ONS

TRILOGIC MIDI INTERFACE 1 £29.99
 TRILOGIC MIDI INTERFACE 2 £34.99

MODEM V21/23 Demon II £91.94
 DIGIVIEW GOLD Video Digitiser £129.99
 VIDEO CAMERA B/W £219.99
 DIGIPIC FRAME GRABBER £249.95
 MINIGEN Genlock £109.99
 GENLOCK 8802 £299.99

AMIGA MINIAMP STEREO SYSTEM £19.99
 AMIGA MINIAMP4 STEREO SYTEM £34.99
 AMIGA MONO SOUND DIGITISER £27.99
 AMIGA STEREO SOUND DIGITISER £37.99
 Public Domain Disk for above £4.99
 AMIGA AUTOBOOT HARD DRIVE 40 Meg. £599.99
 AMIGA 2000 XT Bridgeboard MS DOS 3.2 £599.99
 AMIGA BBC Emulator & lead £59.99

HARD DISK FOR A500**AMDRIVE HARD DISK FOR AMIGA**

30Mb FORMATTED, SCSI INTERFACE &
 POWER SUPPLY IN ONE UNIT. Supplied
 with workbench 1.3, utility / boot disk.
 28mSEC ACCESS TIME. UK MADE
LOW PRICE - £399.00 INC VAT
 50Mb VERSION ALSO AVAILABLE

AMIGA LEADS & ACCESSORIES

AL1 TO SCART LEAD£9.99
 AL2 FERGUSON£9.99
 AL4 HITACHI/GRANADA£9.99
 AL11 MULTISYNC MONITOR.....£9.99
 AMP1 A500 PARALLEL PRINTER 1.5M£6.99
 AMP2 A500 PARALLEL PRINTER 3M.....£9.99

RS1 A500RS232 PRINTER CABLE 1.5M.....£10.99
 RS5 A500 / A500 NULL MODEM CABLE£7.99
 RS6 A500 MODEM CABLE 1.5M.....£10.99
 AEL1 AMIGA 64 EMULATOR LEAD£7.99
 BEL1 BBC AMIGA EMULATOR LEAD.....£7.99
 DJA1 MOUSE JOYSTICK SWITCHER£10.99
 ADE3 EXTERNAL DRIVE SWITCH£8.99

NEW - MONITOR SHARER. ENABLES 2
 COMPUTERS EG AMIGA & ST TO SHARE ONE
 MONITOR WITH SCART SOCKET£15.99
 MOUSEMAT - NON SLIP FELT TYPE£4.99

MANY OTHER LEADS AVAILABLE SEE OUR
 CATALOGUE OR PLEASE ENQUIRE.

SCHNEIDER PCS

EURO PC MONO..... £449.9
 9 EURO PC COLOUR £629.9
 9 HARD DISK 20meg..... £343.8
 5 EXTERNAL 5.25" DRIVE £129.9

Prices include monitors. Single 720k
 drive, 9.54 MHz clock Dos 3.3 PLUS
 MICROSOFTWORKS - An excellent
 integrated wordprocessor/database/
 spreadsheet/communications etc

*** SPECIAL OFFER.

FREE SCHNEIDER MOUSE WITH ANY
 EURO PC + HARD DISK + STAR OR
 CITIZEN PRINTER.

AMIGA BOOKS

AMIGA DOS MANUAL (Bantam) £22.95
 AMIGA MACHINE LANGUAGE (Abacus) .. £14.95
 AMIGA TRICKS & TIPS (Abacus) £14.95
 AMIGA DISK INSIDEOUT (Abacus) .. £27.95
 AMIGA PROGRAMMERS HANDBOOK. £24.95

BUSINESS SOFTWARE

KIND WORDS (wordprocessor) ... £49.99
 PUBLISHERS CHOICE (DTP) £99.99
 PAGE SETTER £79.99
 SMALL BUSINESS ACCOUNTS ... £80.44
 SUPERBASE PERSONAL £59.95
 SUPERBASE PERSONAL 2..... £99.99
 SUPERBASE PROFESSIONAL..... £249.95
 WORKBENCH 1.3 £19.99
 PROJECT D (ultimate Amiga copier) . £39.99

WE ACCEPT
EXPRESS
VOUCHERS

PLEASE PHONE FOR
 FREE CATALOGUE..
 CALLERS WELCOME

HOW TO ORDER:- HOTLINE FOR ACCESS & VISA ORDERS. OR SEND CHEQUE/P.O. Please add 75p postage
 to orders under £15.00. Optional EXPRESS DELIVERY £1.99. Insured carriage on computers, printers, disk drives &
 monitors £3.50. Optional COURIER DELIVERY £6.99. Books add £2.00 postage. order.

**TRILOGIC, Dep NC, UNIT 1, 253b NEW WORKS
 ROAD, BRADFORD, BD12 0QP. Tel 0274 691115**

GOING PUBLIC

When you've just spent a small fortune on your new micro, you can't afford a large one to get stocked up with software. But, as Jerry Glenwright explains, there's plenty of good stuff virtually for free in the Public Domain...

Software prices – particularly for 16-bit software – are notoriously high. You've all read the letters in the computer press from 'industry bosses' (with vested interests) giving detailed breakdowns of how they decide the price of games software. Ever get the feeling they trying to justify inflated prices?

Visit any computer shop and you'll see Atari ST and Commodore Amiga games retailing at £20 or more. PC games cost much the same and the price of serious software is incredible – PC owners think nothing of handing over several hundred pounds for a moderately usable word processor. DTP applications on both the ST and Amiga will relieve you of about a hundred pounds and there are plenty of other 'business' packages which break the hundred pounds barrier for both machines.

Many computer users are becoming wise to inflated software prices and are starting to rummage in the public domain as a possible source of good software.

And public domain software is good – in some cases excellent. Better by far than many of the commercial offerings in fancy packaging and, best of all, it's free and available from many sources.

The concept of a software public domain has been with us for the best part of a decade. Initially, the programs tended towards the obscure comms utility, machine code monitor and duck breeder's database, but in the last few years, the genre has opened out to encompass all types of software – games, utilities, business programs, graphics, astronomy programs, languages... something for everyone.

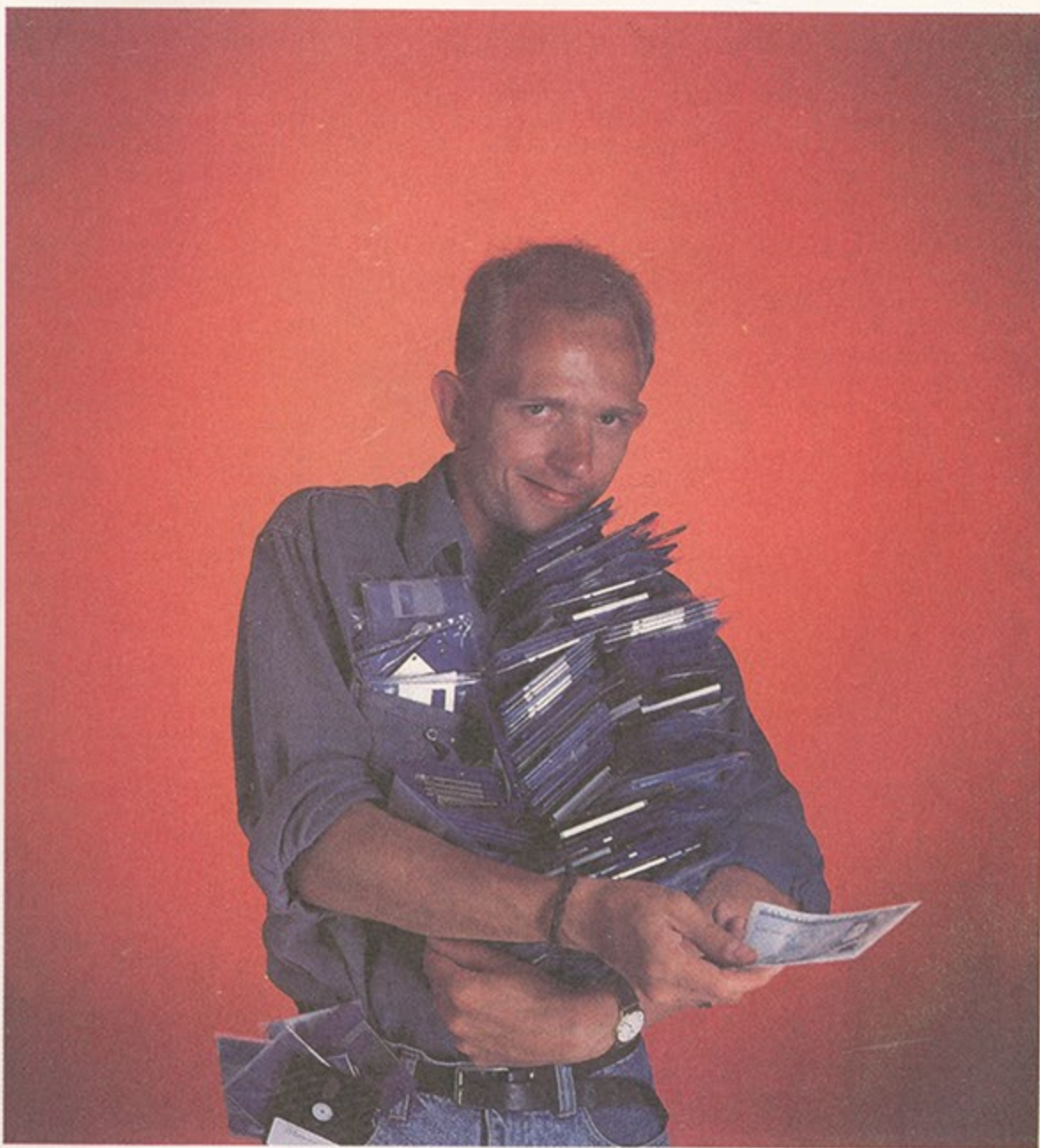
Supplies, supplies

Today, there are more suppliers of public domain than ever before, and every week more join the growing army just waiting to exchange their goodies at three pounds per disk.

In some instances you're required to join a club before being allowed to make purchases from the supplier's catalogue (particularly with 8-bit PD), but for the rest it's a simple matter of sending off a stamped addressed envelope for the lists, making a selection, and Bob's your Auntie's live-in lover – good software at cheap prices!

THE GOODMAN PD library has been in existence for quite a while now. Mike Goodman – the proprietor – became interested in public domain software a couple of years ago when he decided to make collection of the best PD available for the Atari ST. Mike scoured the bulletin boards and catalogues of existing PD companies and soon had a large collection of the best programs from around the world.

At first, the whole operation was simply a hobby, but after being made unemployed, he joined the enterprise allowance scheme and launched himself into the world of full-time PD distribution. Alongside the free software, Mike



• There's armfuls of great software waiting for you – at just a few quid per disk

sells blank disks and various other computer consumables and is enjoying a thriving – if not exactly lucrative – business.

Although the Goodman PD library receives many spontaneous contributions from programmers, the bulk of the collection comes from the Usenet bulletin board system in the United States. All software written in American universities is automatically deemed to be public domain, so some of the best (certainly the largest supply) public domain comes from America.

Goodman library disks cost £3 each and for that you receive more than 300K of code on every disk. The price is decided by the cost of duplication, blank disk prices, labels etc., and is the 'going rate' for a disk of Atari public domain software.

Although the utilities and games are very popular, the biggest sellers by far are the machine demo programs from Germany. The Atari ST has always had a more 'techie' image in Germany due in part to Atari selling the machine with one megabyte of RAM and a mono monitor as standard in that country. Consequently, there are some amazing utilities, serious and demo programs written by German programmers, and the 'union' demo from the Tex programming group is the best seller of all. The program begins with a corridor lined with doors on each side. You take control of a little guy whom you can direct to each of the doors. Behind each one there is a different sound or graphics demonstration, each truly breathtaking and each showing just what the ST is capable of.

A few samples

Software for machines such as the IBM-PC and its compatibles commands high prices, yet much of what's available in the public domain is comparable (in many cases much better than) to commercial offerings.

Any well-stocked PD library such as those listed in this article will be able to suggest some good PD word processors, spreadsheets, databases, graphics packages and so on for your machine.

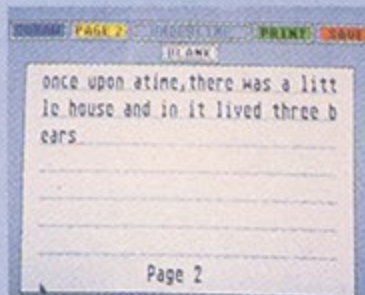
For example, *1st Word* for the ST is GEM-based word processor great for beginners and advanced alike; *PC File Plus* is an incredibly easy to use database with a remarkably good report generator and lets you store free-form text; *UKM7* is a comms package that outperforms all its commercial rivals on the PCW; the best BASIC you can get for the Atari 8-bit is a PD product, *TurboBASIC*; the self-explanatory *Mandelbrot* for the Amiga; the list goes on...

Omega is a role playing adventure game which was originally programmed for use on mainframe machines, but has made a successful translation to the micro. At the beginning of the game, you find yourself with a randomly distributed collection of attributes in the city of Rampart which is also the home of the many guilds of sorcerers, mercenaries, paladins and various deities.

You can choose to join one or more these guilds - some require entry qualifications - or try to progress on your own which is not an easy task. Then it's off exploring hither and thither in search of fame and fortune. You'll encounter friends and foe along the way and the game has an excellent fight organiser which allows you to prepare a series of blows in advance in case you come up against one of the many who would like to instigate your demise.

When home computers were in their infancy, users were constantly searching for ways to justify their expensive silicon purchases. The phrase "serious user" was on everyone lips but no-one could decide on what constituted a serious use - with the exception of balancing the home budget. Although many commercial releases purported to do the job, it always seemed easier to use a pen and paper.

The *Home Budget Management System* changes all that. The program allows you to record your daily transactions and provides a complete analysis and report of your financial status. *HBMS* opens with a menu of possible choices such as initialising the system, opening a new month,



• Kidipublisher: Budding Maxwells start here...

logging purchases from cheques and credit cards, home expenses etc, or printing reports to the screen or printer.

Expenditure can be broken into several categories for reports or lumped together to provide an overall review of your current situation.

Screen displays are clear and informative. Data entry - although employing the double entry method - is a breeze and the whole program is geared towards ease of use. You can export the data produced by *HBMS* into other programs to produce graphs and charts. The whole thing fits into 256K of RAM, so you can keep all your favourite pop-ups.

The range of PD for the Atari ST - whilst not quite matching that of the PC - is nonetheless large and comprehensive. Much of the available software is imported from Europe, particularly Germany, and is of a high quality. There are many libraries around the UK catering for the ST or you can download programs from bulletin boards.

Kidipublisher is a cut-down desk top publishing program for children which is colourful and fun to use. The program opens with a screen resembling one page of a jotter and there's a menu bar of options such as save, draw and more pages. Kids can type a story straight on to the page then move to the drawing screen to illustrate their text. Illustrations are easy to achieve. There's a blank screen containing a pencil and

with deft movements of the mouse the pencil is moved around and pictures easily drawn. Control of the pencil is a little tricky at first, but developing the co-ordination necessary for smooth movement is quick and simple. Children can save their work and load it again later.

If you're currently studying a GCSE in computer studies then you will almost certainly have encountered the CP/M operating system. This was the first operating system for 8-bit computers and in its heyday was immensely popular amongst home and business users alike. Consequently, CP/M is used as the basis for many computer courses in schools and colleges.

Wouldn't it be nice if you could run software intended for a CP/M system on your Atari ST? Well you can, with the Z80 CP/M emulator from Germany.

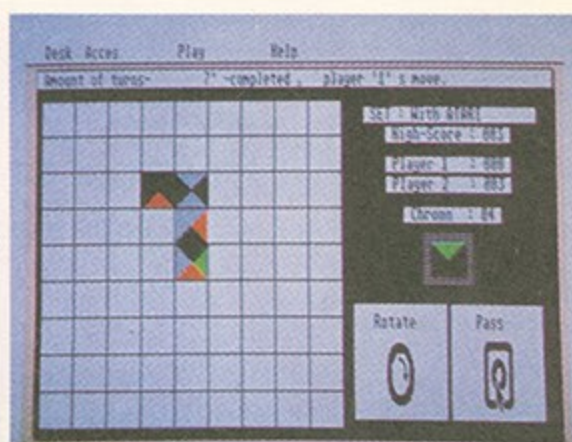
It comes on two disks which contain the emulator itself and various support and CP/M programs. Getting it up and running is a simple matter of booting the ST and clicking on the emulator program. Once it's running, your machine behaves exactly like an 8-bit running CP/M - but faster!

You can run almost all CP/M programs such as *WordStar*, various spreadsheet and database programs, games and utilities, and the emulator is an excellent way of becoming familiar with CP/M. The program is available from any PD supplier.

The Amiga has a large following in the USA and a correspondingly large pool of PD. Although there is some serious business-type software, most of the programs fall into the games/utilities and graphics categories, and in the latter the machine excels.

Air warrior is a flight simulation to rival anything available for £25 in your local software store. You control an F111 fighter. The game features fast, smoothly scrolling 3-D graphics and can even be played via a modem and telephone line, allowing you to engage friends (enemies) in aerial combat.

Or maybe you'd rather play a nice, quiet traditional board game? As well as the many chess and draughts programs there's an excellent rendition of that classic backgammon. You can play the computer or a friend, or have the computer play against itself. You can cheat a little too by making what if? moves and taking back pieces. The game features an excellent drawing of the board and smooth animation of the pieces. Available from any good PD library.



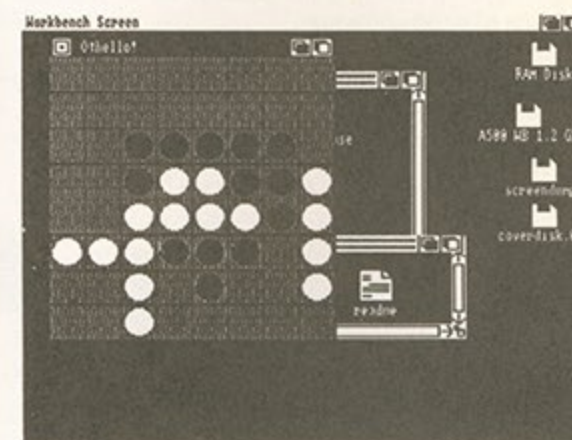
• A plethora of traditional board games await your delectation

GEORGE THOMPSON SERVICES is a company well known to Commodore Amiga owners in the UK. The company is responsible for a wide range of products, including RAM expansions, hard disks and external floppy drives and also one of the best public domain collections for the Amiga available in the UK.

Unfortunately, due to the widespread virus problem, many would-be PD users shy away from this type of software, but to combat this problem, George Thompson Services carries out thorough checks of all software before it's included in the library.

The disks sell for the standard price of £3 each, which again is based on duplication costs, blank disk prices and labels.

The collection includes simple and complex spreadsheets, a word processor (not for beginners), millions of K of clip art, utilities and games, but the biggest sellers are - not surprisingly - graphics programs. There is no DTP software available, but if you're already in possession of a commercial DTP program then there are lots and lots of fonts available to give your documents a professional appearance.



• Othello on the Amiga: PD software for this machine has a heavy bias towards games and utilities

Giving it all away

Why do programmers decide to give away programs they've written? Surely after expending much energy in writing a really useful utility or fun game, the programmer responsible would wish to pass it to a software house in order to have it widely distributed and to make a little money?

Bernie Rainer is a programmer who releases many of his programs into the public domain. After approaching several of the major software companies with examples of his work and receiving nothing but rejections (he was told the software was too specialised for a commercial market), he decided to upload one of his programs to a local bulletin board. He soon began to notice the program appearing on other BBSs - obviously, many people had found the program useful and had decided to distribute it to other boards.

After being encouraged by many messages of thanks, he now releases all of his programs into the public domain via the bulletin board network.

"I'm not too worried about the money", he said,



COMPUTER AUCTION

★ SOUTHERN COMPUTER AUCTIONS ANNOUNCE ★
★ A NEW AUCTION VENUE★

★ ON SATURDAY 22ND JULY 1989 ★

★ At Greenway Primary School ★

★ Greenway, HORSHAM, West Sussex ★

Viewing and testing from 9.00am until 12.00 noon when the sale will commence.

Lots already entered include small business and home systems by IBM, Amstrad and compatibles, printers, monitors, winchesters, other peripherals and software.

FURTHER ENTRIES ARE NOW INVITED,
OR RING 0403 733035 TO REQUEST A FULL CATALOGUE

SOUTHERN COMPUTER AUCTIONS LTD,
UNIT 24, STATION ROAD, SOUTHWATER, HORSHAM.

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

EXAMPLE PRICES	ST
Millenium 2.2	17.50
Robocop	14.00
Silk Worm	14.00
Microprose Soccer	17.50
Kick Off	14.00
Voyager	14.00
3D Pool	14.00
Airborne Ranger	17.50
Falcon	17.50
LED Storm	14.00
Bio Challenge	14.00
Dragon Ninja	17.50

**3 1/2 DOUBLE SIDED DISKS
DOUBLE DENSITY
135 TPI GUARANTEED**

	Price
10	£9.50
25	£22.50
50	£43.00
100	£84.00

Please add £1.50 P&P

Discount Chart

RRP	OUR PRICE
£12.99	£9.00
£14.99	£10.50
£15.95	£11.00
£16.95	£12.00
£17.95	£12.50
£19.99	£14.00
£22.95	£16.00
£24.95	£17.50
£29.99	£21.00

Atari 520 Power Pack	369.00
Atari 1040 Professional Pack	479.00
Atari Super Pack	349.00
Amiga 500 + Modulator	369.00
Star LC10 Printer	199.00
Star LC Colour Printer	245.00
Citizen 120D Printer Parallel Interface	138.00
Citizen 180E Printer Parallel Interface	159.00

Atari Mouse Extender	5.95
Atari To Scart Lead	14.99
Mouse Mat	4.99
Amiga Second Drive	99.99
Amiga 1 meg Upgrade	139.00
100 Cap Disk Box	9.95
50 Cap Disk Box	7.50

Shop Hours Monday to Friday 10am - 6pm
Saturday 9am - 6pm

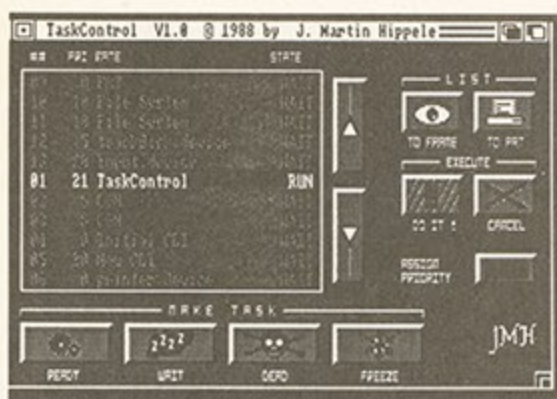
CREDIT CARD HOTLINE 01-692 8700



ACCESS VISA DINERS CLUB AMERICAN EXPRESS

Please add £1.50 P&P on all orders under £75. All prices include VAT. CWO to Futureplace Ltd.
Also Available to order MOBILE PHONES and FAX MACHINES





• Whether you wish to ruin your disks with a sector editor or automate crashes with a task control utility, the Amiga PD scene will oblige

"I just enjoy writing programs and if other people can use them, then I'm happy to give them away".

Although he's tried his hand at games, the majority of his programs are patches for a certain well-known network software package which provide it with more features.

Bernie's attitude is typical of those writing public domain programs - it's a hobby and they're happy for programs to be distributed if other people can use and enjoy it. ●

Where oh where?

OK, you're hooked. But where are you going to go to get the stuff? Take a look at the definitive directory to uncover a wealth of cheap software for your machine...

IBM-PC: There is more public domain and shareware available for this machine than any of the others put together. Anything and everything covering all tastes. Try:
 ● Public Domain Software Library, Winscombe House, Beacon Road, Crowborough, Sussex TN6 1UL. Tel: 0892 663298. One of the first PD libraries and one of the best.
 ● Seltec Computer Products LTD, Northumberland House, Staines Business Centre, Gresham Road, Staines, Middlesex TW18 2AP. They stock a large quantity of cheap (£2 per disk) shareware.

AMIGA: A growing army of suppliers covering the Amiga. Try:
 ● George Thompson Associates, Dippen, Brodick, Arran, Scotland KA27 8RN. Tel: 077082 234.
 ● Blitsoft, 6 Dorney Place, Bradwell Common, Milton

Keynes, Bucks MK13 8EL.
 ● EMPDL, 54 Watnall Road, Hucknall, Notts NA15 7LE. Tel. 0602 630071
 ● Hasslefree PD, 168 Wolsey Way, System, Leicester LE7 8NT. Tel. 0533 694629
 ● Kingsway, 140 Rushdale Road, Sheffield S18 9QE. Tel. 0742 588429
 ● 17-bit Software, PO Box 188, Leeds LS1 6BS. Tel. 0532 420043

ST: With the mountain of incredible programs imported from Germany and all the good home-written stuff, the ST is well supported in the PD field. Try:
 ● Goodman PDL, 16 Conrad Close, Meir Hay Estate, Longton, Stoke-on-Trent ST3 1SW. Tel. 0782 335650
 ● Softville PD Service, 55 Highfield Avenue, Waterlooville, Hampshire PO7 7PY. Tel. 0705 266509

For the 8-bit machines, the best place to look are the user groups.

COMMODORE 64:
 ● Wicked PD, Tel: 0268 590571. To make use of the

PD library, you are required to join a club. Membership charges are £3 per annum and for that you will receive a quarterly catalogue and access to the C64 PD library. Disks are a very reasonable £2 each.

ATARI 800 SERIES:
 ● Page 6 is the best Atari 8-bit library in the universe! These guys know and love the little micro and support it to the full. You can contact them at: PO Box 54, Stafford ST16 1DR. Tel: 0785 213928. They have a large selection of ST stuff as well.

MSX:
 ● MSX PD Service, 396 Park Lane, Maghull, Merseyside L31 1HQ.

PCW/CPC:
 ● CP/M User Group, 72 Mill Road, Hawley, Dartford, Kent DA2 7RZ.
 ● PD Software, Winscombe House, Beacon Road, Crowborough, West Sussex TN6 1UL. Tel. 08926 63298
 ● PD-SIG, 90 Braybourne Close, Uxbridge, Middlesex UB8 1UJ.



YOU GET MORE FOR YOUR MONEY THAN JUST OUR NAME MICRO MEDIA SEAL!

Micromedia are the ONLY Company committed to customer support for the fabulous PC Engine games console.

1. For a start we are an established company who will be around to look after you in a year's time, and not "gone with the wind" (and your money) - Micromedia are suppliers to the Computer Shops. Chances are, you'll find us the only Company supplying them with software for our customers too.
2. Micromedia's own company "Engine-eering" repairs only our machines - in fact right up to full replacement internals - and is presently the only professional repair source in the country.

3. The PC Engine user club is only available to Micromedia owners (who are automatically logged onto our computer) and is FREE. You will get the monthly magazine and access to our telephone hotline, now and into the future.
4. Picture quality and hardware reliability are far superior. Don't take our word for it, your local computer shop will soon be stocking it (and if not why not), so see for yourself. Alternatively, write for details of special mail order offers.

MICROMEDIA SALES AND MARKETING LTD
 Whistleberry Industrial Estate,
 Blantyre, Glasgow. G72 0TH
 Telephone: (0698) 822055
 Fax: (0698) 823200

BUT IF IT HASN'T GOT OUR SEAL, IT HASN'T GOT OUR SUPPORT

Eigen PD Software

Public Domain & User-Supported Software for the IBM PC Compatibles

£1.95
Per Disk (5 1/4")

	5 1/4"	3 1/2"
1 Disk	£1.95	£2.50
5 Disks	£8.00*	£12.00
10 Disks	£15.00**	£22.50

Phone or send an A5 SAE for your FREE Catalogue of one of the Country's largest and best documented PD/Shareware Collections.

Unlike other Libraries, we don't have any "hidden" costs, like VAT, P&P, Membership Fees, 0898 phone numbers etc.

The Price You See Is The Price You Pay

* Includes FREE Library Case
 ** Includes 2 FREE Library Cases

Blank Disks: 5 1/4" DS/DD £9.50 for 25
 3 1/2" DS/DD £10.50 for 10

Disk Head Cleaning Kits £3.50 (State 5 1/4/3 1/2")

PO BOX 722, SWINDON, SN2 6YB. 0793 611270

WICKED P.D.

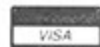
WOW SOFTWARE DEVELOPMENTS

33 NOBEL SQUARE, UNIT 27, BASILDON, ESSEX. SS13 1LT. England.
 Tel: (0268) 590571. Fax: (0268) 590005

Public Domain Demo's, Games and Utilities.
 Available for C64 and Amiga, Disk Only.
 Join for £3.00, includes FREE Giant Demo Sample and a year's membership.

Over 1000 Programs.

Cheques/P.O.'s to
WICKED P.D.
 (No Cash Please)



We Accept EXPRESS VOUCHERS



TREBLE



COMPUTING



We Accept EXPRESS VOUCHERS



★ NEW ★ POWER PACK PLUS

ATARI 520 STFM 1 MEG DRIVE
FIRST BASIC, ORGANISER, FIRST MUSIC, XENON, DOUBLE DRAGON, NEBULUS, ELIMINATOR, OUT-RUN, GAUNTLET II, SUPER HUEY, AFTERBURNER, R-TYPE, PREDATOR, SUPER HANC-ON, BLACK LAMP, STARGLIDER, SPACE HARRIER, BOMB JACK, OVERLANDER, PACMANIA, STAR GOOSE, STAR RAY, BOMBZAL.

• JOYSTICK • 80 CAP. DISK BOX
• 10 x 3 1/2" DS-DD DISKS
• MOUSE MAT

**ALL FOR ONLY
£384.99**

ATARI 520 STFM 1 Meg Drive	£269.99
ATARI 520 STFM 1 Meg Drive + Super Pack	£349.99
* NEW* ATARI 520 STFM 1 Meg Drive + Power Pack	£349.99
ATARI 1040 STFM + Professional or Games Pack	£439.99
ATARI 1040 STFM + Steinberg Pro-12	£439.99
* NEW * MEGA 1 ST Inc. Professional Pack.....	£519.99

ADD £99.99 TO INCLUDE SM124 MONO MONITOR WITH ANY OF ABOVE

AMIGA 500 Inc. Modulator.....	£359.99
AMIGA 500 Inc. 1/2 RAM Expansion + Dragon's Lair.....	£489.99
AMIGA 500 + 1084S Med. Res. Colour Monitor	£589.99
B2000 + XT Bridgeboard + A2040 20 Mb Hard Drive + 1084S Monitor.....	£1499.00

★ NEW ★ SPECIAL PACK

AMIGA 500 WITH MODULATOR
WORKBENCH 1.3 AND MANUALS
RETURN OF THE JEDI, ELIMINATOR, CUSTODIAN,
POWERPLAY, MERCENARY, ZYNAPS, HELLBENT WAR,
LOCK QUEST, 24 PUBLIC DOMAIN SOFTWARE ON 4
DISKS, FANTA JOYSTICK

• 80 CAPACITY DISK BOX
• 10 x 3 1/2" DS/DD DISKS
• MOUSE MAT

**ALL FOR ONLY
£399.99**

ACCESSORIES

Amiga A501 RAM Upgrade.....	£129.99
ST Multiface	£49.95
Disk Organiser for Above.....	£10.00
Workbench 1.3.....	£13.50
Joystick/Mouse Extension.....	£5.50
Disk Drive Cleaner (3.5 or 5.25)	£4.95
Mouse Mat (Soft)	£4.50
ST or Amiga Dust Cover	£6.50
Amiga to Scart Lead	£9.95
ST to Scart Lead	£9.95
Quickshot II Joystick	£8.50
Cheetah 125+ Joystick.....	£6.95
DCOMJoystick (Fully Microswitched)	£9.95
Competition Pro 5000 (Black)	£11.50
Competition Pro 5000 (Clear)	£12.50
50 x 3.5" Disk Labels	£1.20
80 Capacity 3.5" Disk Box.....	£8.95
Monitor Covers From	£6.95
Konix Speedking	£10.50
Konix Navigator.....	£12.25
ST Modulator	£59.95

GAMES SOFTWARE

ST SOFTWARE

Airbourne Ranger	£16.50
Archipelagos	£16.50
Balance of Power 1990	£16.50
Battle Chess	£16.50
Blood Money	£16.50
Colossus Chess X	£16.50
Dragon Ninja.....	£13.50
Falcon F16.....	£16.50
Falcon Mission Disk.....	£13.50
Forgotten Worlds	£13.50
Grand Monster Slam	£16.50
Gunship	£16.50
Kick Off	£13.50
Lords of the Rising Sun.....	£16.50
Milenium 2.2	£16.50
Microprose Soccer.....	£16.50
Navy Moves	£13.50
Personal Nightmare.....	£20.99
Populous.....	£17.50
Red Heat	£13.50
Robocop	£13.50
Running Man	£13.50
RVF Honda	£16.50
Space Quest III	£20.99
Silkworm	£13.50
Tank Attack	£16.50
Thunderbirds	£16.50
Voyager	£16.50
Wicked.....	£16.50
3D Pool.....	£16.50

AMIGA SOFTWARE

Airbourne Ranger	£16.50
Archipelagos	£16.50
Balance of Power 1990	£16.50
Battle Chess	£16.50
Blood Money	£16.50
Colossus Chess X	£16.50
Dragon Ninja.....	£16.50
Falcon F16.....	£19.50
Falcon Mission Disk.....	£13.50
Forgotten Worlds	£13.50
Grand Monster Slam	£16.50
Gunship	£16.50
Kick Off	£13.50
Lords of the Rising Sun.....	£19.50
Milenium 2.2	£16.50
Microprose Soccer.....	£16.50
Navy Moves	£13.50
Personal Nightmare.....	£20.99
Populous.....	£17.50
Red Heat	£13.50
Robocop	£16.50
Running Man	£13.50
RVF Honda	£13.50
Space Quest III	£13.50
Silkworm	£13.50
Tank Attack	£16.50
Thunderbirds	£16.50
Voyager	£16.50
Wicked.....	£16.50
3D Pool.....	£16.50

MONITORS

ATARI SM 124	£109.99
ATARI SC 1224	£264.99
COMMODORE 1084S.....	£259.99
PHILIPS 8833	£229.99

DRIVES

CUMANA 1 MEG 3.5" for ST	£99.99
CUMANA 1 MEG 3.5" for Amiga	£94.99
TRIANGLE 1 MEG 3.5" for ST	£94.99
TRIANGLE 1 MEG 3.5" for Amiga	£84.99
TRIANGLE 5.25" for ST or Amiga.....	£114.99
TRIANGLE 3.5" + 5.25" Multidrive.....	£194.99

PRINTERS

STAR LC10 mono inc Cable	£199.99
STAR LC10 colour inc Cable	£229.99
CITIZEN 120/D inc Cable	£139.99
EPSON LX800	£244.99
STAR LC 24/10 inc Cable	£324.99

HARD DRIVES

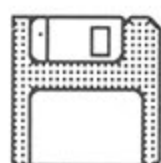
THIRD COAST, ATARI, SUPRA AND TRIANGLE
AVAILABLE. PLEASE CALL FOR
* BEST PRICES *

MUSIC AND SOUND

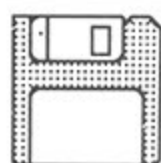
ST	
Steinberg Pro-24	£249.95
C-Lab Creator	£239.99
C-Lab Notator	£359.99
EZ Track Plus.....	£49.95
Super Conductor.....	£39.99
Pro Sound Designer.....	£49.99
ST Replay 4	£64.99

AMIGA	
Aegis Sonix V.2	£44.95
Aegis AudioMaster II	£59.95
Amas	£77.99
Future Sound	£74.99
Pro Sound Designer Gold	£74.99
Eidersoft Midi Interface	£24.95
Datel Midi Interface	£34.95
Music X	Phone
Dr T's KCS	£159.99
Dr T's Midi Recording Studio	£52.95
Deluxe Music	£59.95

DISKS



**TOP QUALITY
3 1/2" DS/DD
GUARANTEED
BULK DISKS**



10	£8.25
25	£19.95
50	£36.50
100	£70.00
200	£134.00

INCLUDING LABELS

ART & ANIMATION

ST	
Degas Elite	£19.95
Cyber Paint 2	£54.95
Cyber Studio CAD 3D	£69.95
Spectrum 512.....	£44.95
Quantum Paint Pro.....	£32.95

AMIGA	
Lights, Camera, Action.....	£47.95
Zoetrope	£79.95
Aegis Videoscape 3D	£109.99
Comic Setter	£44.99
Mini-Gen (Genlock)	£104.99
Moviesetter.....	£59.95
Deluxe Paint III.....	£69.95

DUST COVERS

Atari 520/1040 STFM	£5.25	Epson LX800	£5.50
Atari SM124.....	£5.50	Citizen 120D	£5.50
Atari SC1224	£5.50	Panasonic 1081.....	£5.50
Philips CM8833	£5.95	Cumana CAS 354	£4.50
Star LC10 Mono/Colour.....	£5.50	Cumana CAX 354	£4.50
Star LC24/10	£5.50	Cumana CAS/CSA 1000s.....	£4.50
		Amiga A500.....	£5.50

We can supply Dust Covers for more than could be listed here. Please call for Quotes for Computers, Monitors, Printers, Drives, T.V.'s and Keyboards.

All prices include VAT. Please send Cheques/PO made payable to:-

**TREBLE H COMPUTING
DEPT NCE, CROMER HOUSE,
CAXTON WAY, STEVENAGE,
HERTS. SG1 2DF**

**★ CREDIT CARD HOTLINE: 0438 361738 ★
FAX: 0438 740 794**

If you do send cash please send it Registered.
All Goods are sent First Class/Registered. Please add £3.00 for outside U.K.
Large Orders ie. Amigas, ST, Monitors etc are always sent by courier.
Please add £6.00, if you require Next Day Courier Delivery on other items.

All prices are correct at time of going to Press, and are subject to change without prior notice

ATARI ST and AMIGA

Sixteen Bit Superdeals from the Sixteen Bit Specialists !

CUSTOMERS PLEASE NOTE! When comparing prices remember ours include fast delivery by courier.

NEW !! **520 STFM Power Pack**
£359.00
Inc. VAT and Next Day Delivery

Power Pack includes:

- ★ 520 STFM 512K Keyboard with Built-in 1 Megabyte disk drive and TV Modulator
- ★ Over £550 worth of games software, including OutRun, Gauntlet 2, R-Type, Space Harrier, Super HangOn and 16 more Top Games
- ★ Organiser Business Software including WORDPROCESSOR, SPREADSHEET and DATABASE.
- ★ First BASIC and First Music Utility Software
- ★ FREE JOYSTICK
- ★ All leads, manuals PLUS MOUSE and free mains plug!

REMEMBER! Many ST's do not come with BASIC - ours come with ST BASIC REV D by Metacomco.

520 STFM SUPER PACK
£329.00

Includes everything in the 520STFM Power Pack, but with £450 worth of Games and includes Metacomco Basic

1040STFM Super Pack
£439.00

Includes everything in the Atari 520 STFM Super Pack but with the 1 megabyte memory 1040 STFM Keyboard

1040STFM Business Pack
£439.00

Business Pack includes:

- ★ Atari 1040STFM Keyboard with 1 meg memory and 1 meg built-in disk drive plus TV modulator.
- ★ £385 worth of Business Software including MICROSOFT WRITE word processor (£150), SUPERBASE PERSONAL Database (£60) and VIP PROFESSIONAL Lotus 123 Spreadsheet clone (£150). Metacomco Basic (£25.00)
- ★ All leads, manuals and mouse.

MEGA 1 BUSINESS PACK
£529.00

Features:

- ★ Separate Keyboard and System Unit
- ★ All the Software included with 1040 STFM Business Pack.
- ★ Blitter chip installed for faster graphics

Inc SM124 Mono Monitor..... £628.00

ACCESSORIES

Quickshot II Turbo Joystick.....£9.95	Branded Memorex 3.5" DS DD Disks
Competition Pro 5000 Joystick£13.95	Box of 10.....£13.95
Competition Pro with Autofire£14.95	Memorex Disk Box
Konix Speedking Joystick£11.95	For 40 3.5" Disks£8.95
Red Mouse Mat with Amiga logo...£6.95	Amiga A501 1 Meg Expansion ..£134.99
Plain blue Mouse Mat£5.45	Amiga A501 + Dragon's Lair.....£169.99

PRINTERS

Star LC24-10 24 pin incl. lead ST/Amiga	£339.00
Star LC10 including interface lead for ST/Amiga.....	£199.00
Star LC10 colour including interface lead for ST/Amiga.....	£249.00
Citizen 120D including interface lead for ST/Amiga	£159.00

SEIKOSHA 80 COLUMN PRINTERS - AMAZING PRICES

Seikosha 9 pin NLQ including interface lead for ST/Amiga.....	£139.00
Seikosha 24 pin LQ including interface lead for ST/Amiga	£279.00

Amiga A500 System 1
£365.00
Inc VAT and Next Day Delivery

NOW INCLUDES WORKBENCH 1.3

System 1 includes:

- ★ Amiga A500 512K Keyboard with Built-in 1 Megabyte disk drive.
- ★ Free TV modulator worth £24.99 allowing you to use the Amiga with a normal TV.
- ★ Amiga BASIC, Amiga EXTRAS 1.3, Workbench 1.3 PLUS the Amiga Step by Step Tutorial.
- ★ All leads, manuals PLUS MOUSE and mains plug!

Amiga A500 System 2
£385.00

- ★ Amiga A500 System 1 PLUS over £280.00 worth of software comprising 10 games, PLUS either SPRITZ or PHOTON PAINT GRAPHICS PACKAGE.

Amiga A500 System 4
WITH 500 FREE AIR MILES!
£449.00

NEW !

includes everything in our Amiga System 1 package PLUS SPRITZ Graphics Package, disk storage wallet for 25 disks, Who Framed Roger Rabbit, Nebulus, Starray. PLUS 10 other FREE games worth £230.00 PLUS 500 FREE AIR MILES, enough for a return trip to PARIS, AMSTERDAM OR BRUSSELS!

AMIGA 1 MEG!
£499.00

Announcing the new Amiga 1 meg-an A500 system 1 with fitted 1 megabyte memory expansion and clock card PLUS TV Modulator AND DRAGON'S LAIR a six disk 1 meg megagame!

AMIGA 1 MEG +
£519.00

Our Amiga 1 meg + also includes the £230 worth of games software normally given with our A500 System 2 Games Pack.

EXTERNAL DISK DRIVES

Atari SF314 1 Megabyte.....	£139.00
Amiga A1010 1 Megabyte	£139.00
Cumana 1 Megabyte Atari or Amiga	£99.95
NEC 1 Megabyte Amiga	£89.95
Atari Megafile 30 Hard Disk.....	£459.00

MONITORS

Commodore Amiga A1084 Stereo colour Monitor inc lead	£269.00
Atari SC1224 Colour Monitor inc lead.....	£259.00
Atari SM124 Mono Monitor including lead.....	£104.00
Philips CM8833 stereo colour monitor inc. lead for ST or Amiga.....	£249.00

CREDIT CARD ORDERLINE ☎ 0908 78008 (Mon - Sat 9am - 6pm)
 To order either call the orderline above with your Credit Card details OR make a cheque or P.O. payable to Digicom Computer Services and send it with your order to the address below. Callers are also most welcome at the address below

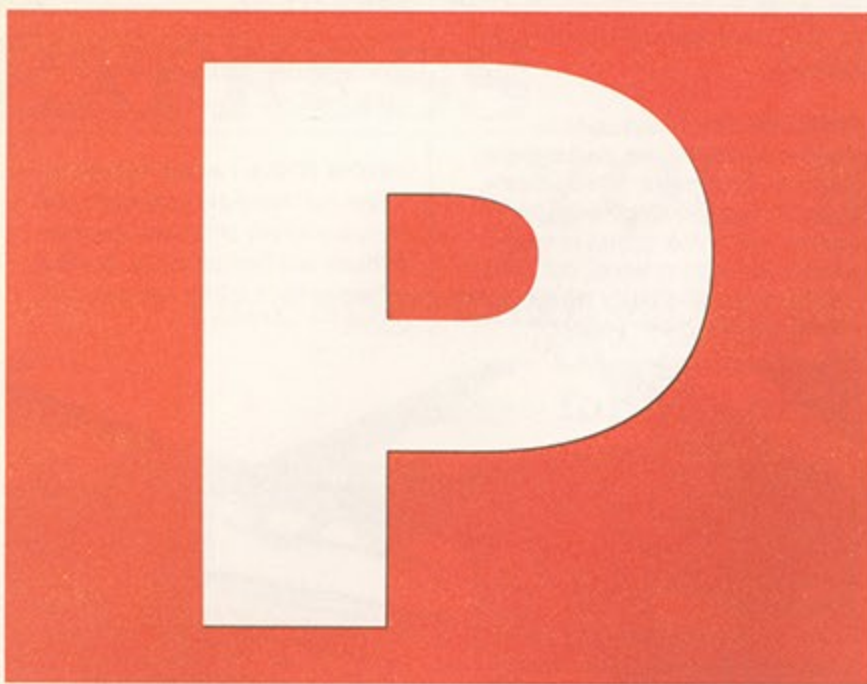
DIGICOM

Unit 36, Wharfside, Fenny Stratford, MILTON KEYNES MK2 2AZ
 All prices include VAT and delivery by courier

We Accept EXPRESS VOUCHERS

Access

VISA



PACMAN (G): Originally a coin-op launched by Namco in the early 80s, this game spawned a whole business in spin-off trinkets and even a television cartoon series as well as the home computer conversion.



• Pacmania on the Amiga: One of the latest incarnations of the coin-op classic

PAGE (T): A 1024-byte section of RAM memory within a computer. The memory is divided into pages in order to simplify the process of memory management, i.e. the efficient distribution of the available space to programs and data held in the machine.

PAGEMAKER (DTP): A powerful desktop publishing package developed and marketed by the Aldus Corporation of America. The package is available for the IBM-PC and compatible range of machines and allows the set-up of complex pages of text and graphics.

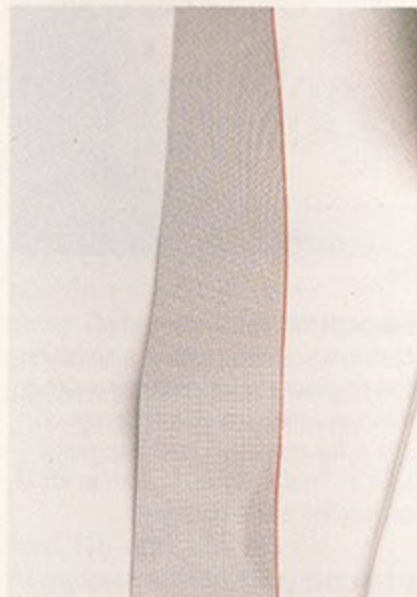
PAL (T): Phase Alternation Line is the television transmission standard adopted by the UK and many other European countries.

PALACE (CO.): Opened for business in the early 80s with a lacklustre software rendition of the cult movie *Evil Dead*. The company is well known for its use of the pneumatic young woman Maria Whittaker in advertising for *Barbarian*.

PAPERBOY (G): Atari coin-op converted to many formats in which you adopt the role of an all-American paper boy on Main Street USA delivering the news and avoiding Sunday drivers and various other obstacles.

PARADROID (G): Classic multi-directional overhead-view scrolling shoot-em-up game for the Commodore 64 written by programmer Andrew Brabrook, of *Uridium* and *Morpheus* fame.

PARALLEL INTERFACE (T): Device which allows the transmission of data via several paths simultaneously. The most notable parallel interface is the Centronics standard for printer/computer connections.



• Centronics connector: the parallel interface standard

PARALLEL PROCESSING (T): Parallel processing is the ability of a computer to process several separate sets of data/information simultaneously.

To achieve true parallel processing a computer is equipped with several independent CPUs all operating in unison on different data sets. However, the most common form of parallel processing is simulated and involves a single CPU assigning tiny portions of its available processing time to several data sets consecutively. The process happens so quickly that to an end user the machine appears to be performing all the processing simultaneously.

PARK PATROL (G): Cute 'n' cuddly title from Activision which pits you – as the park keeper – against litter bugs and errant swimmers.

PARITY (T): A process of adding a single bit to a byte of data which is to be transmitted across a telephone line, computer network, serial printer cable etc, in an attempt to check whether the data is correct once it is received. Two methods of parity exist – odd and even parity, in which a bit is added to make the byte odd or even as necessary. If a bit is lost the situation can be detected by checking the parity.



• Parity: Device used in telephone data transmission to check transfer success

PARSER (T): Program or collection of procedures within a program which accepts text, i.e. a stream of characters, then attempts to determine the syntactic structure of the character string. For example, many modern adventure games allow the player to type complex sentences such as "Take the large sword and disembowel the elf". In this instance, the parser would pick out the verb take, the adjective and noun large sword, the verb disembowel and the noun elf, consult lists of verbs, nouns etc to determine the validity of the words, then print on the screen a message appropriate to the course of action, such as "The elf deflects the sweep of your sword and with one deft flick of his sharp scimitar slits open your throat, what now?"

PARTITION (T): The division of available storage space on a hard disk which allows the device to support two more operating systems. For example, a hard drive connected to an ST could be partitioned to support both GEM and a secondary operating system such as Minix or PC-DOS via PC-Ditto.

PASCAL (L): Procedure-based structured language named after Blaise Pascal, the French mathematician and philosopher, originally designed to teach students computer programming techniques. Today the language is universally popular as a medium for writing everything from games to business software.

PASS (L): One cycle in the processing of source code by a compiler. During the

pass, the compiler examines source code, assigns variable names to a symbol table and converts program instructions to machine commands.

PASSWORD (T): Word or phrase determined by a computer user which is used by them to access a computer network, bulletin board etc. The password ensures that no unauthorised user can make entry to the system using someone else's name.

PASTFINDER (G): Vertically scrolling surreal shoot-em-up for the Commodore 64 from Activision.

PATCH (L): Fragment of code which is inserted into an existing program in order to change or add to it its functions. For example, many users of *Sidekick* decided that it might be a good idea to enable the program to 'pop-up' twice so that two *Sidekick* modules could be used without having to end the utility then enable it again. To achieve this, a patch was circulated via bulletin boards and a well-known magazine which modified the program and allowed it to be popped up over itself.

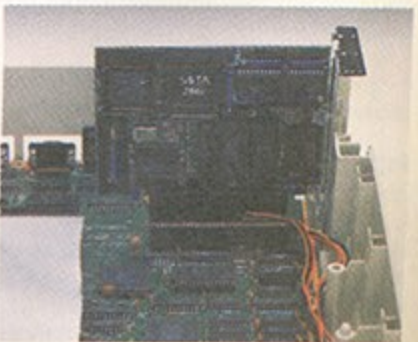
PAWN (G): Innovative adventure game with attractive location graphics and excellent parsing which spawned sequels such as *Guild of Thieves*, *Corruption* and *Fish*.



• The Pawn: Classic adventure from Magnetic Scrolls

PC (C): Personal Computer, specifically IBM's personal computer, which made its debut in 1983 and has since gone on to become the world's most popular small computer, spawning a range of clones and compatibles which emulate the machine.

PCB (T): Printed Circuit Board. A medium for electronic components joined together via solder tracks running across the surface of the board.



• PCB: Printed circuit board

PC-DOS (OS): Operating system based on MS-DOS, which is used by IBM's personal computer.

PEEK (L): BASIC language command which allows the programmer to examine and extract the contents of a single RAM memory location. One such use might be to peek at the computer's internal clock in the memory, enabling timings to be made in a program. Contrast with **poke**.

PERIPHERAL (T): Any device which connects to a computer enabling it to perform an extra function is known as a peripheral. Disk drives, printers and modems are all examples of peripherals, as are joysticks, mice and light pens.

PHONEMES (T): Phonetic sounds which are joined together to form words. Speech synthesisers make use of phonemes (also known as allophones) in order to construct intelligible speech.

PILOT (L): Third generation high-level language which is a specialist tool used in the creation of computer-assisted learning programs. PILOT stands for Programmed Inquiry, Learning Or Teaching. Here is a sample of PILOT:

PR: U
T: What is the UK's highest mountain?
A:
M: Ben Nevis
TY: Well done! You are correct.
TN: The correct answer is Ben Nevis.

PIRACY (GG): Applicable to all software but mainly experienced with games, piracy is the illegal copying and distribution of a program. The scale of piracy ranges from schoolkids swapping the latest games to large copying plants based in several European countries where the licensing laws are less rigid than the UK, distributing mountains of the stuff via market stalls etc.

PITSTOP 2 (G): Released in 1985 by Epyx, this game is one of the best racing simulations for the Commodore 64.



• Pixel: Thousands of these "picture elements" go to make up a screen image

PIXEL (T): Bastardised version of the phrase "picture element". The pixel is one addressable dot of a computer display. Early home machines such as the ZX81 offered a display made of 64 X 64 pixels. The slightly improved Atari ST can furnish a screen resolution of 640 X 400 pixels.

PL/1 (L): High-level language popular amongst corporate business users as a replacement for COBOL. The language is used extensively in the data processing.

PLOTTER (T): Printing device used to reproduce complex diagrams and 'blue prints' for architects and designers. The plotter has a drum which contains six (give or take one or two) high quality pens which are lowered and raised in order to make contact with the paper, thus producing the drawing. One of the most famous plotters is the little MCP40, a tiny device which accepted rolls of four-inch wide paper and used four coloured pens to produce accurate and reasonably high quality drawings. The machine was badged by many notable computer companies such as Atari, Oric, Tandy etc.

POCKET COMPUTER (T): Beginning with the early programmable calculators (not strictly computers) the pocket computer has been refined and developed. Today's machines can run complex programs, store names, addresses, telephone numbers and shopping lists, provide the time in every major city across the world and do translations into various languages. None yet run have disk drives and look like glorified calculators, but Atari have announced a Pocket PC which will run on smart cards and should appear in 1989/1990. See also **portable computer**.

POKE (L): BASIC statement which allows a programmer to insert a value into one particular memory location. Contrast with **peek**.



• Portable: Computer which can be used on the move

PORTABLE (C): Generic word used to describe computers which can be carried around and used on trains, buses, in taxi cabs etc. The machine is usually PC-compatible, has a couple of disk drives, or a hard drive and an LCD screen. See Express 34 for the definitive round-up of portable machines.

PRESTEL (T): One of the first and probably the largest of the bulletin board services in the UK. Prestel provides an enormous quantity of information from its own and outside sources. Companies can set up open and closed conferences, and user groups, provide

and charge for information and pass electronic mail around the country and the world.

PRINTER (T): Device used to produce 'hard copy', i.e. printed paper, from word processors, spread sheets, screen dumps and other computer sources. The printer comes in many guises such as daisy wheel, dot matrix, ink jet etc. See also **daisy wheel, dot matrix, ink jet, laser, plotter**.



• Psion: Erstwhile software producers now famous for its "Organisers"

PROM (T): Programmable Read Only Memory. ROM chip which allows the user to store his/her own program before being used in a computer.

PSION (CO.): Famous now for its "Organiser" handheld computers, the company initially produced Spectrum software and then official QL bundled software, which it later released in PC format.

PSYGNOSIS (CO.): Formed by members of the once thriving Imagine, the company has concentrated on 16-bit titles such as *Barbarian*, *Obliterator* and *Menace*.



• Psygnosis: Software house behind the excellent Menace, amongst others

PUBLIC DOMAIN (T): Public Domain programs may be copied and distributed at no charge. PD libraries exist which produce catalogues and will copy items onto your disks for a few pounds' copying charge. PD software should not produce a profit - in theory. 16-bit PD software is particularly good.

The Public Domain is a hypothetical 'environment' in which programmers place programs they've written in order that they may be distributed freely amongst interested users. The process involves the programmer writing a piece of software then relinquishing all copyrights to the software, and this enables it to be copied and given to anyone who wants one.

SOFTWARE EXPRESS

For
ATARI and AMIGA
(021) 643 9100



YOU KNOW...

that SOFTWARE EXPRESS publish the highly successful
"DUNGEON MASTER EDITOR
for the Atari ST and Amiga

YOU MAY NOT KNOW...

that we are also the LARGEST Atari and Amiga Specialist
in the Midlands, and Southwest
dealing in P.C.'s, Mega ST's, Amiga Desktop Publishing, Scanners,
Lazer, Digitizers, Calamus, Epson Emulators, Databases, Word
Processors and not forgetting Games.

Late Night Opening Thursday - 7pm

MIDLANDS

212-213 Broad Street,
BIRMINGHAM, B15 2JP

Tel: (021) 643 9100

For the best in
Service and Support
visit our
Regional Branches

SOUTH

9 Exeter Street, (The Viaduct),
PLYMOUTH,
Devon, PL4 9AQ.

Tel: (0752) 265276



The economical and practical design of the City Desk Workstation removes the systems hardware from the desk surface providing optimum use of available space. Its many design features are suited to home or office use.

At £139.50* it pays to put technology in its place

Compatible with the majority of PC Systems currently available its many assets include a steel cantilever frame - full cable management - heavy duty lockable castors - heat/stain/scratch resistant working surfaces available in either cream or grey - a full depth drawer unit which can be assembled for left or right hand use and with overall dimensions of H35" W47" D29" it can negotiate a standard 30" doorway with ease.

Free delivery in mainland UK and a 12 month guarantee completes an altogether unbeatable offer.

To order simply complete and send the coupon or telephone for further details.

* Plus VAT

CITY DESK
EUROPE LIMITED

24 - 26 Queens Road Reading Berkshire RG1 4AU.
Tel: 0734 594145. Fax: 0734 589954.



City Desk Europe Ltd 24 - 26 Queens Road Reading Berkshire RG1 4AU.

I wish to order workstation(s) in Cream /Grey

at £160.43 each (inc VAT). I enclose my cheque for £

or charge my Access /Visa No: Expiry date

Signature _____

Name _____

Address _____

Postcode _____

Tel No: _____



DREAM ON...

The Dreamscape series of club nights out are designed to mix computer visuals with dancefloor sounds in a swirl of mystery and imagination. Up in town for the evening, Andy Storer donned his laser shades and dreamt of going to sleep...



The last Dreamscape gig was glowingly reviewed by the *Evening Standard* as taking nightclubbing into the future with high-tech video games, whilst *I-D* magazine, arguably the style bible of the eighties, saw Dreamscape as a pointer to the "techno-visual" nightclub of the nineties. Fair praise? Or a heap of hype to inject some hope into a fading London club scene?

Interactive nightclub entertainment is the promise on the ticket. "Remember, Dreamscape is about innovation. A fusion of music, dance, art, style, video games, people and statement. Dreamscape - The Journey is the Reward".

And a ten pound note the price. London's Town and Country club in Kentish Town is the venue for something approaching the sort of multimedia extravaganzas that have blessed Amsterdam's club scene for a decade. But whereas the substance of Dutch dreams is the "grey imports" of Morocco, Lebanon and Turkey, North London's nightlife is strictly lager and laughter.

So Dreamscape delivers video games, freestyle skateboarders, a sit-in *Thunderblade* cab and all-night surroundasound Acid. But it'll take more than 132 b.p.m. mix-downs and 5 Sega 8-bit decks to pave the way for truly interactive video entertainment. *Afterburner*, *Operation Wolf*, *Thunderblade*... come on guys... weren't they last year? And as for endless Acid...

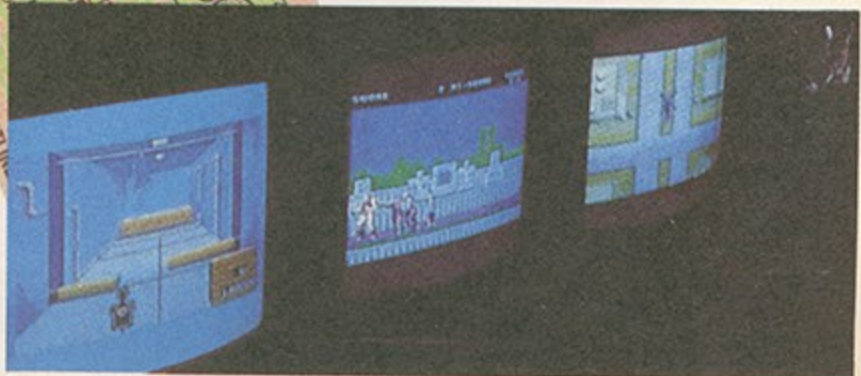
Of course, the organisers could plead poverty. It takes more than a little money to have banks of monitors interspersed with large screen feeds of computer action. But since Sega saw fit to donate its gear and the handful of skateboarders probably did it for the thrill of cracking their joints, one could wonder where the estimated £2,000 gate takings actually went. Certainly not on the couple of artists painting acid wall covers or the troupe of disco dancers twirling around the stage. Probably to the club's management.

Once it was obvious nothing much was happening, the DJs' mixes took centre stage and the evening decided it had been everywhere, seen it all before and was simply intent on surviving.

On this showing, Dreamscape's about innovation: sure, the innovation of 1987. So what's needed for the real nineties' nighttimes?

Maybe large screen hook-ups to 16/32-bit games machines with joystick jockeys at the helm. Or how about live cruises through the uncharted waters of international bulletin boards? Or maybe some abstract readouts of satellite data beamed in from Europe? Or a go on a photon paint packages for us would-be Warhols to paint the town red in 4,000 colours.

And that'd be just for starters. Maybe then a tenner would be well worth it. ●



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
Quadrallen	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

The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with 1Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for details.

£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 ST's 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 INC VAT

+ mono monitor = £998

+ colour monitor = £1198

4Mb MEGA ST

£1199 INC VAT

+ 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 Seikosha 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 ST's 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 NCE 0789 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: Dept NCE 0789

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

DTP

AMIGA BLIT

USA Today

Take one look at the Amiga scene of today and it seems almost impossible to believe that only three years ago, people doubted the very survival of the Amiga. Today's Amiga scene is one of the most active of any machine, regardless of price or performance.

● **Centaur Software** has brought out a rather unusual software package that is being advertised as the "foremost educational utility for the Amiga". The product in question is *World Atlas*, and it claims to offer speedy access to detailed information on over 150 countries of the world. The program isn't text based like similar programs on the PC, but instead employs colourful high resolution maps à la *Readers Digest Atlas of the World*.

● **Manx** certainly seemed to have been shaken by the recent release of version 5 of Lattice's C compiler. Several major distributors in both the States and in Europe have dropped Manx's *Aztec C* in favour of Lattice's latest release. To combat the threat, Aztec has just announced the imminent release of an upgrade for their development system, *Aztec C Express*. Unfortunately, no details of this new release are yet available.

● **Digital Creations** has released some rather tasty pieces of A2000 video hardware which are sure to keep the Amiga in the number one slot where Desktop Video is concerned.

VMachine is a powerful Time Base corrector with dissolve, overlay and keying systems, as well as a programmable real time digital video effects system. The device boasts screen resolutions of upto 1,024 by 512 pixels, with 16 million colours. Video effects supported include chroma key, overlays, shrinks, wraps, tumbles and many others.

To complement the VMachine hardware, Digital Creations is also releasing a whole range of additional software and hardware add-ons such as a paint package called *Living Colour Paint* which supports all screen modes offered by VMachine and the Amiga.

For genlock enthusiasts, Digital Creations has also announced the release of the follow-up to its popular SuperGen Genlock, SuperGen 2000S. SuperGen 2000S is compatible with the new "Super VHS" standard.

● **Eagle Tree Software** has released a new Amiga chess game. Eagle Tree's offering allows you to play different variations of the game from all around the world.

You could, for example, have a quick game of Medieval chess, then perhaps move on to a spot of Courier or Decimal chess. If you're felling adventurous, you could even try your hand at either Burmese, Los Alamos or even Byzantine chess (played on a circular board) or Chinese chess (which has a river running across the centre of the board!).

● Frustrated musicians everywhere will be pleased to hear of a new product from

Impulse Incorporated which claims to allow even the most tone deaf among us to compose beautiful music. With *Harmony*, all you have to do is "hum" into a microphone and *Harmony* will turn your mumbblings into Sonix compatible SMUS music files. Weird or what!

● **NewTek**, purveyor of digitisers and unreleased video hardware (where's the Video Toaster?!), has upgraded its acclaimed HAM paint program, *DigiPaint*. *DigiPaint 3's* (what happened to *DigiPaint 2?*) user interface has been revamped beyond all recognition under the control of James Sachs, one of the most famous Amiga artists (who also did the graphics for games such as *Defender of the Crown* and the vastly underrated *Ports Of Call*).

Additional features include support for super bitmaps of up to 1,024 by 1024 pixels, flexible text rendering, full overscan support, brush rotation, complex resolution changing tools and even compatibility with X Specs 3D (3-dimensional HAM graphics?).



● **DigiPaint 3: Set to cause a stir in the Amiga paint package stakes.**

Turbo Charging BASIC

When using *AmigaBASIC*, you'll probably have already noticed how slow the screen update can be. The reason for this is that the *AmigaBASIC* window uses the Intuition "SIMPLE_REFRESH" technique, instead of the faster "SMART_REFRESH". The result of this is that every time a window obscures *AmigaBASIC* and is then removed, *AmigaBASIC* has to manually redraw the entire window.

The *AmigaBASIC* program below, patches the *AmigaBASIC* window definition so that instead of using "SIMPLE_REFRESH", "SMART_REFRESH" is used.

```
DEFINING a-z
CHDIR "Extras:BasicDemos"
LIBRARY "dos.library"
DECLARE FUNCTION xOpen() LIBRARY
```

```
f=xOpen(SADD("Extras:AmigaBASIC"+CHR$(0)),1005)
```

```
CALL Seek(f,22289,0)
CALL xWrite(f,SADD(CHR$(0)),1)
CALL xClose(f)
```

The only disadvantage of using smart refresh is that a little more memory is used but the increasing in operation speed will make this loss more than worth it! Thanks to Charles Bernasconi for the tip.

Jason Holborn

Message Port

If you have any views on any issues raised within *AmigaBLIT*, or in fact the *Amiga* scene in general, then why not put them down on paper and send them in! Similarly, if you have any great tips, cheats or tricks for the latest *Amiga* software, then I'd love to hear from you. Send all your letters to: JASON HOLBORN, AMIGABLIT, 4 QUEEN STREET, BATH BA1 1EJ.

BYTEBACK



KEENEST PRICES

FAST
DELIVERY SERVICE

We're programmed to help, so ring us now.

WE ACCEPT EXPRESS VOUCHERS

GUARANTEED RETURN OF POST Delivery on ALL Stock Items!

ST and AMIGA ONLY!	ST and AMIGA ONLY!
After Burner.....£16.90	Archipelagos.....£16.90
Arctic Fox.....£7.90	Bards Tale.....£7.90
Batman.....(Am: £16.90) £13.90	Battlehawks 1942.....£19.90
Bio Challenge.....£16.90	Bombuzal.....£13.90
Balance of Power 1990.....£16.90	Battle Chess.....£17.90
Black Cauldron.....£19.90	Colossus Chess X.....£16.90
Chuckie Egg.....£13.90	Chuckie Egg 2.....£13.90
DARK SIDE.....£16.90	DEMON'S WINTER.....£19.90
Cosmic Pirate.....£13.90	Cyberoid II.....£16.90
Dark Fusion.....£16.90	Deja Vu II.....£16.90
Dragon Ninja.....(Am: £16.90) £13.90	Dungeon Master.....£16.90
Dungeon Master Editor.....£8.90	Elite.....£16.90
Forgotten Worlds.....£16.90	Galdregon's Domain.....£13.90
Garfield.....£13.90	Gauntlet II.....£16.90
FEDERATION OF FREE TRADERS.....£18.90	LAST NINJA 2.....£16.90
Grand Monster Slam.....£13.90	Gunship.....£16.90
Journey to Centre of Earth.....£16.90	KULT.....£16.90
Millenium 2.2.....£16.90	Populous.....£17.90
Marble Madness.....£7.90	Music Construction (ST).....£7.90
Mavis Beacon Typing Tutor.....£19.90	Microprose Soccer.....£16.90
ROBOCOP.....£17.90	RED HEAT.....£17.90
Phobia.....(Am: £19.90) £16.90	Outrun.....£8.90
Pac-Land.....£13.90	Pacmania.....£13.90
Precious Metal.....£19.90	Silkworm.....£13.90
Skweek.....£16.90	Running Man.....£16.90
Savage.....£16.90	Steve Davis Snooker.....£13.90
THUNDERBIRDS.....£16.90	TOTAL ECLIPSE.....£16.90
Super Hang On.....£19.90	Time Scanner.....(Am: £19.90) £16.90
Tom and Jerry.....£19.90	Wanderer 3D.....£13.90
Wicked.....(Am: £19.90) £16.90	World Class Leaderboard.....£8.90
Zak McKracken.....£19.90	Zany Golf.....£16.90

FREE with ANY TWO GAMES!.....Choose one of the following

1. WIZ CARD Controller
2. PD GAMES Disk
3. US GOLD Baseball Cap
4. DISK BOX (Holds 10)
5. PD DEMO Disk
6. 50 Disk Labels

ATARI ST - DISK COPIERS ONLY!	AMIGA - DISK COPIERS ONLY!
Multiface ST (1.5 or later).....£54.90	X-COPY (NEW 1.3).....£29.90
COPY ST (NEW V1.2m).....£29.90	PROJECT 'D' (NEW 1.2).....£29.90
ATARI ST SALE * SALE ONLY!	AMIGA SALE * SALE ONLY!
Captain Blood.....£6.90	Armageddon Man.....£6.90
Crazy Cars.....£6.90	Knight Orc.....£6.90
Galdregon's Domain.....£6.90	Spaceball.....£6.90
Karting Grand Prix.....£6.90	Phantom Fighter.....£6.90
Super Cycle.....£6.90	Vixen.....£6.90
Zany Golf.....£13.90	Empire.....£13.90
Fusion.....£13.90	Emerald Mine.....£13.90
ACCESSORIES ONLY!	ONLY!
3.5" Disks DS/DD (x10).....£9.90	Locking Disk Box (50).....£7.90
3.5" Disks DS/DD (x50).....£45.00	Locking Disk Box (100).....£9.90
Box of SONY Disks.....£13.90	Furry Mouse Cover.....£6.90
Media Box (Holds 150 disks).....£19.90	Mouse Mat.....£5.90
Keyboard Cover.....£5.90	Joystick/Mouse extension.....£4.90
Quickshot II Turbo.....£11.90	Joystick Lead (3 metres!).....£4.90
Cobra Joystick.....£12.90	Competition Pro 5000.....£14.90

This is just a small selection of our VAST range of 68000 Software! Phone/Write for full catalogue - stating: Atari ST or AMIGA

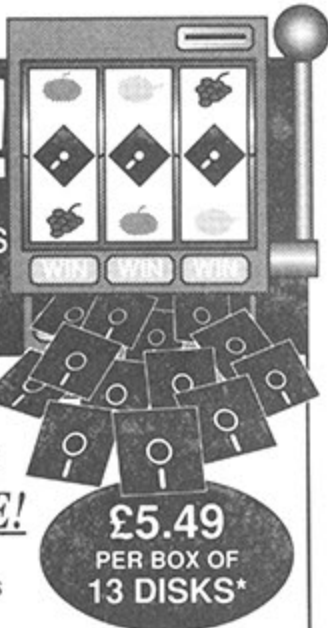
BYTEBACK DEPT NCE6 MUMBY CLOSE
NEWARK, NOTTS NG24 1JE

PAY BY CHEQUE,
POSTAL ORDER OR USE
YOUR CREDIT CARD
0636-79097



HIT THE JACKPOT!

DISKETTES, RIBBONS, DATA CARTRIDGES, PAPER AND BOXES AT UNBEATABLE PRICES. Save £££'s on our top quality branded diskettes at 13 for less than the normal price of 10!



You just won't believe it!
Buy two boxes of Branded Diskettes and we'll give you a third box FREE!

The sky's the limit.

And if that's not enough each box contains extra disks - 13 or 27!!

Fully tested and guaranteed for life it all adds up to a package too good to miss.

*Price quoted is for 10 boxes of product no. 1001 excluding postage, packing and VAT

BRANDED DISKETTES: 2 FOR 1 REPLACEMENT GUARANTEE

PROD No.	DESCRIPTION	PER BOX OF 13 DISKS		
		1-4	5-9	10+
1001	5 1/4" DS/DD 48TPI	5.99	5.79	5.49
1002	5 1/4" DS/QD 96TPI	6.99	6.49	5.99
1003	5 1/4" High Energy 1.2Mb	10.99	10.49	9.99
1004	3 1/2" DS 135TPI 720K	14.99	14.49	13.99
				PER BOX OF 27 DISKS
1001-1	5 1/4" DS/DD48 TPI	11.99	11.49	10.99
1002-1	5 1/4" DS/QD96 TPI	12.99	12.49	11.99

DATA CARTRIDGES:

PROD No.	DESCRIPTION	PER CARTRIDGE SUPPLIED IN PACKS OF 3			
		1-3	4-6	7-10	11+
2001	DC300 XLP Equivalent	12.99	12.49	11.99	11.70
2002	DC600 A Equivalent	14.99	14.49	13.99	13.49
2003	DC2000 Equivalent	18.49	17.49	16.49	15.99

Note: 3M & DEI Branded Cartridges also available. Please call.

STORAGE BOXES:

PROD No.	DESCRIPTION	PRICE PER BOX		
		1-4	5-9	10+
5001	V10 5 1/4" diskette box holds 13 disks	1.99	1.49	0.99
5002	V10 3 1/2" diskette box holds 13 disks	1.99	1.49	0.99
5102	3 1/2" diskette box holds 40 disks with lock	5.99	5.49	4.99
5103	3 1/2" diskette box holds 80 disks with lock	7.99	7.49	6.99
5104	5 1/4" diskette box holds 50 disks with lock	5.99	5.49	4.99
5105	5 1/4" diskette box holds 100 disks with lock	7.99	7.49	6.99
5010	DC10 Data cartridge box with lock holds 10 std data carts.	13.99	13.49	12.99
5011	MDC10 Data cartridge box with lock holds 10 mini data carts.	9.99	9.49	8.99

WHITE BOX DISKETTES:

PROD No.	DESCRIPTION	PRICE PER DISKETTE SUPPLIED IN PACKS OF 10			
		Up to 1000	1010-5000	5010-9000	9010+
1001-4	5 1/4" DS/DD 48TPI 360K 10's	25p	22p	20p	P.O.A.
1002-4	5 1/4" DS/QD 96TPI 720K 10's	28p	24p	22p	P.O.A.
1003-4	5 1/4" DS/HE 1.2Mb 10's	55p	50p	48p	P.O.A.
1004-4	3 1/2" DS/DD 135TPI 720K 10's	70p	65p	63p	P.O.A.

NEW! 3 1/2" HIGH DENSITY 1.44 Mb BOX OF 10 £22.50!

BULK DISKETTES:

PROD No.	DESCRIPTION	PRICE PER DISKETTE SUPPLIED IN PACKS OF 1000			
		Up to 1000	2000-5000	6000-9000	10,000+
1001-2	5 1/4" DS/DD 48TPI 360K 1000	22p	20p	18p	P.O.A.
1002-2	5 1/4" DS/QD 96TPI 720K 1000	24p	22p	20p	P.O.A.
1003-2	5 1/4" DS/HE 1.2Mb 1000	49p	46p	43p	P.O.A.
1004-2	3 1/2" DS/DD 135TPI 720K 1000	65p	62p	59p	P.O.A.

LISTING PAPER: 1 PART LISTING PAPER

PART No.	SIZE	DESCRIPTION	PRICE PER	
			1000 shts.	Box
7001	11x9 1/2"	Plain 60gsm. Box of 2000 sheets	5.75	11.50
7002	11 7/8"x9 1/4"	Plain 85gsm Microperf. Box of 1000 sheets	10.50	10.50
7003	11x9 1/2"	Music ruled 60gsm. Box of 2000 sheets	5.75	11.50
7004	11x14 1/2"	Plain 60gsm. Box of 2000 sheets	7.46	14.80
7005	11x14 1/2"	Music ruled 60gsm. Box of 2000 sheets	7.46	14.80

All prices exclude carriage and VAT (Postage £3.00, Courier £6.50)

Ask about our DISKETTE CLEANING KITS too... they're all at unbeatable Mydisk prices!

FOR AMSTRAD/EPSON RIBBON REQUIREMENTS PHONE US NOW!

0753 830466/477

or Fax 0753 830488

FOR INSTANT SERVICE!

Mydisk Limited FREEPOST (RG1475)
Windsor Berks SL4 1BS



YOUR FORMAT

MACHINE-SPECIFIC COLUMNS

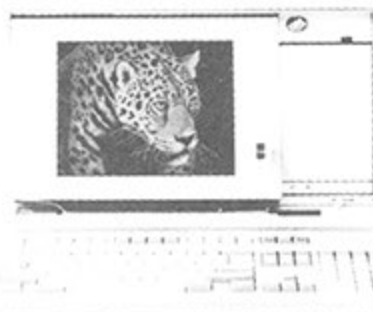
PC UPDATE

OS/2 Update

IBM continues to develop OS/2, its flagship PC operating system. The big advantage as far as the company is concerned is that it gives it a consistent operating environment from PCs right through to its top mainframes. This is particularly important for its corporate strategy, when trying to sell a complete computing solution to a large company or corporation.

Whether it catches on at the lower end of the market largely depends on the cost memory chips. OS/2 can handle up to 16Mb of main memory, rather than the 1Mb of PC/MS-DOS, and the extra complexity of multi-tasking means that the operating system itself takes up to 2Mb for its own use. Add to this an overhead of 2Mb for the graphical user interface, *Presentation Manager* (leaving aside the Extended Edition which includes database and networking software and is a LOT bigger), and you end up with 4Mb before you start running applications.

If your PS/2 machine costs you £5,000 or



• OS/2: Great for machines like IBM's PS/2 P70, but what about PCs at the lower end of the market, with 4Mb or less of RAM?

more, and comes with over 4Mb, this is probably not going to worry you. At the lower end of the market, though, the small business and home users are going to find it hard to swap. And unless the price of RAM does drop significantly, it's hard to see OS/2 capturing this part of the market in the short term.

Nonetheless, IBM is continuing to push OS/2 and their high-ranking Model 70 and Model 80 range of PCs hard, as the corporate buyers are where the big bucks are. And their latest release is an add-on 80486 daughter board which can out perform a 33MHz 80386 by a factor of two. The board plugs into the planar - as IBM insists on referring to the motherboard - and costs a further £3,000. Still, if you need that kind of power, I guess you have that kind of money, or an Archmedes (sshh! wash your mouth out).

Maxit Board

Last week I mentioned an expansion card for use on a PC which could 'fill in' a 64K free memory slot in the PC's memory map, above the 640K barrier. I've since been sent another card, Maxit, which offers 256K instead. This memory can be used in a number of different ways, as it's divided into five separate slots, labelled A to E. A, B and C are 64K blocks, while D and E are 32K each.

The memory can be used in a number of ways, depending on the memory you already have in your PC and on your display adapter. For a start, if you have only 512K of main

memory, you can use half of Maxit to fill up to 640K. You can also use a combination of the remaining blocks above 640K, filling in the 'holes' that are available on almost any PC between 640K and 1Mb. You can load TSR programs (like *SideKick* or *TopCopy Plus*) into this area and run them from there, leaving your main memory free for major applications.

As a third option, you can allocate some or all of the Maxit memory to LIM standard expanded memory, which can be used by programs such as *Lotus 1-2-3* for extra spreadsheet room. The Maxit card costs £259 inc VAT from the Ctrl Alt Deli on (0908) 662759.

S.M. flees the country

I received a press release from those jolly people at Shareware Marketing the other day. As you probably know they've recently moved from Kent to Devon - many would say a very wise move. However, the cause of Devonian separatism must have gone to Steve Lee's head, if his latest press release is anything to go by.

The release details how the Association of Shareware Professionals has accepted Shareware Marketing as an Associate Vendor Member. The Association monitors standards of service among vendors and can refuse to supply Shareware to those who don't come up to scratch. According to Steve, this is the first time a vendor "outside of the United Kingdom" has been bestowed with such an honour.

I'm afraid for all practical purposes Devon is still considered part of the UK, Steve. For "Kingdom" read "States".

BASIC 2 in one

Those who use BASIC 2 on a hard disk machine (a language that is much underrated) may like to know that you don't need to pass through the GEM Desktop in order to reach the language. You can type GEM BASIC2 from the C-prompt and pass straight through GEM into the language.

FRED wins through

There are few home and small business computer users who can also claim to be competent typists and shortcuts are therefore always welcome. It's probably for this reason that FRED has come to the fore in so many circles. You may have noticed his name used in a wide variety of manuals and on-disk documentation for filenames, sample database entries and the like. There's even a programming language, part of Ashton-Tate's *FrameWork*, named after him.

The reason of course, is that it's quicker and easier to type FRED with a single finger than virtually any other name (unless you're called *Qwerty*). Moving anti-clockwise from the [F] key, the name just flows out.

Not only that, he says smugly, but you can tack on the name of a BASIC 2 program as well, and include a path if you like. For example:

GEM BASIC2 A:\BASIC2\WIZIWANG.BAS would load GEM, load BASIC2 and load WIZIWANG.BAS out of the BASIC2 sub-directory of your A drive floppy.

I know this works with the set of batch files that GEM puts on your hard disk when you install it from a Digital Research GEM application. I haven't tested it on an Amstrad 1512 or 1640, so don't know whether it holds true on those machines as well.

Simon Williams



More on the Magnum

Last week, you'll remember, I'd just got my sweaty pinkies on the Virgin/Mastertronic Magnum lightgun for the CPC, which is due for release within the fortnight.

Now I've had it for a whole week I'm a little more certain of what I think: I used to be undecided (all together), but now I'm not so sure.

First off it must be said that the £34.95 price tag is on the stiff side - particularly since that's a fiver more than the Spectrum (boo) version.

Secondly the half-dozen games that come bundled with it are for the most part what might be called, to use the technical benchmark term, "a load of old cobbles." There's *Missile Ground Zero*, *Rookie*, *Solar Invasion*, and *Robot Attack*, none of which have been previously released (to the best of my knowledge - get out clause no. 37).

Then there's a real blast from the past in the unwelcome form of *Bullseye*, based on the smashing marvellous super-duper isn't that terrific (answer: no) darts/quiz prog, the computer version of which was generally frowned upon when it first appeared shortly after the First World War. So far, to sum up, so what?



• The Magnum: could try harder

Finally, and something to get excited about at last, there is *Operation Wolf*, Ocean's mega-hit arcade conversion. Many of you will know this game and should therefore see very clearly why it is bound to be the focus of all attention.

For a start it's a brilliant conversion, though I have heard complaints that it's too difficult (cue for a dozen letters boasting that their authors had finished it before they'd even opened the box); and furthermore it suits the Magnum perfectly.

It's a shooting game that was never entirely suited to joystick operation, since by the time you'd moved the gunsights you'd usually been hit by four bullets, two grenades and a dagger.

Could try harder

The Magnum, then, is not what it might be. What is crucial is how many future games are released in a lightgun-playable form. In fact there's no technical reason why most games shouldn't appear with the lightgun driver program included on the same tape/disk as the joystick/keyboard version. This, however, won't happen, since software houses will have to pay a royalty to Trojan Developments which devised and manufactures the device. I understand that major software companies are planning Magnum-compatible games, but in the absence of further information I am obliged to remain stubbornly sceptical.

The reason to be cynical, of course, is the involvement of Amstrad. As I understand it (but don't quote me - get out clause 57b) Amstrad was not responsible for developing the Magnum and is leaving the marketing of it to Virgin/Mastertronic.

All that leaves, I guess, is the badge on the gun and the power of veto. Amstrad's commitment to the CPC has been in question for two years now, and we'd be foolish to expect it suddenly to experience a miraculous conversion. The Magnum is potentially the best CPC news CPC games players have had in a very long time: whether that potential is realised remains in the balance.

If I were you I'd get your hands on the August issue of *Amstrad Action*, available next Thursday (July 10th). There's a full two page review of the Magnum, and the chance to win one of ten bundles, each worth £35.

Vindicators never die - they just get poked

Here's a poke for the tape version to weaken your opponents and give your eternal life in the Tengen/Domark colourful arcade conversion *Vindicators*, once more courtesy of Mapperley man Phil 'Hacker' Howard.

To enter it, simply rewind the game tape to the beginning; type in the poke listing and then type RUN and press the Enter key. (Don't use the key marked CTRL or Control, or the poke won't work.)

Press the Play key on the cassette deck, then any key on the main keyboard - the spacebar's as good as any. The tape will now play through as normal.

1 ' VINDICATORS
2 ' by Phil Howard, NCE 35, June '89
3 ' WEAKER OPPONENTS

```
4 '
5 ' INFINITE LIVES
6 '
10 DATA 21,23,41,36,c3,23
20 DATA 36,0e,23,36,be,c3
30 DATA 00,40,3e,3e,32,72
40 DATA 2D,3E,C9,32,58,06
50 DATA C3,00,04
60 MEMORY &3000:Y=0
70 FOR X=&BE00 TO &BE1A
80 READ A$:A=VAL("&"+A$)
90 POKE X,A:Y=Y+A:NEXT
100 IF Y<&7AA THEN 130
110 LOAD"VIND"
120 CALL &BE00
130 PRINT"DATA ERROR!"
```

Steve Carey

Pandora: the winners

Regular readers of this column (if you're not, try subscribing - or Branflakes) will be bursting with curiosity to know who's won the CPC Centre Pandora competition.

We had five copies of this new £30 machine-code program generator to give away if you could just tell us who Pandora was.

The five lucky winners are: Paul Graves of

Ash, near Canterbury; C. Baker of Southampton; S.J. Lee of Huntingdon; John Brown of Wittering (no comment); Peterborough; and D. Hollett of Padgate, Warrington.

All other entrants - including the mysterious multiple entry from disparate members of the Surry clan - receive a £5 voucher off Pandora.

NO COMPUTER IS COMPLETE WITHOUT A DUST COVER

Protect your valuable computing equipment from dirt and damage with a professional quality dust cover from BBD's extensive range. Manufactured from top quality washable nylon with stylish, contrasting piping on all seams.

Exclusive Features include:

- Treated with a Flame Retardant and Anti Static inhibitor
- Non Crack and Non Tear
- Non Shrink and Non Fade
- Tailored Fitting
- Machine Washable

Full money back guarantee if not completely satisfied

A small selection from our very wide range of covers for Computers all made to the same high standard.

AMIGA 500	£5.00	ATARI ST COLOUR.....	£11.00
AMIGA 2000	£11.00	ATARI ST MONO.....	£10.00
AMSTRAD 464	£8.00	BBC B or MASTER.....	£5.00
AMSTRAD 6128	£8.00	EPSON PC RANGE	£10.50
AMSTRAD 1512/1640	£10.00	IBM PC XT.....	£10.50
AMSTRAD 2086	£10.00	IBM PC AT	£11.00
AMSTRAD 2286/2386	£10.00	IBM PS2 MODEL 30.....	£10.50
AMSTRAD PCW 8256.....	£11.95	OLIVETTI PC 1	£10.50
AMSTRAD PCW 9512.....	£13.95	SINCLAIR PC 200	£10.50
ARCHIMEDES.....	£10.50	ATARI ST 520	£5.00

BBD also offer a wide selection of other covers for printers, disc drives, photo copiers etc. Generally 80-column printers cost £5.50 and 132-column printers cost £6.50

GOLDSTAR BRANDED DISCS

In keeping with our policy of dealing only in quality items BBD offer Goldstar Branded 3.5" discs at £13.95 per box of 10. These discs are 100% error free and carry a lifetime guarantee.

PRINTER CABLES

We can offer IBM-Centronics (25 pin to 36 pin) for only £5.95

PLEASE NOTE: ALL PRICES INCLUDE VAT AND DELIVERY

BBD DUST COVERS

Dept 41
The Standish Centre,
Cross Street, Standish,
Wigan. WN6 0HQ

Sheer Perfection in Computer Protection



Telephone: 0257 425839 ext. 41
Fax: 0257 423909



Callers and Dealers Enquiries Welcome



PC ENGINE SUPPLIES

PC Engines £165 (Works on any TV) with FREE game (up to £20) £4.00 P&P for the Engine

THE FOLLOWING PC ENGINE SOFTWARE NOW AVAILABLE

Wonderboy	£20.00	Vigilante.....	£25.00
R-Type I.....	£25.00	Dragon Spirit	£23.00
Baseball	£25.00	Watura	£28.00
Victory Run.....	£25.00	Son & Son II (NEW!)	£28.00
Chan and Chan	£20.00	Dungeon Explorer (NEW!)	£30.00
Legendary Axe	£27.00	Motor Roder (NEW!)	£27.00
Tennis.....	£27.00	Winning Shot (NEW!)	£30.00
Alien Crush.....	£27.00	P47 Freedom Fighter (NEW!)	£30.00
Fantasy Zone	£27.00	We are now taking orders for the Sega 16 Bit Megadrive - price £180.00 with FREE game.	
Galaga 88.....	£25.00		

50p P&P for each Software Title

WE DON'T TAKE FULL PAGE ADS - WE PASS THE SAVINGS ON TO OUR CUSTOMERS

Please make Cheques and P.O.'s payable to:

PC ENGINE SUPPLIES
223b WATERLOO ROAD, COBRIDGE,
STOKE-ON-TRENT, STAFFS, ST6 2HS

WE TRY TO BE THE FIRST WITH THE LATEST SOFTWARE.
TEL: 0782 284228 - Day. 0782 21993 After 6 pm.

SEVENTEEN BIT

Quality Amiga PD and Disc Mags

DO YOU WANT THE BEST
AMIGA PD DISCS,
THE LATEST DEMOS,
AMAZING MUSIC, GRAPHICS
AND UTILITIES??

If so then 17Bit are pleased to be able
to supply you with just about
everything you will ever
need from the Amiga PD!
With 429 discs in our own series
there is bound to be
something for everyone.
All discs cost just
£2.50 each or £20.00 for 10

INCREDIBLE PD PACKS!

Quickstart III
(3 discs, membership to 17 Bit)
TOP SELLER! Only £5!!
Special NCE packs!
AM-DEMO PACK
AM-MUSIC PACK
AM-UTILITY PACK

All of these packs contain 5 discs, 4 of
the respective type and a copy of our
disc-magazine..

plus membership to 17Bit.
Each pack just £10!! (Inc. P&P)

Write or phone now for full listings
of our PD and the
benefits we can offer you.
17Bit - "We're that bit better than the
rest"...as you will find out...

SEVENTEEN BIT SOFTWARE

PO BOX 97
33 Kirkgate, Wakefield,
WF1 1XX

Tel: 0924 366982

Access and Visa orders welcomed over the phone (24 Hours,
answer machine after 5.30pm) Orders outside UK please add
50p to all orders. Membership has no obligations.

YOUR FORMAT

MACHINE-SPECIFIC COLUMNS



Draw me a diagram

At last, after years of searching, that near-legendary object has been found. Yes, believe it or not, I now have in my possession a Spectrum circuit diagram. Following numerous frantic pleas, and no doubt spurred on by the promise of free software, they've been arriving by the sackful. Many thanks to the following public-spirited individuals for writing: Keiran Casey, David Smith, Mark Painter and Dave Rogers.

But the first and probably most generous person, and therefore the lucky one who gets the software is (improvise a drum roll everybody)... James "Jim'll Fix It" Abram! His diagrams arrived about a day after Express 32 came out along with the promise that for a nominal cost covering charge he will willingly send photocopies to any interested parties. James got the diagrams from the Spectrum repair manual which he already wrote to me about and I plugged in a past column. Details concerning that from CPC on 0772 555034, and for further info on the circuit diagram photocopies, send SAEs to James at 44 Virginia Road, Albrighton, Wolverhampton, W Midlands WV7 3NP. (Just give him a while to get bored of all his new software though.)

Also welcomed by the same man are ideas on how he might construct a new power pack for his plus 3. Another source of the aforementioned rare articles is apparently a magazine called "Television" which should

be in the local library and includes a series of features on servicing the Speccy. So nobody's got an excuse to be circuit diagramless. One last thing, don't send any more please!

More enigmatic info

You may remember me plugging the first edition of *Enigma* - a 128 users tape fanzine, like I had shares in it a while ago. Well the second issue just hit the streets with a

More tips!

The usually bountiful supply of tips has dried up a bit of late, so seeing as the promise of some free software attracted every circuit diagram in the western world, I've dreamed up another little scheme to get you writing in. For a limited period only, really good, original hacks, hints and cheats for up to date releases will get one whole game free! How can you resist? Send the stuff in to SPEX, New Computer Express, 4 Queen Street, Bath, BA1 1EJ.

resounding Thud! (journalistic cliché no 396) and delivers more fun for beleaguered 128, +2 and +3 owners. The contents include some great music from Ocean to fully exercise the 128's sound chip, sound sampling routine, a demo from Players, unerase utility for the +D disk drive plus a word count for *Tasword 2*.

That's as well as the more standard features like reviews, hacks, previews and the like. Definitely recommended to people who want to enjoy the benefits having a larger memory can bring. *Enigma* costs £1.99 an issue or £1.50 if you supply your own cassette (C60 size) and the address for orders is Hamish Rust, 15 Westfield Road, Inverurie, Aberdeenshire, AB5 9YR.

Robin Alway

Trendy loading screens

The pair of listings I treated you with in recent columns seemed to go down pretty well with just about everybody, and because SPEX always tries to make your day and leave you with feelings of warmth and happiness, here's another type-in for you to feverishly bash out. It's a compact and bijou little number from the same person who brought you the famed scrolling message routine of issue 26, the talented Mark Bailey, and emulates the trendy loading screens you might have seen in games like *Robocop*. I found it a little difficult to get up and running so your maximum concentration is required at all times...

```
10 CLEAR 29999:FOR A=65200 TO 65357:READ M:POKE A,M:NEXT A:STOP
20 DATA 48,117,1,17,0,64,42,176,254,62,8,245,62,4,6,32,245
30 DATA 58,178,254,167,32,9,235,54,0,35,16,251,235,24,5,1,32
40 DATA 0,237,176,6,30,255,16,253,241,61,167,40,15,36,36,20
50 DATA 20,14,32,167,237,66,235,237,66,235,24,208,241,61,167
60 DATA 40,10,245,6,6,124,144,103,122,144,87,24,190,62,88
70 DATA 186,200,61,186,32,9,17,0,65,42,176,254,36,24,170,36
80 DATA 20,24,166,42,176,254,1,0,24,9,17,0,88,6,3,237,176
90 DATA 201,33,0,88,17,1,88,54,56,1,255,2,237,176,201,33,0
100 DATA 64,237,91,176,254,1,0,27,237,176,201,42,176,254,17
110 DATA 0,64,1,0,27,237,176,201,127,77,66,56,57
120 SAVE "LINE":STOP
130 SAVE "LINE" CODE 65200,158:STOP
140 LETC=30000:LETA=INT (C/256):LET B=C-A*256:POKE 65200,B:POKE 65201,A
```

Once the smell of burning rubber and plastic has diminished, save the whole thing by typing RUN 120. Now the program needs something to work on, so either pinch the loading screen from the game of your choosing or design one. Load it into the program with LOAD "Name of the screen" CODE address (address is the location in the memory where you want the screen to end up. Locations up to 30000 have been cleared for use). Next come the various fiddly bits to make the screen appear/disappear as you want it to. For starters, there's a fade routine:

POKE 65202,1 or 0 (1 - Fade on screen, 0 - Fade off)
POKE 65200, screen address. Alternatively, it's possible to change the value of C in 140 to the starting address of your screen.
POKE 65238,1-255 for speed of fade. (0 - slowest, 1 - fastest, 2 - second fastest etc)
RANDOMIZE USR 65203 runs it.

There is also a colour on and off routine:
RANDOMIZE USR 65299 shows the screen's main colours without the actual picture.
RANDOMIZE USR 65314 resets the screen's colour to a certain attribute.

Finally, two commands to put the screen into memory or vice versa:
Copy screen to memory: RANDOMIZE USR 65328
Copy memory to screen: RANDOMIZE USR 65341
Typing RUN 130 will save the machine code, according to Mark. My thanks are on loan to Mark Bailey yet again, and you'd like to experience similar ego inflation, send in your code.

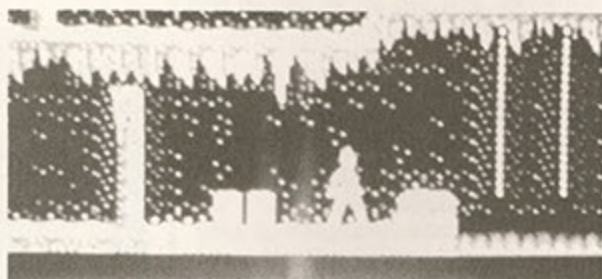
SECTOR 64 SECTOR

Two worlds

The music industry is suffering from the same thing as the computer industry - piracy. In the case of music, it's the illegal swapping of tracks.

But even though we moan about these people who get games and fiddle with the code then swap it all over the world, these are usually the game-makers of the future.

The same thing is happening in the music industry, where the hacker is replaced by the DJ who gets records and mixes them with others. He then proudly swaps his piece of work with other DJs all over the world. These mixes are just the same as - or even better than - commercial mixes, but as



• Indiana Jones and the Last Crusade: out late July on the 64

ladder suspended from a helicopter, leaping onto a moving car and flying over rooftops in a death-defying Bondmobile.

Please note that these stunts are done by professionals who know what they're doing. Do not copy them in any way - things could prove fatal (hee hee). No, we don't think you're that stupid really. Honest.

Look out!

Well the new film *Indiana Jones and the Last Crusade* looks to be a monster smash in the UK on its release, but will the computer game be just as exciting? You'll have to find out for yourself when it comes out on the 64 from US Gold in late July.

Wow!

It's amazing! We found out that the night club we regularly attend uses Commodore 64s to display the freaky text on the monitors. You never know how far your machine can go!

People could really put the 64 to good use if they wanted to make a great acid house video - as we found out for ourselves, it can be a wicked tool for video making.

We put together a demo which had a big, solid circle coming in and out of the TV, while having the screen and borders flashing very fast. On top of that we flickered between two screens to have the large white strobing ball look like it was behind a full-screen acid logo flying across the screen at a very fast rate. And to add more excitement to it, we had a small smiley face fly up and around the screen before leaving the display. The finished result could easily look good on any commercial music video; so a note to music-makers - you can probably create effects on the C64 or Amiga just as good as those on a thousand pound bundle of chips.

The demo itself does not contain music because that depends on what we play on the hi-fi.

these people can't afford the rights to do it legally, they just end up in DJ-only record collections.

Even though people think this is a bad thing, you must stop and think that these people are going to be the DJs and mixers of the future, just like these hackers.

What can be done?

Rainbow Arts is back

This time it's with *Danger Freak* - so what's the script?

Stuntmen - unsung heroes of countless epic cinema classics, daredevils who know no equal - take on the role of danger freak, and you too can try those daring stunts you've seen performed so effortlessly on the big screen. Screaming into oblivion down Anarchy Road, on the meanest machine on two wheels, scrambling desperately over a

Dates for new SSI releases

- Overrun • Out Now • £24.99
- First over Germany • Late April • £24.99
- Heroes of the Lance • Late May • £9.99/£14.99
- Storm across Europe • Early July • £24.99
- Curse of the Azure Bonds • Mid July • TBA

Core!

Based on the epic novel by Jules Verne, *Journey to the Centre of the Earth* takes you on a perilous adventure to the very depths of the earth. It should be out as you read this.

Releases from US Gold

● Vigilante

When there's no-one left to fight crime, who're you gonna call? - The Vigilante. Skill and courage are the Vigilante's hallmark of success. His superb skill in using a combination of jump kicks, rapid fire punches and acrobatic manoeuvres will stand him in good stead. His flawless use of nunchakus, a weapon of kung-fu, will enable him to meet his opponents head-on in this action-packed combat game.

The game features five different levels, comprising Main Street, The Junkyard, Brooklyn Bridge, Back Street and the Girders construction scene. Each level contains a combination of different street gangs led by a giant of a gang leader.

● Forgotten Worlds

Forgotten Worlds features a two-player interactive game, full-screen playing area and some very hot graphics and animation. So what's it about?

Emperor Blos, the God of Destruction, has begotten eight evil gods who were destroying all known civilisation.

Destroyed cities turned into ruins and became known as "Forgotten Worlds", but the spirit of people's angry minds created tow super-warriors to fight back against the evil demons and get back at Blos.

Their task is awesome. Emperor Blos is protected by three of his demi-gods - the Golden Dragon, the God of Destruction and the Paramedum.

Forgotten Worlds is out now, at £9.99 on cassette, £14.99 disk.

Ian + Mic

MERLIN COMPUTERS

OUR PRICES ARE MAGIC

ATARI 520 STFM POWER PACK£359.99
 AMIGA 500 With 10 FREE Games & T.V. Modulator ...£375.00

TRY THE ST's MIDI POWER

CASIO MT 240 AN EXCELLENT LOW COST MIDI KEYBOARD £124.99
 OTHER CASIO KEYBOARDS ALSO AVAILABLE

1 MEG 3.5" DISK DRIVES ST AND AMIGA£85.99
 ATARI STFM 1 MEG INTERNAL DRIVE UPGRADE£74.99
 1 MEG INTERNAL DRIVE FOR AMSTRAD 1512/1640£85.99
 The above drive is an easy to fit 2nd drive complete with mounting tray/facia

ATARI ST VIDEO DIGITISER ONLY £79.00

The above digitiser features real time frame grabbing and animation. 10 screens can be stored and flipped through to create animation. Files saved in NEO or DEGAS format. Comes complete with software

BLANK DISKS AT AMAZING LOW PRICES

10 3.5" DS/DD life time guaranteed£8.50
 Bulk buyers please phone for bulk prices

WE STOCK MANY ITEMS NOT LISTED HERE PLEASE PHONE FOR ANY ITEMS NOT LISTED

PLEASE NOTE ATARI 8-BIT OWNERS WE SUPPORT YOU

PLEASE PHONE FOR DETAILS

MERLIN COMPUTERS
 154 Uplands Ave., Connah's Quay,
 Deeside, Clwyd. CH5 4LG
 Tel: 0244 821843

We Accept EXPRESS VOUCHERS

MAIN MEDIA

FREEPOST, ANDOVER, HANTS. SP10 4BR
 Tel: 0264 333830 (24 hrs)

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	£69.95					
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/QD	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.

Main Media, 1 Weatherby Gardens, Charlton, Hants.

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/QD 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/QD 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/QD 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/P.O.'s to: MAIN MEDIA
FREEPOST
ANDOVER, HANTS. SP10 4BR
Tel: Credit Card Hotline 0264 333830 (24 hrs)



Scanned reward

Christopher Bice of Kingsbridge, Devon, asks me about scanners for the PCW. For those who don't know, a scanner runs over a picture or page of writing and turns it into a graphics file that can be used in a graphics or DTP program.

Well, no hand scanners I'm afraid - the ones you see advertised in Express may well plug into your RS232 but there's no software to make sense of the data coming in (unless you are handy at programming).

There's MasterScan for the 8256 and 8512 (but not the 9512 - sorry Christopher!), an ingenious device that fits on your printer head and scans whatever is in the printer - but it's not very detailed and text smaller than the words 'YOUR FORMAT' at the top of this page wouldn't come out legibly. Handy and relatively inexpensive at £69.95 from Database on 0625 878888.

Perhaps the only real option is to buy a digitiser, which converts images from your video into graphics data. Rombo (0506 414631) does one for £79.95 and Electric Studio (0462 834864) for £99.95.

Rombo also will digitise pictures for you - you send Rombo a disk and the pictures and they put the digitised result on the disk for you. Costs £11.50 a disk, so not for regular use!

Ankient Greecs

There is an argument that recurs in computer magazines every few months about whether 'disk' should be spelt with a k or not. Many erudite and vitriolic letters are exchanged and the Ancient Greeks end up getting blamed for everything for having a letter k but no c when the Romans had a letter c but no k.

To the delight of ancient purists, LocoScript 2.28 is now out, which supports Ancient Greek as well as the modern version which Loco 2 has always done. You can cope with all your breathing and also digamma, sampi and lunate sigma, which are not disorders of the internal organs but arcane Greek characters (though most disorders of the internal organs have Greek names, of course). Further info from Locomotive on 0306 740606 - LocoScript costs £24.95.

Small is... unreadable

A reminder that you can get really small LocoScript type on an 8256 or 8512 by selecting pitch 17 with (+P17) and half-line spacing with (+LS1/2). Ideal for the small print at the bottom of contracts.

But not cigarette

The words alcohol, coffee and hashish are all Arabic in origin. What this signifies is anyone's guess, but now out now from Locomotive is its Arabic word processor which allows you to type left-to-right in those languages if you want to. Euro-Arabic LocoScript costs £85. Versions for Urdu and Farsi are also available and, if you don't know which countries use those languages, it's doubtful that you'd want to buy the programs.

Basil Pigg



QUANTA Sub-groups

Quanta, the QL Users and Tinkerers Association, supports a number of sub-groups around the country. If you live near one of these groups, and you would like some social interaction with like-minded individuals, why not go to one of their meetings. You don't have to belong to Quanta.

SUB-GROUP	CONTACT
Essex	Trevor Watson, 9 Lucy Gardens, Dagenham Essex (01-592 5928)
Solent	Graham Evans (042 121 3350)
Mid-Anglia	Peter Rowell, 347 St Neots Rd, Hardwick, Cambs
Leicester	Peter Ash, 53 Woodland Rd, Leicester (0533 766587)
Birmingham	Mike Bedford-White, 16 Westfield, Acocks Green (021-707 3100)
Mid-Cheshire	Alex Robertson, 12 Bude Close, Crewe, Cheshire (0270 500565)
Belfast	Stephen Roper, 34 Pretoria St, Belfast (0232 669586)
Merseyside	Don James, 3 Barnard Rd, Oxtun, Birkenhead (051 652 7366)
Newcastle	Dennis Crow (091-266 5175)
Northampton	Terry Harman, 304 Obelisk

Rise, Northampton (0604 842875)
Isle of White Richard Howe, Cove Farmhouse, Ventnor (0983 79496)

Cheap QLs

If you want a spare machine, the cheapest source of QLs at present appears to be EEC Ltd - tested (JM ROM) machines without power-supplies for £65. This is just the basic machine, no manual or software, and ideal as a backup machine, or for networking.

EEC Ltd is at 18-21 Misbourne House, Chiltern Hill, Chalfont St Peter, Bucks. (0753 888866)

John Torofex

Speedy Solution?

Quanta Secretary Phil Borman recently spent a lot of time benchmarking Digital Precision's DOS Emulator, The Solution, comparing it with the real thing, an Amstrad PPC, and a couple of other DOS emulators: an Atari running PC Ditto, and an Amiga running Transformer.

The Solution running on a QL was the slowest emulator by a considerable margin, but looked much more respectable when running on an Atari fitted with Strong Computing's QL emulator; it was almost as fast as PC Ditto on the Atari, and faster than the Amiga/Transformer combination.

A comparison between the Amstrad PPC and The Solution running on a standard QL showed that The Solution ranged between 2.8 times slower than the PPC when formatting a disk and 92 times slower running the PCW Trilogic benchmark. The median factor was 19.6.

ACCESS/VISA CARD HOTLINE
(0772) 452414

HOMESoft (UK)
Software and Hardware

ALMOST PROBABLY THE CHEAPEST MAIL ORDER/RETAILER IN EUROPE

NORTHWEST LEADING DEALER

OPEN MON - FRI: 9 AM - 6 PM SAT 9 AM - 4 PM
CALLERS WELCOME

SUMMER MADNESS SALE

PHILIPS CM8833 MED. RES. MONITOR £235.00	AMIGA 500 FREE MODULATOR, MOUSE ART PACKAGE PLUS MOUSE BRACKET 50 CAP DISK BOX MOUSE MAT 10 DD/DS DISKS JOYSTICK ONLY £385.00	AMIGA 500 FREE MODULATOR MOUSE ART PACKAGE ** WITH** * 4096 COLORS * * CD QUALITY * STEREO SOUND ONLY £355.00	JOYSTICKS & BLANK DISKS																																																																																																						
Free Lead with both	COMMODORE 1084S MED. RES. MONITOR £245.00	ATARI 520STFM POWER PACK ONLY £345.00	COMPETITION PRO EXTRA.....11.20 COMPETITION PRO 5000.....9.50 CHEETAH 125+.....5.20 CHEETAH MACH 1+.....8.95 CHEETAH STARFIGHTER.....9.55 QUICKSHOT II PLUS.....6.50 QUICKSHOT II TURBO.....8.95 KONIX NAVIGATOR.....11.50 KONIX SPEEDKING.....8.90 SPEEDKING + AUTOFIRE.....9.20 COIN/OP MICRO HANDLER.....15.00																																																																																																						
ATARI 1040 STFM ONLY £445.00 WITH SOFTWARE	ATari SM124 Hi Res. Black & White Monitor £100.00	ATARI 520STFM EXPLORA PACK ONLY £265.00	KAO HIGH DENSITY DISKS - 10.....9.50 KAO HIGH DENSITY DISKS - 50.....45.00 KAO HIGH DENSITY DISKS - 100.....80.00																																																																																																						
Slimline 3.5" 1 Mb Drive £89.00	A590 Hard Drives IN STOCK	Books for Amiga/Atari by Compute Fully Stocked	MOUSE MAT.....4.50 100 CAP 3.5" LOCKABLE BOX.....6.50 200 CAP 3.5" POSSO BOX.....14.90 FOUR PLAYER ADAPTOR (AMIGA).....3.50 TWIN JOYSTICK EXTENSION LEAD.....4.50 3.5" HEAD CLEANER.....2.90 MOUSE BRACKET.....3.50																																																																																																						
Cumana 354 3.5" 1Mb Drive £94.00	Commodore A501 Expansion with Clock £130.00	★ ALL A500'S COME COMPLETE WITH BASIC AND TUTORIAL DISKS ADD £10.00 FOR NEXT DAY DELIVERY	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">16 BIT LATEST RELEASES</th> </tr> <tr> <th>TITLE</th> <th>AMIGA</th> <th>ATARI ST</th> </tr> </thead> <tbody> <tr><td>POPULOUS.....</td><td>16.80</td><td>16.80</td></tr> <tr><td>ARCHIPELAGOS.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>LORDS of the RISING SUN.....</td><td>18.10</td><td>18.10</td></tr> <tr><td>BLOOD MONEY.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>FALCON.....</td><td>17.20</td><td>14.30</td></tr> <tr><td>STOS.....</td><td>18.10</td><td>18.50</td></tr> <tr><td>BARBARIAN II.....</td><td>12.10</td><td>12.10</td></tr> <tr><td>VINDICATORS.....</td><td>13.90</td><td>12.10</td></tr> <tr><td>KICK OFF.....</td><td>12.10</td><td>12.10</td></tr> <tr><td>TV SPORTS FOOTBALL.....</td><td>18.10</td><td>12.10</td></tr> <tr><td>SUPER HANG ON.....</td><td>15.10</td><td>12.10</td></tr> <tr><td>TEST DRIVE II the duel.....</td><td>18.10</td><td>12.10</td></tr> <tr><td>SWORD of SODAN.....</td><td>15.10</td><td>12.10</td></tr> <tr><td>AIRBORNE RANGER.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>BALANCE of POWER 1990.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>MICROPROSE SOCCER.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>SILK WORM.....</td><td>12.10</td><td>12.10</td></tr> <tr><td>BIO CHALLENGE.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>DRAGON NINJA.....</td><td>16.10</td><td>16.10</td></tr> <tr><td>MILLENIUM 2.2.....</td><td>16.10</td><td>16.10</td></tr> <tr><td>RING SIDE.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>3D POOL.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>ARV HONDA.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>WEIRD DREAMS.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>FORGOTTEN WORLDS.....</td><td>13.90</td><td>13.90</td></tr> <tr><td>WICKED.....</td><td>13.90</td><td>13.90</td></tr> <tr><td>FALCON MISSION DISKS.....</td><td>13.10</td><td>13.10</td></tr> <tr><td>ROBOCOP.....</td><td>16.10</td><td>16.10</td></tr> <tr><td>KULT.....</td><td>15.10</td><td>15.10</td></tr> <tr><td>HAWKEYE.....</td><td>12.10</td><td>12.10</td></tr> <tr><td>GIANTS.....</td><td>18.10</td><td>18.10</td></tr> <tr><td>NAVY MOVES.....</td><td>16.80</td><td>13.10</td></tr> </tbody> </table>	16 BIT LATEST RELEASES			TITLE	AMIGA	ATARI ST	POPULOUS.....	16.80	16.80	ARCHIPELAGOS.....	15.10	15.10	LORDS of the RISING SUN.....	18.10	18.10	BLOOD MONEY.....	15.10	15.10	FALCON.....	17.20	14.30	STOS.....	18.10	18.50	BARBARIAN II.....	12.10	12.10	VINDICATORS.....	13.90	12.10	KICK OFF.....	12.10	12.10	TV SPORTS FOOTBALL.....	18.10	12.10	SUPER HANG ON.....	15.10	12.10	TEST DRIVE II the duel.....	18.10	12.10	SWORD of SODAN.....	15.10	12.10	AIRBORNE RANGER.....	15.10	15.10	BALANCE of POWER 1990.....	15.10	15.10	MICROPROSE SOCCER.....	15.10	15.10	SILK WORM.....	12.10	12.10	BIO CHALLENGE.....	15.10	15.10	DRAGON NINJA.....	16.10	16.10	MILLENIUM 2.2.....	16.10	16.10	RING SIDE.....	15.10	15.10	3D POOL.....	15.10	15.10	ARV HONDA.....	15.10	15.10	WEIRD DREAMS.....	15.10	15.10	FORGOTTEN WORLDS.....	13.90	13.90	WICKED.....	13.90	13.90	FALCON MISSION DISKS.....	13.10	13.10	ROBOCOP.....	16.10	16.10	KULT.....	15.10	15.10	HAWKEYE.....	12.10	12.10	GIANTS.....	18.10	18.10	NAVY MOVES.....	16.80	13.10
16 BIT LATEST RELEASES																																																																																																									
TITLE	AMIGA	ATARI ST																																																																																																							
POPULOUS.....	16.80	16.80																																																																																																							
ARCHIPELAGOS.....	15.10	15.10																																																																																																							
LORDS of the RISING SUN.....	18.10	18.10																																																																																																							
BLOOD MONEY.....	15.10	15.10																																																																																																							
FALCON.....	17.20	14.30																																																																																																							
STOS.....	18.10	18.50																																																																																																							
BARBARIAN II.....	12.10	12.10																																																																																																							
VINDICATORS.....	13.90	12.10																																																																																																							
KICK OFF.....	12.10	12.10																																																																																																							
TV SPORTS FOOTBALL.....	18.10	12.10																																																																																																							
SUPER HANG ON.....	15.10	12.10																																																																																																							
TEST DRIVE II the duel.....	18.10	12.10																																																																																																							
SWORD of SODAN.....	15.10	12.10																																																																																																							
AIRBORNE RANGER.....	15.10	15.10																																																																																																							
BALANCE of POWER 1990.....	15.10	15.10																																																																																																							
MICROPROSE SOCCER.....	15.10	15.10																																																																																																							
SILK WORM.....	12.10	12.10																																																																																																							
BIO CHALLENGE.....	15.10	15.10																																																																																																							
DRAGON NINJA.....	16.10	16.10																																																																																																							
MILLENIUM 2.2.....	16.10	16.10																																																																																																							
RING SIDE.....	15.10	15.10																																																																																																							
3D POOL.....	15.10	15.10																																																																																																							
ARV HONDA.....	15.10	15.10																																																																																																							
WEIRD DREAMS.....	15.10	15.10																																																																																																							
FORGOTTEN WORLDS.....	13.90	13.90																																																																																																							
WICKED.....	13.90	13.90																																																																																																							
FALCON MISSION DISKS.....	13.10	13.10																																																																																																							
ROBOCOP.....	16.10	16.10																																																																																																							
KULT.....	15.10	15.10																																																																																																							
HAWKEYE.....	12.10	12.10																																																																																																							
GIANTS.....	18.10	18.10																																																																																																							
NAVY MOVES.....	16.80	13.10																																																																																																							

For the First and Last Word in Software Come to Homesoft. Every New & Old Title Always Carried in Stock. Phone our Hotline for more information

GOODS DESPATCHED WITHIN 12 HOURS SUBJECT TO AVAILABILITY

CHEQUES, P.O.'s TO BE MADE PAYABLE TO:
HOMESoft U.K.
UNIT 13, CENTURION WAY INDUSTRIAL ESTATE,
FARINGTON, LEYLAND, PRESTON,
LANCASHIRE. PR5 2GU
TELEPHONE: (0772) 452414 (2 Lines)

FOR NEW RELEASES AND ITEMS NOT LISTED PLEASE PHONE US TODAY.
NEW TITLES WILL BE DESPATCHED ON CONFIRMED DATE OF RELEASE.
GOODS SUBJECT TO AVAILABILITY AND CHANGE WITHOUT PRIOR NOTICE.
OFFER ENDS 31st JULY 1989.
HOMESoft (UK) CARES FOR ITS CUSTOMERS



Scanner delivers

A wapping great new toy this week for the Model B. Watford Electronics has come up with what must be the first BBC Micro add-on for a twelve month.

Previewed at its Open Day in the Spring, it's a hand-held scanner capable of 200 dpi. It's the standard half-width affair (4 inches). Watford's ROM software scans images into the BBC's highest resolution, Mode 0. It just happens that Watford's own *Wapping Editor* is the premier desktop publishing program for the red-keyed wonder.

Watch out if you've already got something hanging off the 1Mhz bus - because the scanner needs it too.

A few words

I'm used to using my spelling checker software to help me solve newspaper crosswords, so I suppose I shouldn't be too surprised to see Akom come up with a whole load of Times and Sun crossword puzzles on cassette and disk. I'm glad it didn't forego the temptation of including a clue by clue help facility so that I can see how really devious the deviser of the puzzles was. For aficionados, the Times Jubilee Puzzles 1932-1987 gives a flavour of the changing styles over the years. Prices from £7.95 cassette, £17.95 disk.

I'm game

Apparently Fourth Dimension held an open day on 15th May at which its new release *White Magic* was well received.

Mmm, because Steve Botterill didn't send me an invitation I'm not sure I should comment. Always fair however, I welcome it as something a bit different from the normal shoot-'em-up but question its technical merits. It's in the shops now for the full range of Acorn machines.

Two trickier sets of extra courses for the *Holed Out* golf simulation have also teed off and you don't have to own the original game to play them because it's included on all the disks. Price is also down, so if you didn't play first time around you might now reconsider a round (groan).

Picture this

Same people, different label: Impact Software has spotted a black hole in the BBC Market and is launching a cheap £9.95 art package called *Art Studio* at it.

Press Dabs pilercom

An interesting example of reverse engineering from Dabs Press, with the release of *ABC65*, a compiler which takes *Archimedes BASIC V* programs and makes them work on the BBC Micro as 6502 machine code. The *Archimedes* is plainly a better program development environment so it sort of makes sense. The main and obvious problem of finding enough space in a BBC Micro to hold the code is overcome by using sideways RAM storage where available. One hundred page user guide and serial transfer software included. Asking price is £69.95.

Andrew Brown



New games

It looks as if we will be able to purchase *MSX R-Type* in the UK, a game released here on all formats bar MSX quite a while ago. For the uninitiated, *R-Type* is a *Nemesis*-type shoot-'em-up, and was well received on other formats.

The version soon to be available in the UK is a Japanese import and will be supplied on ROM. Supplies will be fairly limited, so if you wish to reserve a copy, I suggest you contact *Nightdare Ltd* of Torquay, (Tel 0803 606146). *Nightdare* also has a selection of other Japanese games on ROM, and are always on the lookout for new titles from Japan.

Drive crazy

I am still being asked if it is possible to purchase MSX Disk drives in the UK. I think the only way that you are likely to obtain one is by advertising in the classified section of Express. MSX drives are like gold dust at the moment, and even second hand ones fetch high prices. Note that you can use any MSX drive with any MSX computer - for example a Sony drive will work with a Toshiba and vice versa. I may have good news regarding MSX Disk drives shortly - a company I am in contact with believe that they can obtain the Philips Disk Drives, and will let me know...

French company Titus has informed me that the next title due out on the MSX will be a game called *Pipeline*, and it should be available this September.

The last title from Titus for the MSX was *Crazy Cars*, and this was supplied on ROM, so maybe *Pipeline* will also be available in this form. I hope so - tapes are a pain in the ... um ... neck.

Grandslam entertainments has kindly sent me about ten of its budget Bug Byte games to try, eg *Turmoil* and *Timetrax*, keep reading this column for my impressions

BASIC problem

Wayne Morrison of Gateshead writes asking if anyone has had problems loading the game *Army Moves* on the Toshiba HX/10, as he has tried all the various LOAD, BLOAD etc commands, but cannot get past the loading screen. As this is one of the few games I don't have in my possession, can any readers help? Write to *MSXtra* with your solution.

Wayne also asks why, when he tries to place five sprites on a line in a BASIC program, one of them disappears. Well Wayne, this is because the MSX 1 video display processor will only allow four sprites per line, even though you can define up to 256 sprites, and place 32 of them on screen at once. The MSX 2 has a more advanced video processor, and it allows you to place eight sprites on each line, and each sprite can be multi-coloured unlike the single colour sprites on MSX 1 - and before anyone writes in to say they have seen multi-coloured sprites on an MSX 1, this is done by using more than one sprite, and by using a different colour on each sprite you can make up what appears to be a multi-coloured sprite.

Keith Neal

WHY PAY MORE FOR COMPUTER MANUALS? OR SUPPLIES, OR SELF TEACH TRAINING SOFTWARE?

Join the Computer Users Book Club and save up to 50% on publishers' prices on over 160 (and increasing) of the latest titles on all subjects for:- Amiga, Atari, Acorn, Archimedes, Apple Mac, IBM PC Compatible, IBM PS2, Amstrad PCW as well as a terrific range of self teach software and computer supplies

FREE MEMBERSHIP

When you join you receive a full colour catalogue every quarter containing a review and picture of each item

ONLY 3 TITLES IN YOUR FIRST YEAR

You need only agree to purchase 3 catalogue titles in your first year. (Min 1 year membership) which can be as little as £15 (as prices range from £5 to £50)

EASY CANCELLATION

After your **first** year you need only tell us and we will cancel your membership immediately. Alternatively we will contact you if we don't hear from you in any 6 month period. **REMEMBER** though that the longer you are a member the more **valuable** your membership becomes through special offers and purchase bonus points.

NO UNWANTED GOODS

We will not send you anything you have not expressly ordered (except for a free gift of course!), and you see the goods, before you actually pay for them!

JOIN NOW

Call 0495 292169 or write in for details of special offers for new members and receive a copy of our latest catalogue!
Free gift with your first order!



COMPUTER USERS BOOK CLUB
7, BLAINA ENTERPRISE CENTRE
RISING SUN INDUSTRIAL ESTATE
BLAINA, GWENT, NP3 7JW
TEL: 0495 292169
FAX: 0495 292404

WHO SAID WE WERE JUST ANOTHER BOOK CLUB !!

IT'S TRUE!*

star LC-10 £159.95

star LC-10 £209.95 COLOUR

INCLUDING VAT & FREE LEAD ALL UK VERSIONS (IBM/ST/AMIGA)

ORIGINAL STAR ACCESSORIES

LOW PRICES

(If purchased with Printer)

- CUT SHEET FEEDER £59.99
- BLACK RIBBON £3.99
- COLOUR RIBBON £5.99



HURRY LIMITED STOCK

*** BUT ONLY FROM:**



EALING COMPUTER CENTRE

19, Queen's Parade, London, W5 3HU
Tel: 01 991 0928

For Next Day Courier Add £6 (within M25) or £10 Mainland
Access and Visa - All offers subject to availability - E. & O.E.



Design Limited

Core design are a young dynamic Software Development company presently producing software for major UK Software Publishers.

Due to popular demand we are now looking for additional programmers and graphic artists to join our existing team.

We are looking for Programmers with assembly language experience on the following computers:

**IBM PC ATARI ST AMIGA COMMODORE 64
SPECTRUM AMSTRAD**

In addition we also require Graphic Artists with experience of any of the above computers.

If you fall into any of the above categories and would like to work for one of the most innovative teams in the country, contact Core Design now — it could be the opportunity of a lifetime.

Apply to Kevin Norburn at:

CORE DESIGN LTD

Ground Floor
Saxon House
Heritage Gate
Derby DE1 1NL
or Telephone: (0332) 290668

PACIFIC SOFTWARE

require talented game programmers for Atari ST, who are experienced in one of the following:

1. 68000 Programming
2. Sprite Design
3. Games Design
4. Music Composition
5. Graphics
6. Software Protection

If you feel you are competent in any of these aspects of computing, please write to us giving if possible, a sample of your work and instructions to:

PACIFIC SOFTWARE

5 Falkland Road, Wallasey,
Merseyside. L44 8EN

URGENT

GAINSTAR, one of the leading Software Houses in the UK and Europe, are looking for **TALENTED PROGRAMMERS** and **GRAPHIC ARTISTS** for the Amiga, Atari and more importantly PC. We are also interested in existing programmes. We possibly offer the **BEST DEALS** for suitable candidates.

For further details please contact me, Michael, on:

0252 879718 and 877431

or send full C.V. to:

GAINSTAR
Unit1, Rear of 7 Wellington Road, Sandhurst,
Surrey. GU17 8AW

SILKWORM PROGRAMMERS GET BIGGER

Random Access is Expanding!

The Development House which brought you the awesome shoot 'em up Silkworm (currently working on The Ninja Warriors) are undergoing a massive expansion - **we want quality programmers and artists who can produce quality products.**

If you feel that you are up to our standards in 68000, 6502, Z80 or 8086 with a good track record and are willing to move into our growing team contact

Simon Pick on

01 585 3308

NOW!

**PUBLIC DOMAIN SOFTWARE
AND SHAREWARE**

Extensive ranges of Public Domain Software & Shareware available for the following Computers:

IBM PC & Compatibles

including Amstrads

£2.95 per 5.25" disk £4.50 per 3.5" disk

Apple MACINTOSH range

£4.99 per disk

COMMODORE 64 & 128

at £2.95 per 5.25" disk

Commodore AMIGA

from £3 per disk

Atari ST

from £2.80 per disk

Commodore Plus 4

from £3.75 per disk

Apple II Range

from £3.75 per disk

CATALOGUES

Catalogues and lists are available for all the above. Please send SAE or phone if you would like us to send you one, or if you would like any further details. Please state clearly which machine(s) you are interested in.

ORDERING

Please note that the above prices are FULLY INCLUSIVE of VAT and postage. Orders are normally dispatched within two working days of receipt. We cannot accept payment by credit card

KINGSWAY COMPUTERS

140 Rushdale Road, Sheffield, S8 9QE
Telephone: 0742 588429

**ARCHIMEDES
LORE**

New blood

It's hard to believe the bright young thing of Express columns could have changed hands so soon, but here I am. To be quite open from the start, I'm a Beeb man at heart having come to the Archie from many fun-packed years of 32K computing.

It was a sorry day when I had to say goodbye to the Beeb, but time moves on and the Archimedes offers such a lot, as well as running nearly all the well-written Beeb software.

I went for the Archimedes 310, even though the A3000 had already been announced. This was a conscious decision on my part, as I still believe the 310 has better upgrade potential, and you can also fit a hard disk inside the case. It's also good to have a serial port fitted as standard, and there are plenty of expansion cards already available for the machine (who prefers the term "module"?).

I've still to work through all the wonders of RiscOS, but I know that Acorn really sees it as the icing on the cake as far as the Archie's concerned.

Rumour has it that the company is quite prepared to see the ARM chipset go to other manufacturers, but would be unwilling to let them have the operating system on an OEM basis.

Printer drivers

Acorn supplies Epson FX80 and PostScript printer drivers with RiscOS, which cover many possible printer types. There is also an HP LaserJet Plus driver, though, which is not in such wide circulation, but is available if you ask Acorn nicely.

It's quite possible, therefore, to share a printer by means of a switch box or on a network with other computers, particularly PCs. It's probably also possible to swap LaserJet print files sent to disk, with their PC equivalents.

Quick RAM disk

If you would find a RAM disk a convenient addition to your desktop, you might like to know that there's a really easy way to create one.

Call up the task display so that it's showing all the little usage histograms and drag the one labelled RAM disk with the mouse. You can pull it out from left to right and the free memory bar moves in by a corresponding amount.

When the RAM disk bar has reached the level you want, exit the task display and you'll find the RAM disk icon will have been added to the icon bar, and is ready for use with the full RiscOS RAM filing system.

It's certainly possible with the PostScript driver. A friend of mine regularly produces PostScript output from Archie applications and transfers it to his PC which is equipped with a PostScript interpreter for his HP InkJet printer. And some very fine results he gets, too!

Bertram Carrot

ROMANTIC ROBOT regrets

Because of possible implications of the coming new Copyright Act we will NOT sell the MULTIFACE in the UK after 01/08/1989.

This is our **LAST ADVERT** and your **LAST CHANCE** to buy!

To help EVERYBODY to get the ESSENTIAL Spectrum ADD-ON whilst still possible, we offer **£10 OFF** any **MULTIFACE**, and **Multiprint & Videoface**.

We are also offering **£2 off LIFEGUARD** and **£3 off GENIE!**

Please **DO** realize that this is more than an absolutely unique offer:

this is the LAST CHANCE you have!

All sales will end on July 25

BUY NOW - or NEVER...

All offers apply only to MAIL ORDERS received with the coupon below 15.6.-25.7.1989

MULTIFACE 1 - for Spectrum 48K. MULTIFACE 128 and MULTIPRINT - for Spectrum 48K, 128K and +2. MULTIFACE 3 - for Spectrum+3 and +2A. VIDEOFACE - for any Spectrum. Send SAE for full details.

Is there life after Multiface? Take no risk - buy one NOW!

I enclose a cheque/Postal Order/cash incl. P&P for £.....
or debit my Access/Visa No.....

Name..... Card Exp.....

Address.....

P&P UK & Europe £ 1.00	<input type="checkbox"/>	P&P OVERSEAS £ 2.00	<input type="checkbox"/>
MULTIFACE One £29.95	<input type="checkbox"/>	MULTIFACE 128 £ 34.95	<input type="checkbox"/>
GENIE ONE £ 6.95	<input type="checkbox"/>	GENIE 128 £ 6.95	<input type="checkbox"/>
MULTIFACE 3 £34.95	<input type="checkbox"/>	M3 w/through BUS £ 39.95	<input type="checkbox"/>
MULTIPRINT £29.95	<input type="checkbox"/>	Videoface Digitizer £ 34.95	<input type="checkbox"/>
LIFEGUARD £ 4.95	<input type="checkbox"/>	MUSIC Typewriter £ 5.95	<input type="checkbox"/>
Spectrum +3 Disks £ 2.75	<input type="checkbox"/>	+3 TAPE LEAD £ 2.95	<input type="checkbox"/>

ROMANTIC ROBOT UK LTD 54 Deanscroft Ave, London NW9 8EN 24 hrs **01-200 8870**

TECH TIPS

Problems with your computer? Express's Agony column has the answer. Write in strictest confidence to Uncle Techtip.

Best tips win a freebie - so don't forget to tell us your address and machine

TIP PET shop

In this week's Tech Tips (Express 33) section there is a letter from a reader who has recently acquired a Commodore PET.

Supersoft Still stocks (as we have for over ten years) a wide range of software and reconditioned hardware for the Commodore PET range, from the 2001 and 3000 series to the 4000 and 8000 series. We even have brand new 8296 models for sale.

As far as I know, we are the only company which still publishes software for the PET although admittedly it is a couple of years since we last released a new program. However, our catalogue list over a hundred programs from utilities to business programs to games, plus all sorts of add-ons.

And finally, though the PET is a remarkably robust computer, we do offer a repair service. Details of this and a free catalogue can be obtained by calling 01 861 1166.

Peter Calver, Supersoft

HELP! DRIVEN crazy...

Could you please advise me on a suitable book on the Commodore 64 disks. I find the Commodore's own manual a little sparse on explanations and examples.

Tommy Darling, Renfrew, Scotland
• Buy Anatomy of the 1541 Disk drive (ISBN 0948015012) by Englisch and Szczepano published by First. The book describes the drive and DOS in full detail.

TIP Fast code

Spectrum machine code programmers might like to know that code placed above memory location 32768 will run 20% faster than code placed below it. So all non-time critical code should be placed below to allow more room for faster code above.

P Worth, Shoreham-by-sea, West Sussex



• Fancy making your Speccy run 20% faster?

TIP Couple of impersonations

I read with interest your reply to Christopher Gill of Clwyd (Express 33) concerning the writing of 6502 assembly code on the Amiga.

There are two C64 emulators that I know of. The first one is by ReadySoft called the C64 Emulator V2. I think this is only now available in America. It will run just about any C64 program including games. I once tried *Ikari Warriors*, which was very jerky and the music is unrecognisable. I did manage to write a

simple routine to display a colour bar across the middle of the screen, which it compiled. But when it ran, it was terrible! Upon transferring it to the Commodore 64 it worked perfectly. So it is possible to do assembly on the Amiga and transfer it to the C64. With this emulator you get a lead to connect it to a 1541 disk drive (also available from TriLogic). I have managed to load *Airborne Ranger* using a 1541 linked to my Amiga but the game was very, very jerky!

The second emulator is called Go! 64. This is supposed to run C64 games on the Amiga without sprites and stuff being jerky. You can alter the raster and screen updates to get rid of the jerkiness of some games. According to the instructions, it gives you a list of games which run perfectly without glitches using the emulator, these include *Airborne*

Ranger, *Pacland*, *Target Renegade* plus many other utilities and games. I bought Go!64 from a jumble sale - it was the original disk but wrapped in a poly bag with no instructions.

The only problem is that you need a separate interface cartridge which is called Access 64 which I think is about £50 - I don't know if it's still on sale.

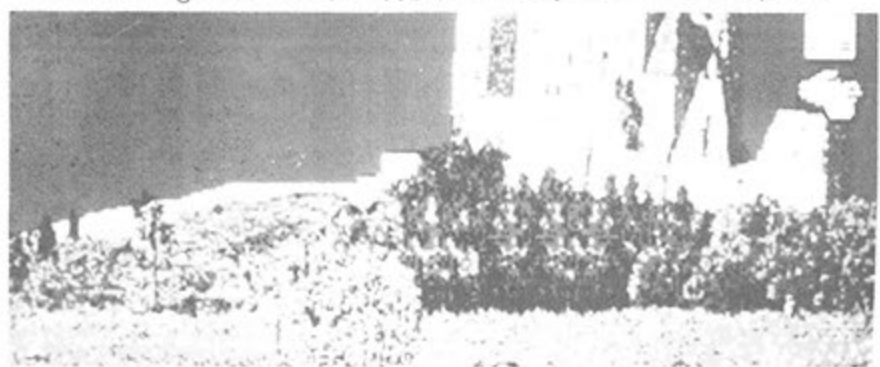
If any readers have one that they wish to sell or swap for Amiga software then write to me.

Julian Smith, 45 Maplecroft Crescent, Sheffield S9 1DN

TIP RAMmed home

I was surprised to read the letter in Express 33 from Andrew Yates of Peterborough who could not load *War in Middle Earth* with the memory expansion fitted.

I own an Amiga 500 with an A501



• War in Middle Earth: Making it run on your expanded A500

memory expansion fitted and the game runs perfectly. The two disks are not copy protected so it is easy to make back-up copies of them. If you examine the directory of disk A, you should find that it contains the utility *NoFastMem* which is supplied in the system drawer on the *Workbench* disk. This is run from the startup sequence. The startup sequence on my disk A is:

```
Assign FONTS: A:
Assign LIBS: A:
Assign DEVS: A:
Assign L: A:
WB 1
Run NoFastMem
WarInMiddleEarth
```

If it is possible that some early versions don't contain *NoFastMem*, you should copy it to disk A from the *Workbench* disk, then alter the startup sequence to read as above.

Paul Scowcroft, Bolton, Lancashire

HELP! 1st choice

I have just purchased an ST, and am looking for a good cheap word processor for my college project and to write letters to certain mags (grovel grovel).

Also how do I go about setting up an external 1 meg drive as drive A? Also which is the best version of BASIC for the ST as the BASIC supplied is bad. Also I too would like binders so come on, make some!

C. Vickers, Middlesborough, Cleveland

• It's the public domain for you, young man! Before *1st Word* gained the 'Plus' extension to its name, the program was a freebie word processor for the ST. The early version is still available from any good PD supplier for 3 quid or so and is very usable.

The public domain is also the place to look for a utility which will allow you to boot from an external drive and to treat that drive as drive 'A'. Call Goodman PD on 0782 335650 who can supply you with all your PD wants and needs.

A decent BASIC? Contact HiSoft on 0525 718181. The company markets a couple of replacement BASIC packages for the ST - notably *Power BASIC* - and will be happy to supply you with a copy.

No chance of binders at the moment - we've only had one or two requests.

BUG OF THE WEEK

Did you know that there is a bug in *Interceptor* which allows you to land your F-18 on the enemy carrier and get re-fuelled and re-armed? You can do this as many times as you like, even after multiple missile hits. Have the Russians been swigging too much Vodka?

Andy Steele, York

• *Cryptocephalus distinguendus*
This species is known to occur widely in northern and central Europe, but is usually found only in small numbers. It favours as a habitat the decks of aircraft carriers, where it lives primarily off aviation fuel and Russian binocular lenses



Software

SUPERSTORE

YOUR ONE STOP SHOP

**MORE SOFTWARE THAN YOU CAN HANDLE!
MORE HARDWARE THAN YOU CAN USE!**

AMIGA A500

inc. FREE Modulator

PLUS:-WORKBENCH 1.3 AMIGA EXTRAS 1.3
AMIGA BASIC 1.2 AMIGA "THE VERY FIRST"
MOUSE CONTROLLER AMEGAS ART OF
CHESS BUGGY BOY WIZBALL TERROR
PODS INSANITY FLIGHT IKARI WARRIORS
BARBARIAN THUNDERCATS MERCENARY
COMPENDIUM INDIVIDUALLY WORTH £643.49

ONLY £399.00 OR £17* MONTHLY

Philips 8833
Colour Monitor with
Stereo Sound &
High Resolution
Only **£269.00**

*Subject to Status



FREE
Paint Program
(Photon Paint or Sprite)
when you buy an
AMIGA 2nd Drive with
switch & through-port
OUR PRICE
ONLY £99.99

STAR LC10
PRINTER + FREE CABLE
SUPERB VALUE
ONLY **£219.99**

Commodore 1230 Printer. (NLQ)
Centronics & C64 Interface as standard
inc FREE cable **ONLY £169.99**

OCEANIC
DISK DRIVE
C64 Compatible
Plus FREE

First World
Logo
intro to Basic II
Spirit of the Stones
Assembler/Monitor 64
Programmers Utilities
Zork III
Dragonworld

ONLY £129

WHY PAY MORE?

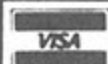
We may not be the very cheapest.
But when it is down to service,
selection and advice...

**WE CAN'T BE
BEATEN**

Visit us soon and find out why so
many wouldn't go elsewhere

**MAIL ORDER:-
ADVICE HOTLINE
(0782) 268620**

for FAST & FRIENDLY SERVICE



SEND S.A.E. FOR CATALOGUE

STOKE-ON-TRENT

11 Market Square Arcade, Hanley
Stoke-on-Trent
Manager: Dave Tel: (0782) 258520
Open 6 Days

SHEFFIELD

6 Waingate, Sheffield
Manager: Tony
Tel: 0742 721936
Closed Thursday

ST HELENS

27 Baldwin Street, St Helens
Manager: Alan
Tel: 07442 21431
Closed Thursday

STOCKPORT

6 Meadow Brow,
(Off Little Underbank) Stockport
Manager: Roy
Tel: 061 480 2693
Closed Thursday

Express classifieds

C64 DATASETTE, disk drive fitted with
Dolphin DOS, printer, 150+ games (origi-
nals, tape and disk), manuals etc. £250
Terry 01-541 0741.

SINCLAIR QL 640K, a universe of soft-
ware. Call Express on 0225 446034.

AMSTRAD PC1512 MONO, Amstrad
DMPLQ 3500 printer, training program +
manuals. £525.00 ono. 0761 33969.
Please ring evenings.

ATARI 520STFM plus Multiface, over
£600 worth of software and joystick.
£400 ono. Tel (0793) 88198. Ask for
Dave.

ATARI 520STFM, £400 software, excel-
lent condition, only £200. Phone Chris
Sawyer (01) 361 0920.

BARGAIN! ATARI ST only 2 months old
with £500+ of software. Sell for £300.
Phone Tony 01 952 0659 weekends.

COMMODORE 64 MPS-801 1541 disk
drive. Ferguson TX MC01 colour TV moni-
tor and lots of SW. £350. Phone 0908
310418.

IBM PC-COMPATIBLE, 360K drive,
CGA, 384K expandable to 640K. With
useful software, ideal for first PC. £350.
0372 276477.

ATARI 800XL, tape deck, plus 110
games and joystick, mags, etc. Phone
0545 580671. £65.

ATARI 130XE, 1029 printer, 1050 disk
drive, 1010 cassette, plus lots of extras.
SpartaDOS, Touch Tablet etc. £200.
0268 284074.

PC1512 20MB HARD DISK, colour
monitor, mice, modem, NLQ printer, com-
pilers, accounts, DTP, spreadsheets etc.
and more! £700. Phone 0227 751025.

BBC/B, 2 x DSDD disks/or TV, EPROM
programmer, Mini Office II, tape/disc
ROM 16K/sideways, cassette col-plotter,
loads of disks. £475. Phone Gavin 0222
61582 ext 345.

BBC MODEL B, DS/DD disk drive,
Teletext, Digimouse, Replay, Sideways
ROM ZIF, books/manuals, art package,
games. £200 ono. Tel 0732 862642
(Edenbridge).

A500, 8833 monitor, four months old,
Kristal, Lombard, Sodan, many others,
Abacus manual, pro joystick, £500 ono.
Tel 01 994 2747 evenings.

B2000 AMIGA, 20Mb HD, 3Mb RAM,
Pro Genlock 1.3 ROM, some software.
Contact Joe 0279 730020.

Express 35 Classifieds order form

Name

Address

.....Tel

One space equals one word. All adverts must be 20 words or less.

Please note:

- 1 Sorry, NO trade ads! All classifieds must be from private individuals
- 2 All entries should be accompanied by £5 payment
- 3 New Computer Express will not accept responsibility for any minor typographical errors which do not materially affect the meaning of the adverts.
- 4 We cannot vouch for the quality of goods and/or services advertised in this section. All ads are accepted in good faith.
- 5 We reserve the right to amend or even refuse ads at our discretion.
- 6 No pirated software may be sold through these columns. Any readers being offered non-originals should contact us.
- 7 We cannot guarantee that adverts will appear in a specific issue of New Computer Express.
- 8 The following declaration must be signed:
I have read and understood the terms for the inclusion of my ad.

Signed

Send ads to NEW COMPUTER EXPRESS, 4 QUEEN STREET, BATH BA1 1EJ. Make
cheques and postal orders payable to FUTURE PUBLISHING LTD. If paying by credit
card, please enter details:

CREDIT CARD NUMBER

EXP. DATE

<input type="text"/>	<input type="text"/>
----------------------	----------------------

**EXPRESS
EXPRESS
EXPRESS**

SALES

MSX Public Domain Software

MSX VIEWDATA BULLETIN BOARD

Open 18.00 hrs to 08.00 hrs Weekdays
24 hrs Weekends and Public Holidays
Over 400 pages full of MSX information - Full access
after registration - NO charge for registration
TELEPHONE (051) 531 6464

MSX CATALOGUE - MAGAZINE

NEW Magazine Catalogue now available for MSX Users. Cost for 1st edition will be £3.00. FREE updates will be sent after purchase of this edition. Order your copy by writing to.....

MSX CAT - MAG, 396 Park Lane, Maghull,
Merseyside, L31 1HQ



MSX PUBLIC DOMAIN SOFTWARE AVAILABLE - 3.5 ins disk
For all enquiries TELEPHONE: (051) 531 7497

AmiMail Order

SPECIAL OFFERS, LIMITED NUMBERS, PHONE FOR AVAILABILITY

*** Deluxe Paint III.....	£65 ***	} Includes VAT & P&P in the UK
*** Deluxe Music Construction Set.....	£45 ***	
*** Photon Paint.....	£30 ***	
*** Workbench 1.3 Upgrade.....	£10 ***	
*** RF Modulator.....	£14 ***	

Amimail Order, 3 Stonechat Close, Meadow Court, Durford Road,
Petersfield, Hampshire GU31 4RE. Telephone: (0730) 69273 after 5pm

**WIZARD P.D.
FOR YOUR ATARI ST**

Just some of the features from our service
★ HIGH QUALITY. No text based checkers from us.
★ TOS 109 No problem all our Software is compatible
★ FULL DISKS Our Single sided disks average 325K
★ PRICES From £1.00 (send your own disks)
★ FULL RANGE Arcade, Adventure, DTP, Art etc. (12 sects)
★ VIRUS FREE All disks immunised as standard
★ FAST SERVICE All orders despatched within 24 hrs
FOR FREE CATALOGUE SEND 9X4 SAE TO WIZARD PD
178 WAVERLEY ROAD, READING, BERKS. RG3 2PZ
or Ring 0734 574695 10am - 7pm

**CLEARANCE
TOP DISK GAMES!**

Atari ST	from	£4.50
Amiga	from	£5.00
CB 64 Disk	from	£4.00
Amstrad Disk	from	£4.00
Spectrum +3	from	£4.00

All stock brand new & guaranteed. Send stamp for list.
S.J. SOFTWARE, Unit 25, Arkwright Ct., Blackpool,
& Fyled Industrial Estate, Blackpool, FY4 5DR
0253 64353
Wholesale enquiries welcome

ATARI ST PUBLIC DOMAIN

Wordprocessors, Games, Utilities, Music,
Languages, Art, Educational
and even DTP progs from £1.75!
You'll be amazed at our Premier Service.
For a FREE catalogue send a 19p stamp to:
ALPHA COMPUTING
32 Meadow Drive, Halifax, W.Yorks HX3

**COMMODORE & SINCLAIR
SPARES, LEADS, PSU's**

Original Manufacturers Spares.
Send 1st class stamp for price list
**ACE REPAIRS, Outways Fm, Pelynt,
Looe, Cornwall, PL13 2NW.**
Tel: (0503) 20282

**J. D. LEWIS
Computers & Repair Service**

3 1/2" DSDD (Bulk).....	£9.50	Out Now	Thunderbirds
5 1/4" DSDD (Bulk).....	£3.95	Amiga/ST	£19.95
Mouse Mats.....	£3.75	C64/Spec/Amstrad Tape	£10.95
		C64/Spec+3/Amstrad Disc	£11.95

Send Large S.A.E. for FREE Catalogue

Add 65p Postage on orders under £10

Send Payment to:

J.D. LEWIS, 97 CHAPLIN ROAD, LONGTON, STOKE-ON-TRENT, STAFFS. ST3 4RH
TEL: 0782 323348

E.M.P.D.L.

Amiga Public Domain Library
Open 7 Days, 9am - 9pm

Over 500 Disks in Stock!
Immediate Despatch on all orders
£5 per year subscription includes 2 Catalogue Disks
(regularly updated FREE)
Range of Accessories etc.
Write now for details

Cheques & P.O.'s payable to:

E.M.P.D.L.
54 Watnall Road, Hucknell, Notts.
0602 630071

SERIOUS SPECTRUM OWNERS wanting UTILITIES
PROGRAMMING HELP, PRACTICAL software and
USEFUL articles, GRAPHICS, INFO, IDEAS and MORE
from LIKE-MINDED THINKERS, TRY...

**OUTLET monthly on MDRIVE,
OPUS, DISCIPLE, P.LUS D, TAPE**

£2 gets YOUR FIRST issue! A blank disc or
cartridge (not cassette) gets a FREE demo!
**CHEZRON SOFTWARE, 605 LOUGHBOROUGH
ROAD, BIRSTALL, LEICESTER LE4 4NJ**

★ INTRODUCTORY OFFERS ★

PCW 9512 Carbon Ribbon £2
(only one per customer)
Fabric Ribbons Re-inked
(most makes) £1 each

ALADDINK, (Dept. CE)
Eyemouth, Berwickshire, TD14 5AP
Telephone: 08907 50965

COMPUTER REPAIRS

Specialists in Home and Business Computers, all makes repaired.
ATARI, AMSTRAD, COMMODORE, SPECTRUM, SINCLAIR etc.
Atari Approved Service Centre.
We also repair printers, monitors, disk drives etc.
FREE estimates, all work fully guaranteed.
**A.M.C., UNIT 4, WESTON ROAD INDUSTRIAL EST.
STRATFORD-UPON-AVON, WARCS, CV37 0AH**
0789 292269

DATA TRANSFER

- PCW/MS-DOS/BBC Computers
- (3"5.25"/3.5" disks).
- Details (SAE):
- **MAPEJ (NCE) 32 Carew Road,**
- **Mitcham, Surrey. CR4 2JH.**
- **Tel: 01 640 7676**

GOODMAN P.D.L.

Established as one of Britain's leading suppliers of
Public Domain Software for the Atari ST. The
Catalogue gives details of the 100's of programmes
that are now available including
games/utilities/Demo's etc.
Prices from only £2 fully inclusive
or from 75p if you supply your own discs.
Send a 19p stamp for further details to:

GOODMAN P.D.L.
16 Conrad Close, Meir Hay Estate
Longton, Stoke-on-Trent ST3 1SW
0782 335650

**BLITSOFT
Amiga Public Domain Club**

Yearly subscription of £5 gives you
★ Our 2 self booting catalogue disks (updated FREE)
★ FREE disk of your choice
★ FREE disk for every 3 purchased
★ Disk swap scheme
All our disks are £2.50 incl. and include Fish, Taitun
and our own Blit disk. Rapid return on all orders

Send Cheques/P.O.'s to:
**BLITSOFT, 6 Dorney Place,
Bradwell Common, Milton Keynes,
Buckinghamshire, MK13 8EL**

WANTED

**ALL COMPUTER
HARDWARE/SOFTWARE WANTED
FOR CASH OR EXCHANGE
NOTHING REFUSED!!**
01 727 0424



MICRO - TECH



**COMPUTER TECHNOLOGY
COMPUTERS BOUGHT, SOLD
AND EXCHANGED**



Second-hand ST & Amiga Software
Plus all the latest titles

**New shop now open at
96, Seaside
Eastbourne**

PC'S, XT'S, AT'S, 286 and 386
Sold and Network Systems Installed

0323 412182/3

NATIONAL SHAREWARE

**NEW ENLARGED LIBRARY
NEW LOWER PRICES
NEW ADDRESS**

PO BOX 345 SHEFFIELD S6 4SU
Tel: (0742) 324799

Please note new address

All the best in public domain &
shareware for IBM PC's & compatibles
new catalogue approx 1000+ disks. Phone
for your free copy now

75p PER DISK INCL VAT & P+P
MIN ORDER 20 DISKS

Member assoc. of
shareware professionals



**THIS SPACE ATTRACTS
ATTENTION!
FOR JUST £14**

CALL SARAH KING TO RESERVE YOUR
SPACE NOW!!
ON 0225 446034

HASSLEFREE P.D.

All the latest AMIGA Demo's and P.D.
Software at £2.00 per disk.
Only the best stocked.
Send £2.00 Cheque or P.O.
for our Disk Catalogue to:
**168 Wolsey Way, Syston,
Leicester. LE7 8NX**
Telephone: 0533 694629

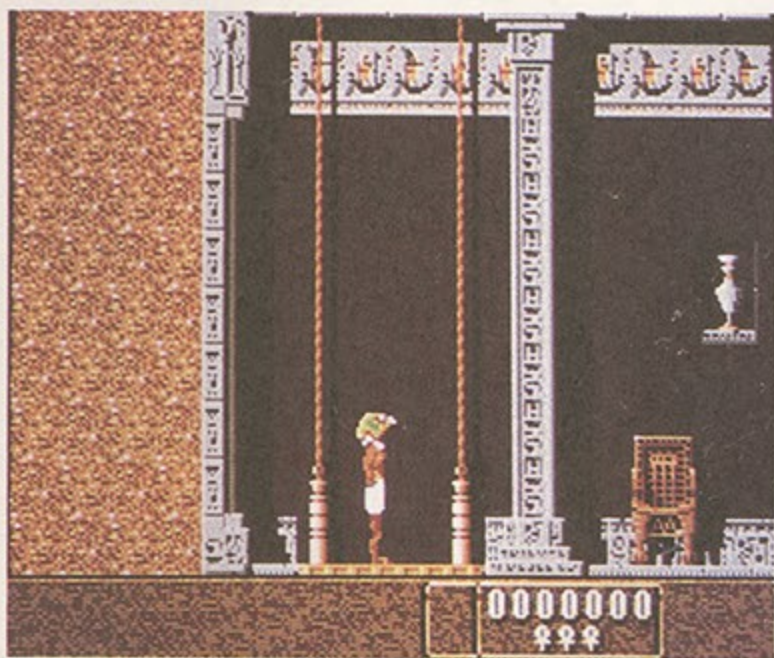
Eye to eye

Rik Haynes sees in six new releases, including the latest from Logotron

EYE OF HORUS Logotron

The latest release from Logotron, *Eye of Horus* is being programmed by the famous Denton Designs team – responsible for the likes of Ocean's *Mutants* and Beyond's *Shadowfire*.

Eye sees you in the role of an Horus, a good-guy out to right some wrongs in an ancient Egyptian arcade adventure containing some novel surprises and twists. *Eye of Horus* is out soon on C64, ST, Amiga and PC.



FREDDY IN MANHATTAN

Dinamic

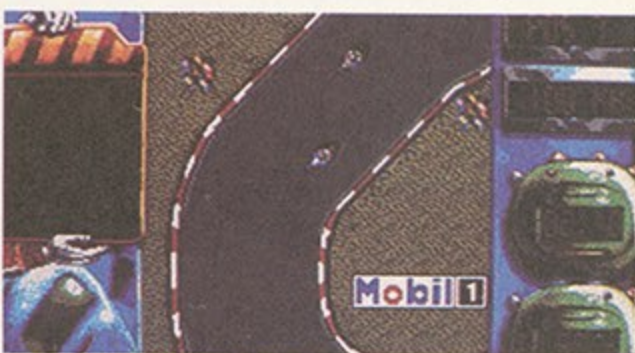
Following on from the less-than-successful Ocean title *Freddy Hardest* of 1987, *Freddy in Manhattan* sees our tough guy in New York (looks like the staff at Dinamic like the Big Apple, doesn't it?) taking on some drug peddlers. *Freddy in Manhattan* should be out in October on Spectrum, C64, CPC, ST and Amiga.



GRAND PRIX MASTER

Dinamic

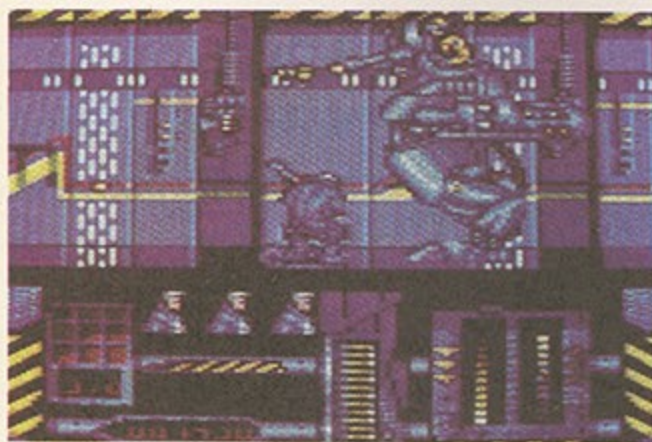
The first title due for release out of the trio of Dinamic games previewed here, *Grand Prix Master* is a racing simulation of World Championship 80cc motorcycling. Apparently it's being endorsed by Jorge Martinez "Aspar" – don't worry, it didn't mean anything to us either. *Grand Prix Master* is due out in September on Spectrum, C64, CPC, ST and Amiga.



LONE WOLF

Audiogenic

Lone Wolf – The Mirror of Death is the first in a series of games based on the Joe Dever *Lone Wolf* fantasy novels. This one puts you in control of Lone Wolf, the last Kai Master, in an arcade adventure out soon on Spectrum, C64, CPC, ST, Amiga, PC, BBC and Electron.



AFTER THE WAR

Dinamic

Spanish software company Dinamic has reportedly been working on this one for the past three years... but then again, if we at Express worked in Spain we wouldn't get that much work done either!

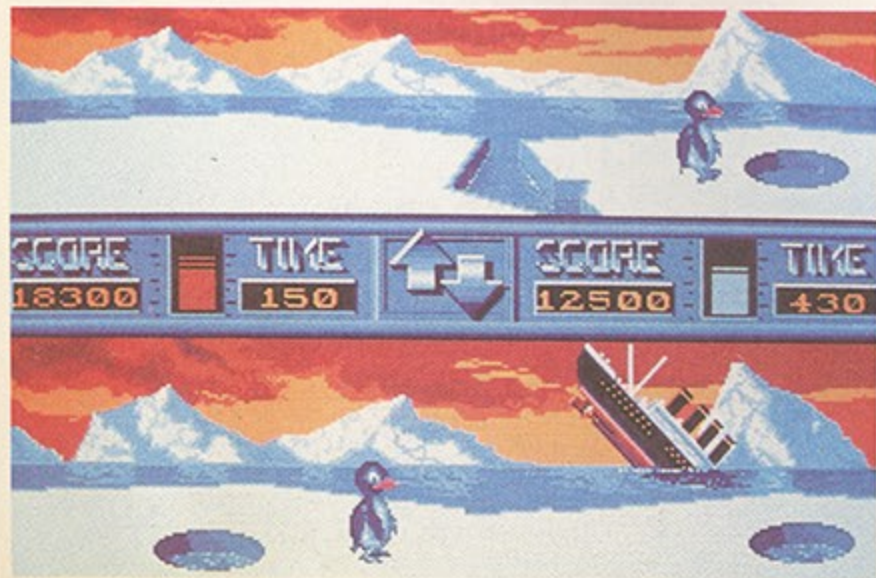
Game-wise, *After the War* incorporates "giant sprites coupled with very agile movement" as you escape post-holocaust New York (but how can you tell the difference between pre and post-holocaust New York?).

ANIMAL GAMES EAS

Not much guff on this one, we're afraid, except that it's yet another joystick-wagging sports sim with a "new" twist.

This time, originality comes in the form of the sports characters being various animals such as crocs, elephants and monkeys. Wonder if you get the chance

to pig-out, or whether you can just duck it? *Animal Games* is due for release shortly on C64, ST and Amiga.



● Nothing outstanding this week, except for Mindscape's expansive *Colony*. Rather lacklustre attempts from Germany with *Circus Attractions* and *Spherical*, left enough space for *African Raiders* to race by. Last and by every means least, came the sordid *Astaroth*.

CIRCUS ATTRACTIONS

Golden Goblins
C64 £9.99cs, £12.99dk
Also on ST, Amiga, PC



• Throwing up on the Amiga • C64: Sharp as a knife

All the fun of the circus can be yours with this new joystick waggling sports sim from German software company Golden Goblins.

GAMEPLAY *Circus Attractions* is split into five events: trampolining, tightrope walking, juggling, knife throwing and jumping clowns. You load up the event, waggle your joystick and bung your name in the high score chart. Interesting or what? Replacing an athlete with a clown doesn't make up for the same old tired gameplay.

GRAPHICS AND SOUND The backdrops and sprites do their assigned tasks reasonably well, but they're not cute or comic enough. Sound consists of the odd jingle and spot-effect.

OTHER VERSIONS Obviously, the ST and Amiga visuals are superior – unfortunately the gameplay's still the same. We haven't played the PC version yet.

EXPRESS VERDICT Okay, Golden Goblins' previous release, *Grand Monster Slam*, was cute, if a little shallow – but *Circus Attractions* isn't fun to play, the graphics and sound aren't particularly stunning, and the whole concept is stale.

★

Rik Haynes

AFRICAN RAIDERS

Coktel Vision
ST £19.99dk
Also on Amiga, PC

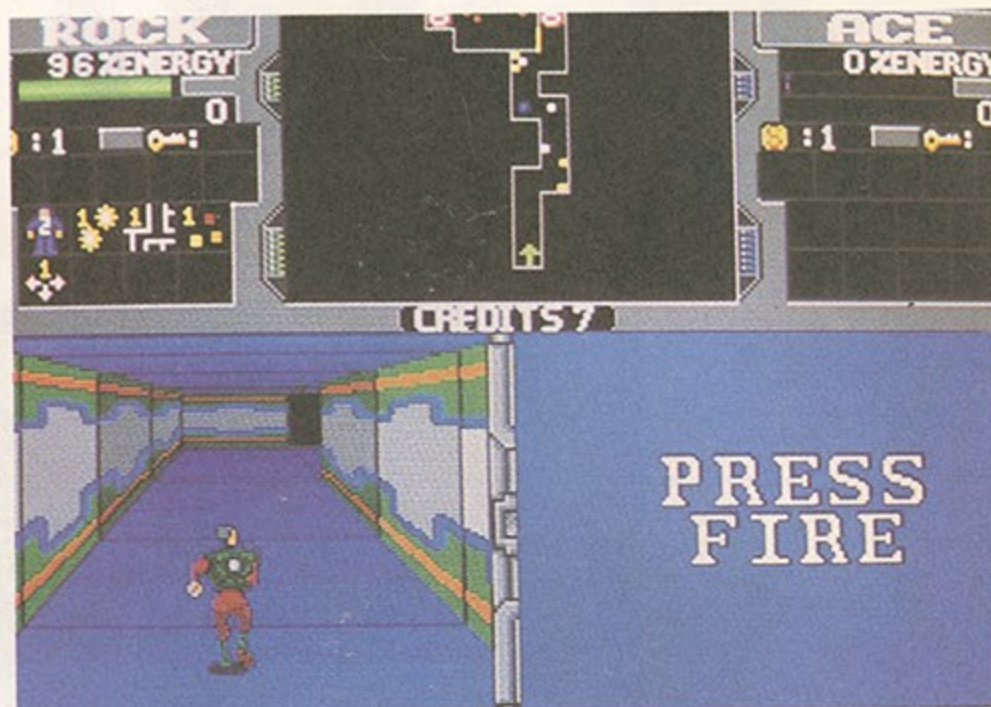
Raiders slipstreams along the same tracks as *Crazy Cars*, *Lombard Rally* and *Test Drive 2* in the racing stakes, though this time you're firmly off-road. But does it make it out of the pits?

GAMEPLAY You're at the wheel of a four-wheel-drive buggy on a five-stage race from Tunis to Dakar. Although the routes are marked out, you can choose to go off-road across the hostile terrains and use your on-board compass and satellite navigation to get ahead. In this case it's best if you have a co-pilot handy, as the way can get pretty way-out – you'll have to watch out for

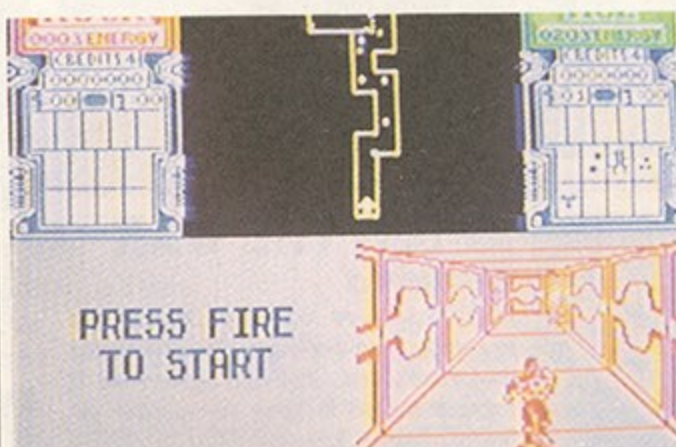
XYBOTS

Tengen/Domark
Spectrum £9.99cs,
£14.99dk
Also on C64, CPC, ST,
Amiga, PC

Xybots is a coin-op conversion of the popular Atari strategy arcade shoot-'em-up.



• Rock-steady on the Amiga



• Showing your aces on the Spectrum

GAMEPLAY Taking the role of Major Rock Hardy or Captain Ace Gunn in this split-screen, one or two-player game, you take on all manner of deadly robotic devices while travelling through a labyrinth of mazes and collecting the odd extra weapon on the way.

GRAPHICS AND SOUND Domark's done a good job in converting the coin-op's visuals. Sure, they're no great shakes – the original coin-op's weren't either. The only complaint we have with the graphics is their lack of colour.

Sampled sound spot-effects make up the audio.

OTHER VERSIONS The ST and Amiga displays are more colourful, although surprisingly the sound FX aren't that much better than the Spectrum's. The C64 version, previewed in last week's *Express*, also looks promising. We haven't seen the CPC or PC version yet.

EXPRESS VERDICT Everything from the coin-op is here: graphics, sound, and gameplay are identical. The control movement may take a little time to master, but that shouldn't detract too much from your enjoyment.

Xybots is a simple, unassuming game – fans of the coin-op won't be disappointed by this Domark conversion.

★★★

Rik Haynes

dunes, quicksand, oil fields, wrecked cars, water holes and stray camels. Of course, you're also up against a number of other rallyers, though there's no competition other than the best stage time involved.

GRAPHICS AND SOUND *Raiders'* visuals are competently presented – backdrops shift with ease and the buggy sprite movements handle pretty well. But there's nothing particularly spectacular here, just above-average renditions of routine code. Sound is confined to ever-present rewinding levels and gearchanges, though



• Jumping for joy on the Amiga

the intro music sequence funks along quite chunkily.

OTHER VERSIONS Since Coktel masters most of its product on 286 and 386 PC-compatibles before

porting over to ST and Amigas, there's no discernible difference between any versions in terms of graphics – just the usual PC inadequacies coming over in the sound department.

EXPRESS VERDICT Not bad for a rally adventure across one of the wilder areas of the planet, but considering the distance covered in the real thing it's a pity there's not more difference between the stages in terms of graphics and gameplay. Nevertheless, an enjoyable outing.

★★★

Andy Storer

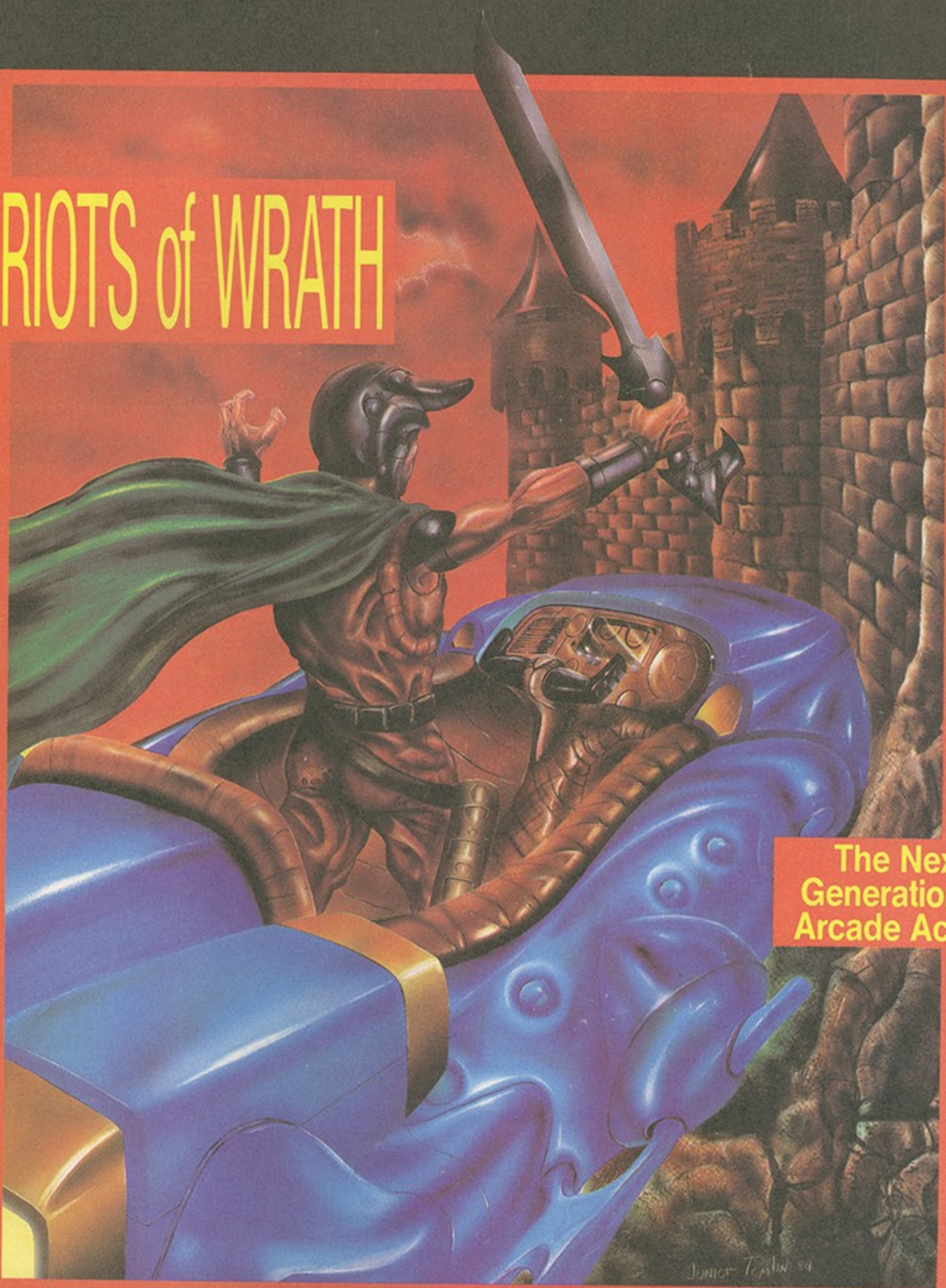
COLONY

Mindscape
PC £24.99dk
Also on Ma
Currently being developed on
ST, Amiga

Dare you face the one-eyed, robotic pyramids infesting the colony?

GAMEPLAY One last, desperate message is received from planet Delta 5-5: "...we have been overrun, I repeat, we have been overru..." The

CHARIOTS of WRATH



The Next
Generation in
Arcade Action

AMIGA - £24.99
ATARI ST - £24.99



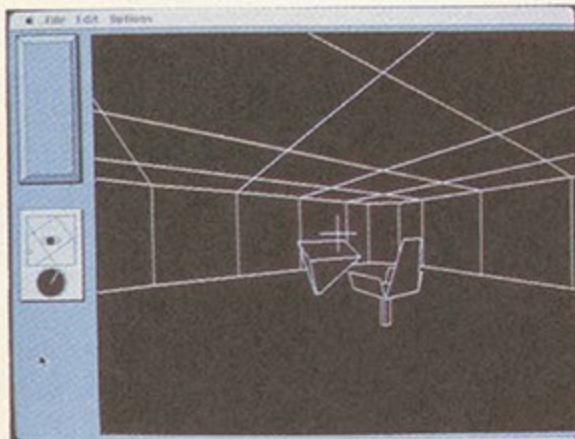
TRADE ENQUIRIES CALL:
ACTIVE SALES & MARKETING
on (01) 384 2701

Mail Order: please send cheque to:

6, Dykewood Close, Bexley, Kent DA5 2JN

communications channel returns to a static hum and you realise that as Regional Marshal it's going to be your task to visit the planet, unravel the mystery, pick up survivors and get out – still in one piece.

You begin the game in the control centre of your DAS armoured cruiser. The room is in darkness and your first task is to locate the light switch. Once bathed in the fluorescent glow of the overhead strips, you career about the spaceship until finally getting the knack of controlling your movement. Traversing the airlock can also be a problem unless you take certain precautions, but leaving the spaceship is necessary to gain access to the depths of the planet.



• Colonising the Macintosh

The colony is built on six levels, each one harbouring dark secrets and fearsome android creatures baying for your blood. Find the survivors, kill anything vaguely alien and get the hell out...

GRAPHICS AND SOUND *Colony* incorporates what Mindscape calls the 'Environment simulator'. This is a huge collection of offices, laboratories, computer rooms – even lavatories – depicted in shaded, hidden-surface 3-D. You can roam hither and thither as your heart desires, up stairs and down, in and out of rooms without any restriction of movement, save your own clumsy fumbings with the joystick.

The game opens with an insistent, repetitive ditty which will have you struggling for the sound toggle, but once into the colony you're regaled with spot effects which add to rather than detract from the overall game – nicely done.

OTHER VERSIONS *Colony* was originally available for the Macintosh, and on that machine the game excels. Faster graphics and better control of movements make the game easier to play.

EXPRESS VERDICT A thoughtfully programmed game which places you right in the heart of the action. Unfortunately, the greater effort in producing *Colony* has been expended on creating the graphics, leaving little thought for gameplay. Consequently, after an hour or so of wandering and killing, you stop caring about the survivors and begin to wonder what the point is.

★ ★ ★ ★

Fielding Mellish

SPHERICAL

Rainbow Arts
Amiga £19.99dk
Also on ST, C64

Accompany the magic starball through several layers of platforms and fearsome creatures, reach the dragon, marvel at his reptilian beauty – then kill him.

GAMEPLAY Despite the magical spiel on the packaging, this is just another platform game. "Nothing wrong with that", I hear you cry, and normally I'd agree, unless the game happens to shove you into the role of a wizard – a badly drawn wizard – careering around an uninspiring playfield avoiding tired spinning balls, ghosts etc.

The objective is to progress through the levels, reach the dragon and put an end to his reign of evil and terror. All pretty standard stuff.

GRAPHICS AND SOUND It's difficult to control and avoid sprites barely discernible to the naked eye,

ASTAROTH

Hewson
ST £24.99dk
Also on Amiga

Astaroth – The Angel of Death has had plenty of pre-release hype surrounding its so-called sexual content, but is this mere idle titillation?

GAMEPLAY As you may of guessed already, it was just mere titillation, as this is just another arcade adventure which adds nothing to the genre except for help feeding claims that computer gamers are, on the whole, immature male teenagers who'd rather waggle their joystick than have a social life with the opposite sex (every innuendo intended).

GRAPHICS AND SOUND Nothing outstanding visually, apart from the odd girlie breast here and there (ooeerr). Of course, these adornments may be there to make up for the lack of any originality, or perhaps it's the chronically small sprites, or it could be the seen-one, seen-them-all backdrops. Who knows, or even cares? Audio's no great shakes either.

OTHER VERSIONS We haven't seen the Amiga version yet, but we doubt whether there will be much of a difference, except for better audio quality.

EXPRESS VERDICT Sorry Hewson, we weren't impressed with this release at all. We're afraid dodgy stereo-typed sexual overtones just don't hide boring, repetitive gameplay. Filling out the poll tax form was more fun than playing *Astaroth*. Sexploitation is absolutely pathetic.

★

Rik Haynes



• The loading screen: You get the idea?



• The naked truth: It's rubbish!

and a garish burn-out of lurid backdrop colours that will have you longing for a mono monitor do not a good game make.

Sound? Nothing to write home to ma about, but adequate, i.e. a pretty ordinary silicon rendition of what the author thought was a suitably eerie opening tune, and a few crash bang spot effects if you bump into something or waggle your wand.

OTHER VERSIONS The Amiga version appears to be a direct port from the ST, with the addition of digitised sounds.

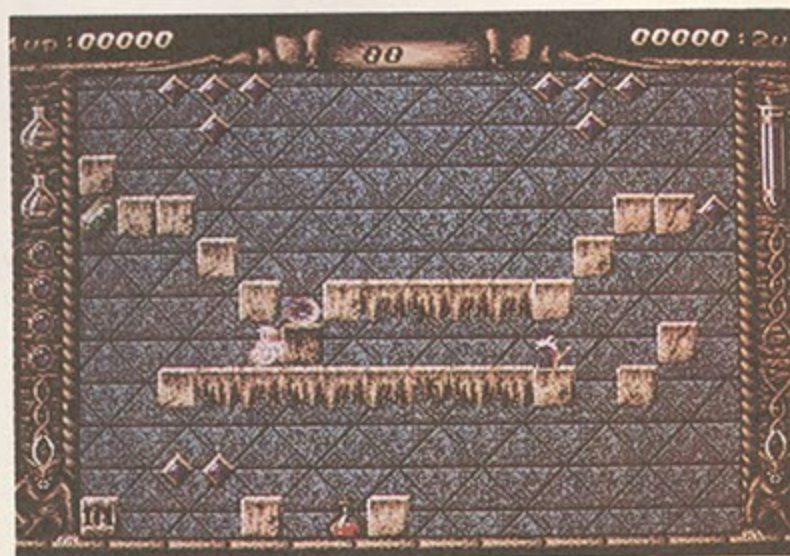
Graphics in the C64 version are absolutely appalling, the machine is worthy of far better than this. C64 sounds are almost an exact imitation of those provided in the ST game.

EXPRESS VERDICT We were playing this type of game two years ago, and it wasn't that exciting then either. *Spherical* is almost identical to US Gold's game *Solomon's Key*, so owners of this game needn't bother

looking here. Even if you didn't buy *Solomon's Key*, *Spherical* wouldn't be worth considering, because it's just utterly forgettable.

★ ★

Fielding Mellish



• Amiga: Solomon's Key all over again

The
incredible
New
Computer
Express
voucher
scheme can
save you over

£10

when you buy
from adverts
in this
magazine!

Full details on next page

**EXPRESS
VOUCHER**

£1

**EXPRESS
VOUCHER**

£2

**EXPRESS
VOUCHER**

£3

**EXPRESS
VOUCHER**

£4

£1 voucher. Valid for orders above £20

This voucher may be used as £1.00 part payment on any order totalling over £20 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item(s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 16, 1989**.

£2 voucher. Valid for orders above £40

This voucher may be used as £2.00 part payment on any order totalling over £40 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item(s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 16, 1989**.

£3 voucher. Valid for orders above £60

This voucher may be used as £3.00 part payment on any order totalling over £60 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item(s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 16, 1989**.

£4 voucher. Valid for orders above £80

This voucher may be used as £4.00 part payment on any order totalling over £80 from a participating advertiser in *New Computer Express*. You simply fill in the details below and send it off with your order.

Your name _____

Address _____

Telephone (if possible) _____

Item(s) purchased _____

Only one voucher per order is allowed. This voucher and its accompanying order must be received by the advertiser before 9am **July 16, 1989**.

EXPRESS VOUCHERS

How the scheme works

- The Express voucher is a special scheme to encourage you to buy *New Computer Express* regularly.
- It offers you savings of up to £10 when you buy goods through the magazine.
- The vouchers are not limited to specific items – you can save on any purchase from one of the participating advertisers.
- Most mail order advertisers in this magazine are taking part in the scheme – just look for this sign. →
- Remember. The use of just one voucher could more than recoup the price of the magazine.



THE FIVE SIMPLE RULES

1. Express vouchers can be used to obtain discounts on purchases of goods advertised in this issue of *New Computer Express*, provided that they are bought directly from an advertiser taking part in the scheme. The vouchers are valid **only** for those advertisements which say "We Accept Express Vouchers".
2. Each voucher entitles you to a discount at the voucher's face value, provided that your overall order level is **higher** than the figure indicated on the back of the voucher.
3. To use a voucher, simply enclose it with your discounted payment when you order. You may use **only one** voucher in any one order.
4. The order including the voucher must be received by the advertiser before the closing date printed on the voucher.
5. You must fill in the details requested on the voucher.

Evesham MICROS

WE ACCEPT
EXPRESS
VOUCHERS

All prices include VAT and Delivery



All our ST prices include: mouse etc. plus 5 disks of software including 'First Word' wordprocessor, utilities, Neochrome graphics utility, game and demos.

520 STFM POWER PACK

Amazing value, all-new special ST package from Atari! Includes 520STFM with 1MEG drive, joystick, mouse, user guide, 5 disks of public domain software, plus an incredible selection of chart-topping software worth over £500! Software included is:

R-Type
Afterburner
Double Dragon
Super Hangon
Space Harrier
Overlander
Pacmania
Starglider
Super Huey
Eliminator
Predator
Bombjack
Out Run
Bombuzal
Xenon
Gauntlet II
Black Lamp
Starry
Nebulus
Stargoose
First Music
First Basic
Organiser

All
for
only **£359.00**
Inc VAT & delivery

520 STFM SUPER PACK

Fantastic value! Includes 520 STFM with 1MEG drive, over £620 worth of software, joystick, mouse, User Guide and 5 disks of Public Domain Software. Software includes:

Starglider I & II
Carrier Command
Marble Madness
Beyond Ice Palace
Thundercats
Summer Olympiad
Arkoid II
Eddie Edwards Ski
Ikari Warriors
Tracker
Flying Shark
Test Drive
Buggy Boy
Quadrailen
Xenon
Wizball
Seconds Out
Zynaps
Virus
Sentinel
Chopper X
Ranarama
Starquake
Genesis
Black Lamp
Thrust
Organiser

Same
price!
only **£319.00**
Inc VAT & delivery

520 STFM with 1MEG internal drive fitted	£269.00
1040 STFM latest model, with built-in TV modulator	£399.00
1040 STFM including joystick, 21 games with business software as supplied with above described '520STFM Super Pack'	£419.00
Buy a monochrome monitor with any 1040 from above for £110.00 extra	
Mega ST1 with mono monitor	£599.00
Mega ST2 with mono monitor	£849.00
'Super Pack software' as supplied with above 520STFM offer	£ 60.00
SM124 mono monitor	£119.00
SC1224 colour monitor	£279.00
Philips 15" FST Teletext TV/monitor model 1185, full rem/ctrl, c/w cable	£269.00
Philips CM8833 14" colour monitor c/w ST or Amiga lead	£229.00
Philips 8CM852 as above, higher resolution (0.39mm dot pitch)	£259.00
520 STFM 1MEG internal 3.5" drive upgrade kit inc. full instructions	£ 74.95

commodore 64 accessories

Oceanic OC-118 64/128 disk drive for 64/128 with free GEOS software	£129.95
Oceanic OC-118 as above, with Freeze Machine cartridge	£149.95
Freeze Machine complete backup cartridge, with integral reset button	£28.95
LC-10 commodore 64/128 ready printer inc. 2 extra black ribbons free	£189.00
LC-10 7-colour version of above printer inc. 2 extra black ribbons	£239.00

Amiga & ST 3.5" Drives

- ★ Very Quiet
- ★ Slimline Styling
- ★ Fully Compatible
- ★ Top quality Citizen drive mechanism
- ★ On/Off switch for Amiga
- ★ External plug-in PSU for ST
- ★ Throughport for Amiga
- ★ 1Mb unformatted capacity

Fully compatible, high quality 3.5" external drives for the ST and Amiga

Amiga version only **£74.95**

Atari ST version only **£79.95**

Prices include VAT & delivery

Western Digital Filecards

Upgrading your PC to hard disk? Look no further, we offer the best prices on top quality hardcards. Thorough documentation supplied, low power consumption, with free XTree file management software and Speedread. For Amstrad PC1512/1640 users we supply hardcards tested and formatted, with our simple software installation procedure. The best packages available!

20MB...£199.00 32MB...£229.00 40MB...£289.00

DISECTORST_{V5}

for all Atari ST models
only **£28.95**

New Version 5 disk utilities for the ST, features include: protected software backup, incorporating turbo nibbler, a very fast and powerful copier, which uses all available drives & memory and includes 80 parameter options for handling a greater range of software; drive B boot allowing many programs to startup from drive B; organiser accessory providing many major disk management commands; special formatters giving up to 25% extra user storage per 3.5" disk and accelerating access speed by up to 30%; fast backup version 2 copies standard disks speedily; ramdisk accessory; undelete file; PLUS much, much more!

3.5" disks

10...£11.95 in plastic case £13.95
25...£27.95 in 40 cap case £34.95
Fully guaranteed double sided media

5.25" disks

25...£13.95 in 50 cap box £22.95
in 100 cap box £24.95
Fully guaranteed double sided media

Amstrad PC1512/1640/2086

We offer a wide choice of Amstrad PCs with many upgrade options, including the very latest PC2086 range. For the hard disk option, check our 'Evesham Upgraded Models'. Only the best will do - so we normally upgrade by means of a Western Digital Filecard, which includes XTree and SpeedRead software; however on single drive 1512/1640 models we can offer internal installations at the same price (leaving more expansion room but no upgrade opportunity for a 2nd floppy drive). On-site service contracts are available on any PC1512/1640 model for only £39.00 inc.VAT. Prices in lighter type exclude VAT.

Free with 1512 models... Ability and 4 US Gold Games

	SD	DD	AMS H.D.	SD 20MEG	DD 20MEG	SD 32MEG	DD 32MEG
EVESHAM UPGRADED MODELS							
MONO 1512	384.35 442.00	477.39 549.00	N/A N/A	557.39 641.00	650.44 748.00	583.48 671.00	676.52 778.00
COLOUR 1512	484.78 569.00	555.85 639.00	N/A N/A	667.83 768.00	728.70 838.00	693.91 798.00	754.78 868.00
MONO 1640	474.78 546.00	555.85 639.00	738.28 849.00	647.83 745.00	728.70 838.00	673.91 775.00	754.78 868.00
CGA (COLOUR) 1640	581.74 669.00	651.30 749.00	825.22 949.00	754.78 868.00	824.35 948.00	780.87 898.00	850.43 978.00
EGA (ECD) 1640	677.39 779.00	738.28 849.00	938.28 1079.00	850.44 978.00	911.30 1048.00	876.52 1008.00	937.39 1078.00
2086 MONO	569.57 655.00	682.61 785.00	912.17 1049.00	742.61 854.00	855.85 984.00	768.70 884.00	881.74 1014.00
2086 CD	712.17 819.00	821.74 945.00	1051.30 1209.00	885.21 1018.00	994.78 1144.00	911.30 1048.00	1020.87 1174.00
2086 12" HRCD	794.78 914.00	912.17 1049.00	1120.87 1289.00	967.83 1113.00	1085.22 1248.00	993.91 1143.00	1111.30 1278.00
2086 14" HRCD	886.09 1019.00	1007.83 1159.00	1233.91 1419.00	1059.13 1218.00	1180.87 1358.00	1085.22 1248.00	1208.96 1388.00

PC1512 special offer Buy an Amstrad DMP3160 10" carriage 9pin printer with any PC1512 model for only £120.00 extra!

optional extras

1512 memory upgrade to 640K	£39.95	Enhancer 101 replacement keyboard	£74.95
Maths Co-processor 8087-2	£129.00	3.5" drive (720K) for SD models	£79.95
NEC V30 (8086 replacement)	£24.95	PC2000 series compatible	
Cipher CT1525 tape streamer	£319.00	5.25" (360K) external drive	£100.00
Amstrad Modem Card V21/23	£99.00	Joystick & Controller Card	
Amstrad MC2400 Modem Card	£199.00	self centering analog type	£34.95

Amstrad PPCs

Low prices on all portable PCs - especially twin drive models prices in brackets are excluding VAT

PPC512S	(£373.04) £429.00	PPC640S	(£477.39) £549.00
PPC512D	(£433.91) £499.00	PPC640D	(£546.96) £629.00

New low price External 3.5" floppy drive (720K) to suit ANY Amstrad 1512 1640 inc. DD and HD models! Uses no expansion slots £99.95

Central Point Software

For all your PC disk management requirements

PC Tools Deluxe Version 5...Other utilities may claim to 'do it all' but only PC Tools Deluxe is the complete disk utility package, providing a fast hard disk backup, the best undelete available, 100% safe formatting of floppy and hard disks, unformat, reliable disk caching, compress facility, in fact everything required to manage & protect your data at a sensible price.....£49.95

Copy II PC Version 5.....The most effective floppy disk backup utility of its type. We always ship the latest version. Can also transfer many programs to hard disk and then run them without reference to floppy. Supports both 5.25" and 3.5" disk format. Don't be without it.....£24.95

Copy II Deluxe Option Board.....The ultimate solution to backing up copy-protected software using the hardware option. All the original features of the Option Board, including the most powerful backup copier product on the market, and can even transform any PC equipped with a 3.5" drive into a dual purpose IBM/Macintosh drive. Allows your PC to read and write to MAC data disks easily through DOS. Comes as an easy-to-fit short card.....£84.95

PRINTERS

All prices include VAT, delivery and cable



We use and recommend Star printers since they do offer an unbeatable combination of features, print quality, reliability and value. Make the sensible decision - get it right with a Star printer at our special, all in, prices.

Star LC10 best-selling 144/36cps printer, 4 NLQ fonts, inc.2 extra ribbons free	£189.00
Star LC10 7-colour version of above printer, inc.2 extra black ribbons	£239.00
Star LC24-10 feature-packed multifont 24 pin printer	£319.00
Star NB24-10 great value 24pin inc. cut sheet feeder + 2 extra ribbons	£499.00
Star NX-15 budget wide carriage printer	£329.00
Star NB24-15 wide carr.version of NB24-10 inc. cut sheet feeder	£649.00
NEC P2200 budget 24pin, great value 168/56 cps	£319.00
Amstrad DMP3160/3250DI good value 10" 9pin	£169.00
Panasonic KXP1081 reliable budget 10" printer 120/24 cps	£169.00
Panasonic KXP1180 super new 9pin with over 3400 typestyles, 11" carriage	£199.00
Panasonic KXP1124 great new sturdy 11" multifont 24pin printer	£319.00
Epson LX800 popular 10" 180/25 cps	£199.00
Epson LQ500 good 24pin printer 150/50 cps	£319.00
Citizen 120D good value 10" 120 cps	£139.00
Citizen HQP-45 wide carriage 24pin printer	£399.00

How to order

All prices VAT/delivery inclusive
Express courier delivery £5.00 extra
Send cheque, P.O. or ACCESS/VISA details
Phone with ACCESS/VISA details
Govt., educ. & PLC official orders welcome
All goods subject to availability E.&O.E.
Open to callers 6 days, 9.30-5.30
Tel: 033294 Fax: 0386 765354

Evesham Micros Ltd

63 Bridge Street
Evesham
Worcs WR11 4SF
Tel: 0386 765500

Also at: 1762 Pershore Rd., Cotteridge, Birmingham, B30 3BH Tel: 021 458 4564

NEXT WEEK

Corruption on the line?
The seedy world of bulletin board pornography

Laptops future
The matchbox computer is coming

Hard disk managers
The best ways to get organised

Them and US?
One software company's American dream

PLUS All the regular features

On sale Thursday July 6th

**ORDER
YOURS
NOW!**

Only 58p!

COMPETITION WINNERS!

The competition two weeks ago where you could win an Epson printer and 25 copies of the virus-buster program *Sleepsafe* from Software Horizons drew a huge entry.

Remember you had to match the people to the data? The correct answers were A-5; B-4; C-3; D-2; E-1. Nearly everyone got the wrong answer... Some people did get it right though. The lucky winner of it was **Sanjeev Jain, Cricklewood, London**. Well done - your printer is on its way.

The 25 runners-up each receive a copy of the *Sleepsafe* Virus Protection program. They are: **Maria Wardall**, Raunds, Northants; **Ian Underhill**, Halesowen, West Midlands; **S Gulliver**, Southampton; **Daniel Welch**, Blackheath, West Midlands; **D Ford**, Liphook; **Joy Nantais**, Sprowston, Norwich; **Gary Bird**, Mitcham, Surrey; **D Ball**, Malvern Link, Worcs; **Edward Walker**, Walthamstow, London; **Mark Abbott**, Nottingham; **PJ Flint**, Wellingborough, Northants; **P Bennett**, Long Buckby, Northants; **PR Dolphin**, Petersfield, Hants; **H Smith**, London; **Derek McMeamin**, Alexandria, Scotland; **P Sheld**, Dover; **D Healy**, Bristol; **John Latham**, Brighton; **A Akande**, Liverpool; **Nick Ryan**, Downham Market, Norfolk; **DO Evans**, Conwy, Gwynedd; **Paul Frazer**, Barrow in Furness, Cumbria; **DW Howells**, Witham, Essex; **Andy O'Neill**, Liverpool; **T Jackson**, Altrincham, Cheshire. Congratulations - your virus busters should be with you shortly.

Also smiling this week will be **GJ Galloway** of Liverpool, who wins £100 of software for his machine in the Questionnaire Prize Draw. **Gerald Irwin** of Gravesend and **Steve Seager** of Royston win £30 each as second prizes.

Note: This week's Ken Mosley column has been withheld on legal advice.

YOUR LAST CHANCE?

It could be your *last chance* to buy an EXPERT in its present form....

THE WORLDS MOST POWERFUL BACKUP CARTRIDGE FOR C64/C128

EXPERT + V3.2 SOFTWARE (DISK/TAPE - STATE WHICH) £27.99 POST FREE. WAS £31.99

EXPERT + V4.1 & 3.2 SOFTWARE (DISK ONLY) £33.99 POST FREE. WAS £39.99

*** TAPE USERS - UPGRADE TO DISK AT THESE SPECIAL PRICES. ***

EXPERT V4.1 + OCEANIC OC118N DISK DRIVE ONLY £146.98 POST FREE - SAVE £12.00

OCEANIC OC118N 5 1/4" DISK DRIVE FOR C64/128 ONLY £118.99 POST FREE

ASK FOR FREE CATALOGUE.

ALL PRICES INCLUDE VAT & POSTAGE

TRILOGIC

Dept. NCE, UNIT 1,
253 NEW WORKS ROAD
BRADFORD BD12 0QP

TO ORDER:

Send payment by cheque or PO. or by ACCESS OR VISA. PROMPT DESPATCH. CALLERS WELCOME

CREDIT CARD HOTLINE

0274 - 691115

EXPRESS DELIVERY - EXPERT ONLY - ADD £1.99
OR £6.99 if ordering an OC118N with or without
Expert. EXPORT ORDERS - £3.99 EXTRA FOR
INSURED AIRMAIL

From Aug 89 the power of the Expert may be severely reduced to comply with the new copyright act.

THE EXPERT has many more features besides being a powerful back-up utility - It is widely used by many programmers thanks to its sophisticated machine code monitor. For more details ask for our free catalogue - but please hurry.

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
TOTAL RRP:	£724.43
LESS DISCOUNT:	£325.43
PACK PRICE INC VAT:	£399

1084S MONITOR PACK

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

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+A1084S 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

When you buy your Amiga 500 from Silica Shop, we want to make sure you get the best deal possible. That is why we are giving away the TENSTAR GAMES PACK worth nearly £230, absolutely FREE with every A500 purchased from us. The TenStar Games Pack includes ten titles for the A500, each individually packaged in its own casing with instructions.	<table border="0"> <tr> <td>Amegas</td> <td>£14.95</td> </tr> <tr> <td>Art Of Chess</td> <td>£24.95</td> </tr> <tr> <td>Barbarian, Ult Warrior</td> <td>£19.95</td> </tr> <tr> <td>Buggy Boy</td> <td>£24.95</td> </tr> <tr> <td>Ikari Warriors</td> <td>£24.95</td> </tr> <tr> <td>Insanity Fight</td> <td>£24.95</td> </tr> <tr> <td>Mercenary Comp</td> <td>£19.95</td> </tr> <tr> <td>Terrorpods</td> <td>£24.95</td> </tr> <tr> <td>Thundercats</td> <td>£24.95</td> </tr> <tr> <td>Wizball</td> <td>£24.95</td> </tr> <tr> <td>TOTAL RRP:</td> <td>£229.50</td> </tr> </table>	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	TOTAL RRP:	£229.50
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																						
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:

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

To: Silica Shop Ltd, Dept NCE 0789 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: Dept NCE 0789

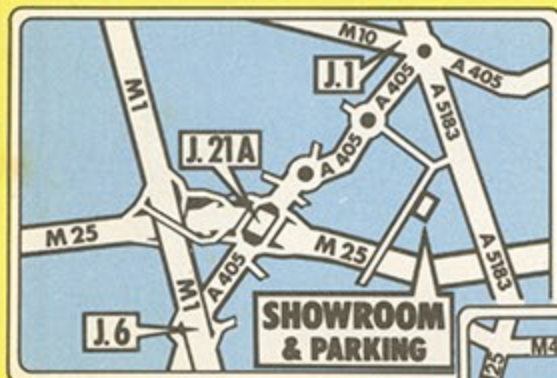
Do you already own a computer
If so, which one do you own?

Atari 520STFM POWER PACK

only

£319*

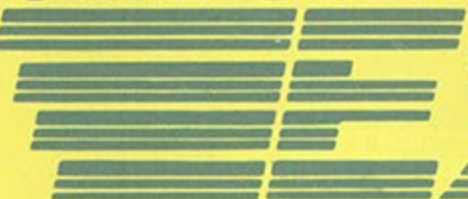
NORTH LONDON



99 Park Street Lane,
BRICKET WOOD,
St Albans, Herts AL2 2JA.
(0727) 72790

We Accept
**EXPRESS
VOUCHERS**

COMPUTER



WEST LONDON



304 Kingshill Ave,
(off Uxbridge Road)
HAYES, Middlesex.
01-841 8744

MANCHESTER



85 Washway Road (A56),
(opposite IBM)
SALE, MANCHESTER M33 1TQ.
061-962 0780

SHOWROOM OPENING HOURS:

Monday-Friday 9am-6pm
Saturday 10am-5pm

BIRMINGHAM



1046 Coventry Road (A45),
HAYMILLS, BIRMINGHAM B25 8DP
021-772 5212

ATARI 520STFM
with 1 Megabyte Drive and
New POWER PACK of software.

worth over £550 worth at rec. retail price,
with Atari BASIC and CX40 Joystick.

including Afterburner, Black Lamp, Bomb Jack, Bombuzal, Double Dragon, Eliminator, Gauntlet II, Nebulus, Outrun, Overlander, Pacmania, Predator, R-Type, Space Harrier, Star Goose, Starglider, StarRay, Super Hang-on, Super Huey, Xenon. Plus Business Software - Organiser, Hisoft First Basic, and First Music.

Only **£319.00***

(£374.33 including VAT and next day delivery.)

Plus many more bargains....

ATARI 520STFM

With 1 Megabyte Drive & SUPER PACK of software. Worth over £450 worth at normal retail price. Including Organiser Business Software, Chopper X, Ranarama, Starquake, Genesis, Black Lamp, Thrust, Test Drive, Buggy Boy, Quadralien, Xenon, Wizball, Seconds Out, Zynaps, Marble Madness, Beyond Ice Palace, Thundercats, Summer Olympiad, Arkanoid II, Eddie Edwards, Ikari Warriors.

Special Price..... £279.00*
(£328.25 including VAT and next day delivery.)

ATARI STARTER KIT

Exclusive to Computer Express. Contains ST OWNER'S SECOND MANUAL, 5 DISKS OF PUBLIC DOMAIN SOFTWARE and DELUXE MOUSE MAT..... £10.00*

EXPLORER PACK

Atari 520STFM with 1Mb Built-in Disk Drive, Mouse, Ranarama, Tutorials, Atari ST BASIC.
Special Low Price..... £235.00*

PROFESSIONAL PACK 1040

Atari 1040STFM with Microsoft Write, Superbase Personal, VIP Professional and Atari BASIC.
Special Low Price..... £389.00

ATARI HARDWARE

Atari SM124 12" High Res Mono Monitor..... £119.00
Atari SC1224 12" Med Res Colour Monitor..... £339.00
Cumana 1Mb Double sided 3.5" Disk Drive..... £90.00
Philips 8833 Med Res Colour Monitor - Excellent Buy..... £249.00
Supra Drive 30Mb External Hard Disk - Auto Boot!..... £478.00
Atari SLM804 Laser Printer 8 pages/min 300dpi..... £1045.00
Supra 2400 Modem V21/V22/V22bis..... £159.00
Pace Linnet Modem V21/V23 with cables..... £99.00

ATARI MEGA ST

With 1Mb Drive, Mouse and Professional Pack Software
MEGA 1 - 1Mb RAM..... £499.00
MEGA 2 - 2Mb RAM..... £799.00
MEGA 4 - 4Mb RAM..... £1099.00

ATARI PCs

The masters of the home computer also make popular IBM compatible PCs. The AT compatible 80286 based machine is a real winner at such a low price. All machines have at least 3 internal expansion slots. Choice of monitor.
PC3-HD 30Mb Hard Disk, Mono EGA Monitor..... £599
PC4-HD 286, 60Mb Hard Disk, Mono EGA Monitor..... £1,399
PC5-HD 386, 60Mb Hard Disk, Mono EGA Monitor..... £1,999
PC5-HD 386, 60Mb Hard Disk, Colour VGA Monitor..... £2,599

COMMODORE AMIGA 500

With free Modulator..... £319.00
With free 7 Pack Games Software..... £345.00

AMIGA HARDWARE

Amiga Mini Genlock..... £99.00
Amiga External Drive 3.5"..... £90.00
Amiga 500 External 20Mb Hard Disk with SCSI..... £499.00
Large Range of Popular Atari and Amiga Software Available.

SCHNEIDER PERSONAL COMPUTER

A Quality PC at an unbelievably low price! The Schneider Euro PC is the ideal first time user's machine. Full size keyboard, choice of mono or colour monitor, twin floppy drives, with plenty of room for external expansion. Full 12 months warranty.

Euro PC 12" Mono..... £399
Euro PC 14" Colour..... £549
Schneider AT Single Drive Mono..... £899
Single Drive 14" EGA Colour..... £1149
Schneider AT 20Mb HD Mono..... £1249
AT 20Mb HD 14" EGA Colour..... £1399

*Prices exclude VAT and delivery.

All prices/specs subject to change.

We're there because you're there.

CALL FOR FULL PRICE LIST
EXPORT AND TRADE ENQUIRIES WELCOME
TELEPHONE AND MAIL ORDERS WELCOME



CALL **0727 37451**



OVER 2,800 ITEMS AVAILABLE
ALL GOODS GUARANTEED
CREDIT CARDS NOT DEBITED UNTIL DESPATCH