

# POPULAR **Computing** WEEKLY

## TWELVE POUNDS OF SUGAR

Amstrad Portable preview, p.4



**PLUS BUDGET  
ST SOFTWARE  
SURVEY, p.14**



**MASTERTRONIC**

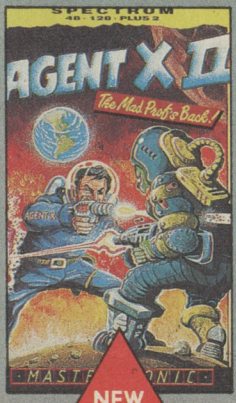
**TOP 30**



Position	Title	Machine Type						
		Spectrum	C64	Amstrad	CI6	Atari	MSX	BBC/ Electron
1.	Kikstart II		✓					
2.	Milk Race	✓	✓	✓		✓	✓	
3.	Rapid Fire	✓	✓					
4.	Motos	✓	✓	✓				
5.	Angleball	✓	✓	✓				
6.	Flash Gordon	✓	✓	✓			✓	
7.	Feud	✓	✓	✓		✓	✓	
8.	Destructo	✓	✓	✓				
9.	Bosconian	✓	✓	✓				
10.	Rigel's Revenge	✓	✓	✓				
11.	Shard of Inovar	✓	✓	✓				
12.	Xevious	✓	✓	✓				
13.	Ocean Conqueror	✓						
14.	On Cue		✓		✓	✓		
15.	Streaker	✓		✓			✓	
16.	Beach Head II	✓	✓	✓				
17.	Invasion	✓	✓	✓		✓	✓	
18.	Curse of Sherwood	✓	✓	✓				
19.	Rescue	✓						
20.	Tunnel Vision		✓					
21.	Eddie Kid	✓	✓				✓	✓
22.	180	✓	✓	✓		✓	✓	
23.	Ball Crazy	✓	✓	✓				
24.	Formula One Simulator	✓	✓	✓	✓		✓	
25.	Anarchy		✓					
26.	Draughts Genius	✓						
27.	Void Runner	✓	✓				✓	
28.	Storm	✓	✓	✓	✓	✓	✓	
29.	Omega One	✓						
30.	Stormbringer	✓		✓			✓	

**RIGGNET**

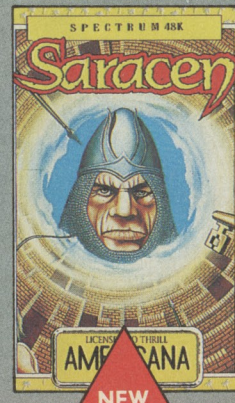
**RACK 'IT**



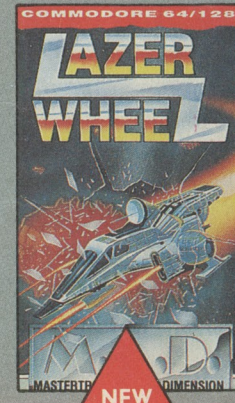
NEW



NEW



NEW



NEW



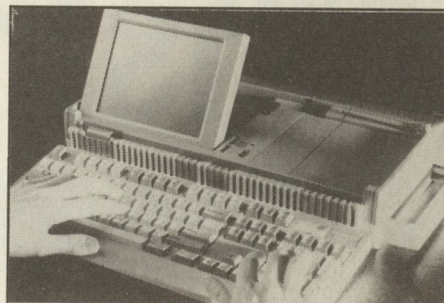
NEW



# Nov 6-11

# CONTENTS

POPULAR  
**Computing**  
WEEKLY



## News

**4 News Desk** Amstrad previews range of laptop PCs . . . Ocean's Christmas campaign . . . Codemasters and Micronet in telesoftware deal.

**11 News Analysis** Nikki Carvey peers into the mist surrounding last month's share deal between Virgin and Mastertronic and finds out what it might mean for the customer.

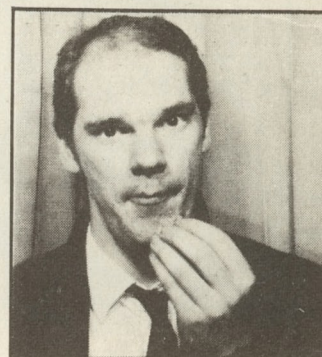
## Features

**14 Software:** Budget ST product David Lester surveys the expanding range of low-price games for the ST . . .

**18 Soundcheck:** Mark Jenkins reports on a couple more Sonus products for the C64 – the RX Librarian and the Double Banked Librarian/Programmer.

**20 Communications:** Compunet buff Graham Edkins returns with a rundown of music programs on the Commodore database.

**22 Hardware:** Discovery 1200P modem – Steve Gold offers a detailed review of the latest from Discovery.



## Programming

**12 Peek and Poke** Kenn Garroch comes to the rescue with more readers' questions answered.

**27 Listings** Mono Emulator Part 2, 3-D Graphics on the BBC.

TALENT SHOWCASE		PRICE
MUSIC	MUSIC HALL	
MUSIC >>MORE>>		
FM FM MUSIC FILES		D+
17643 MATT GRAYS MUSIC		T+
SAMPLE SAMPLES DIR		T+
27443 MEGA SALE		D+
MIDI MIDI HELPLINE		D+
33575 ONE HAS DIR AT-		T
44391 JAPS MUSIC		D+
44374 HUBBARD HACKER		T
44385 HUBBARD'S MUSIC		D+

CODERS ARTISTS MUSICIANS--GET INTO THE  
CNET CODERS DIRECTORY NOW! F1 TO ENTER

## Games

**33 New Releases** Your complete guide to all the programs released this week, including Mirrorsoft's biggie *Dark Castle*, Domark's *Not A Penny More, Not A Penny Less*, and Virgin's *Action Force*.

**54 Ziggurat** The horrors of electronic mail discussed by David Rawlinson.



Top: Amstrad PPC. Second: Kenn's last appearance as his old self. Above: Compunet. Below: Note a Penny More, Not a Penny Less.

**Executive editor** Francis Jago **Deputy editor** John Brissenden **Features editor** Duncan Evans **Production editor** Yvonne Hartland **Staff writer** Nikki Carvey  
**Advertisement manager** David Osen **Advertisement executive** Athena Peerman **Classified manager** Susannah King **Classified executive** Robert Cole **Managing editor** Brendan Gore **Publisher** Trish Phillips **Group Publisher** Paul Coster **Chief executive** Richard Hease **Financial director** Brendan McGrath. **Published by** Focus Magazines, Greencoat House, Francis Street, London SW1P 1DG. **Typeset by** Magazine Typesetters, 6 Parnell Court, East Portway, Andover, Hampshire. **Printed by** McCorquodale Magazines, Andover, Hampshire. **Distributed by** S M Distribution, London SW9, Tel 01-274 8611, Telex 261643.

© Focus Magazine 1987. ISSN 0265-0509

**ABC**

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

**Popular Computing Weekly. Tel: 01-834 1717.**



# Amstrad's baby...

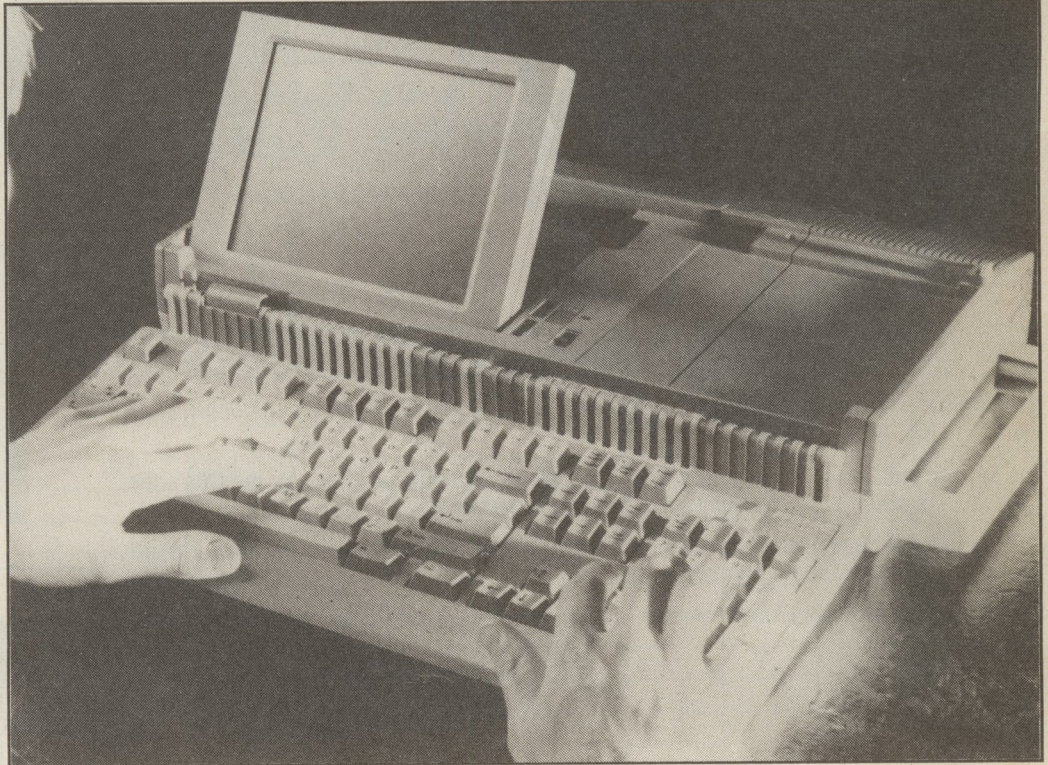
LAST Wednesday heralded the unveiling of Amstrad's new baby - the Amstrad portable, weighing only 12 lbs and competitively priced at between £399 and £599.

The range consists of four models - the 512S single 720K 3½" drive at £399 + VAT, the 512D double 720K 3½" drive at £499 + VAT, the 640S single 720K 3½" drive + internal modem at £499 + VAT, and the 640D double 720K 3½" drive + internal modem which costs £699 + VAT.

Since the current portables which are marketed by Toshiba and Compaq sell for between £1000 and £2000, it is understandable why Amstrad is crowing about its breakthrough product.

Amstrad also claims that in addition to the unbeatable price, the portables have certain standard features that are offered as additional extras by other companies. These include a full-sized IBM AT type enhanced keyboard, five power sources - battery, A/C adaptor, expansion box, car cigarette lighter adaptor, and through the power supply of any Amstrad PC monitor.

The portable also incorporates a host of other features, such as 8086 16-bit processor, 8 MHz clock, integrated display adaptor fully compatible with MDA and CGA, and a 640 x 200 pixel supertwist LCD panel which supports all MDA and CGA graphics and text modes.



The Amstrad portable

Amstrad chairman Alan Sugar is optimistic that Amstrad will penetrate the mass market where portables currently occupy only 3 per cent. He believes Amstrad will succeed and was nonchalant about the effect the new product will have on other companies, saying: "We've given them 2 months to do something about it."

You may be wondering why Amstrad has already an-

nounced the portable range if they are not available in the shops until January. Sugar explained that this was because Amstrad wanted to launch the portable in Britain before it was launched at the Las Vegas Comdex Show in America this week.

Amstrad has been concerned in the past on how a new launch may affect other products in its range. Sugar said: "Our job is to

sell what we have today, not what we will have tomorrow."

Last week, Sugar enthused that: "The Amstrad promise of providing high performance with quality goods at highly competitive prices will continue." Judging by its reception at the preview, the portable stands a fair chance of fulfilling this claim. All one can really say is 'Nice computer, Alan, shame about the video'.

## Micronet sign-up telesoftware deal

CODEE Masters and Firebird have just signed a deal with Micronet to produce telesoftware.

This will enable Micronet subscribers to buy hot-off-the-press titles, 24 hours a day with as much as ¼ off the £1.99 RRP.

According to Micronet's PR person, David Rosenbaum, "Mi-

cronet is really acting like any other distributor with the money coming on a royalty basis. If nobody buys from us, we won't make anything."

At present there are no plans for Micronet to sign up any other budget software houses, but eventually it would like to have as many on-line as possi-

ble, depending on the outcome of this deal.

The two companies involved are pleased with their new venture, seeing it as an ideal opportunity to increase sales. Firebird Silver Publisher Chris Smith enthused, "budget software is an impulse buy and telesoftware is the ideal environment for it. Priced as low as £1.50 on Micronet, Firebird's software is unbeatable."

Whether this is so remains to be seen. Meanwhile you can still nip down to your nearest newsagent and purchase yourself a copy of BMX Simulator and a Mars Bar.

## Rack-it convert

HEWSON'S budget label, Rack-It, is to convert two of their original releases.

*Anarchy*, the puzzle game previously on the Commodore 64, will now be on the Spectrum and Amstrad. Similarly, *Ocean Conqueror*, the simulated submarine game, is due out on C64, Amstrad and MSX. The games will cost £2.99 and are distributed by Mastertronic.



DIARY  
DATES

## NOVEMBER

13-15 November

**Electron and BBC Micro User Show**

New Horticultural Hall, London SW1

**Details:** Latest hardware and software across the Acorn range**Organiser:** Database Exhibitions, 061-456 8383

21 November

**Wales and West Computer Show**

Central Hotel, Cardiff

**Details:** Regional computer show of particular interest to Dragon users

Tickets £1 adults, 50p children

**Organiser:** R & A J Preston, (0656) 880965

## DECEMBER

12 December

**Christmas ZX Microfair**

New Horticultural Hall, London SW1

**Details:** Latest innovations for Sinclair users

Advanced tickets: £1.50 adults, £1 children

Tickets on the door: £2 adults, £1.50 children

**Organiser:** Mike Johnson, 01-801 9172

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

## Gallup's No.1 Darling

CODE Masters was named by Gallup last week as the No.1 company for selling computer games in Britain.

Headed by the entrepreneurial brothers David and Richard Darling, Code Masters is boasting 12.8 per cent of the UK market, which is way ahead of its rivals.

David Darling said: "We have achieved this after many months of careful planning. Consumers recognise Code Masters as being top quality product at a realistic retail price, and our sales reflect this. We do not intend to become complacent though, and have an exciting new product to unveil that will sustain Code Masters' dominance of the charts well into 1988."

Not everyone would agree with this. Frank Herman, chairman of Mastertronic commented, "Empty vessels make the most noise."

He declined to expand on the



David and Richard Darling

issue but it is well known that Mastertronic does not think highly of Gallup's market analysis at present.

Meanwhile, Code Masters is set for Christmas success with

the recent release of the new Grand Prix simulator game. It is hoped that it will match the success of Code Masters' *BMX Simulator* which is claimed to have sold 200,000 copies.

The Dataphone  
low-cost demon

DATAPHONE Ltd has just released a new low-cost modem, the Demon 2, which will cost under £80.

You can use the modem with any computer, providing it has a suitable interface and software and is fitted with a 25-pin D socket for connection to a computer RS232/423 port. In addition, it has a full three wire telephone circuit and comes

equipped with an internal power supply, fitted mains plug and a three metre telephone cable which connects to standard sockets.

Demon 2 has a diverse range of features, some of which are: full computer control; auto dial and auto answer. It will also handle 1200/75 and 300/300 baud rates, 1200/1200 half duplex for bulk loading, and is able to automatically select the correct baud rate for both sending and receiving.

Having received full BABT approval for connection to the telephone system, Demon 2 is available now. A user-manual is supplied with each machine and Dataphone will provide a full support service.

For those you you wanting to log on to Prestel or Telecom Gold with one key stroke, software is available for most computers under £50.

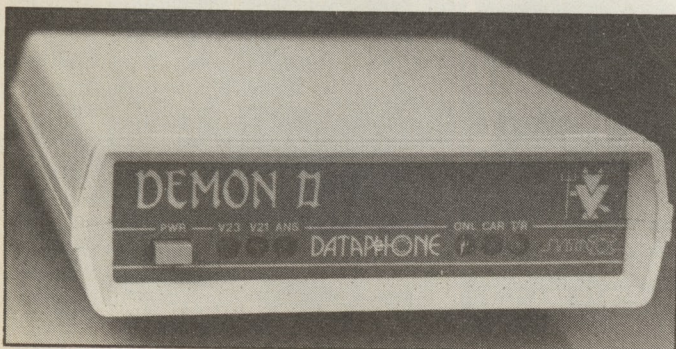
Whose  
ditto?

A ROW has erupted between Robtek and Microdeal over the *PC Ditto* emulator for the ST.

In a recent advert in *Popular Computing Weekly*, Microdeal was offering *PC Ditto* for £49.95 whereas Robtek is selling it for £89.

Mike Segrue, marketing manager at Robtek said that an exclusive contract with America's Avantgarde who make the product, and that Microdeal's *PC Ditto* will not work on British machines.

In response John Symes at Microdeal stated that they had imported a large number of *PC Ditto* directly from Avantgarde and these worked perfectly well on British equipment. He commented that Robtek was 'just trying to monopolise the business at exorbitant prices'.



Demon 2



# Festive plans

OCEAN Software last week announced their forthcoming plans for the festive season.

Currently at No. 1 with *Renegade*, Ocean is hoping that the ten new games, being launched in time for Christmas, will prove equally popular.

Set for release this month are adaptations of arcade hits, *Psycho Soldier*, *Combat School* and *Gryzor*, and also *Match Day II*, *Phantom Club* and *Flashpoint* which are based on original concepts.

*Flashpoint* is particularly unusual since it is a strategy 'board' game, requiring quick reactions and maximum concentration.

It is a two player game in which you must outwit your opponent, using sneaky strategies of attack and defence whilst being continually aware of what the other player is up to.

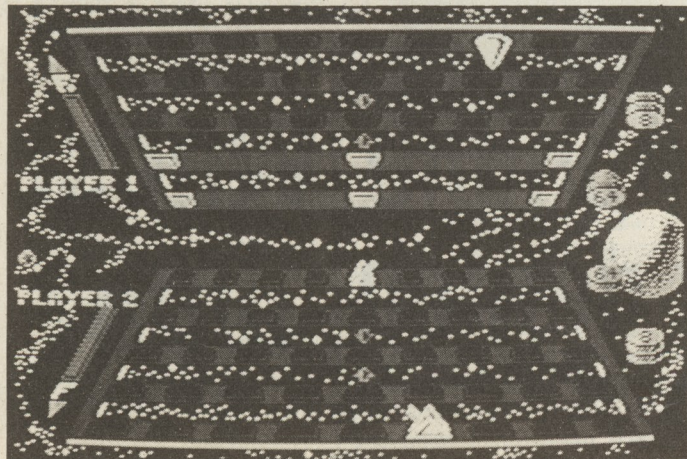
There are also four games set for release in December - *ECO*,

*Mad Ball*, *The Rastan Saga* and *Basket Master*.

Of these, *ECO* detracts somewhat from the average game plot. Beginning life as an insect, you have to fight off the higher forms of life in order to progress to humanoid. Fully animated vector graphics on a 360 degree scrolling landscape in 3D perspective are part and parcel of the game, intended to add authenticity.

Whilst Ocean was pleased to reveal its new titles, it was most excited about a game that will miss the Christmas stocking - *Platoon*.

A team from Ocean has already spent 5 months working on *Platoon* and is presently 'touching up the graphics' so that the game will be ready for a January release. Understandably Ocean are hoping the game will be as big a hit as the film.



Flashpoint

## Christmas treat

SPECTRUM owners are to receive an extra treat this Christmas with next month's unveiling of the Plus D by Miles Gordon Technology.

The Plus D is a disc and printer interface that will upgrade older Spectrums at the low cost of £49.95, or £129.95 together with a 3.5" drive with a capacity of 780K.

Among the diverse range of features it offers are: a snapshot button for instant saving of all 48K and 128K cassette programs to disc; fast loading - up to 780K per drive; simple syntax

for beginners and sophisticated facilities for advanced users.

Whilst Designer Bruce Gordon has based the Plus D on the Disciple, the Plus D is smaller, coming in a 10cm x 10cm metal case. The network and joystick ports have been dropped, although you can still use a joystick interface.

Miles Gordon Technology believe that the Plus D will be the answer to many Spectrum owners' prayers. If you are one of the non-committed, however, *Popular Computing Weekly* will be reviewing the product soon.



## SOFTWARE HOTLINES

**Arcana Software Design**, known for their work in the 8-bit field, are moving into the ST/Amiga market with *Mars Cops* and *Power Play* (entertaining quiz challenge game).

The picture is from *Mars Cops*, which has you hurtling down canyons, dodging rock outcroppings which loom up in horrifying 3-D, chasing UFO's. If you fail to stop the blighters at this stage then the fight moves stage into space.

It's all reminiscent of Gerry Anderson's UFO series from many, many years ago. With surprisingly good animation (how many Amiga games can you say that about?) this is one to look out for.

Winner of the 'game most likely to be played by the Lord Chancellor' award goes to *Garrison*, on the Amiga. The programmers are German and the game is going to be distributed here by **Simply Megaware**. But not for very long.

As soon as **US Gold** see it there'll be squadrons of lawyers flying out of Birmingham. Why? Because *Garrison* is *Gauntlet*. From the superb music, to the sampled sound effects, smooth scrolling (it's not fast but that's a minor quibble) and fabby graphics, this is *Gauntlet* in almost every respect. Buy it now while you can (full review next week, by the way).

Actually, if **US Gold** know what they're about they'll simply buy the program lock, stock and barrel, and affix their name to it.

Goodness me. Two calls about last week's Hotlines, soon to be renamed *Scurrilous Gossiplines*, by Thursday. A

man not unconnected with the programmer responsible for *Flying Spark* on the C64 was at pains to assure me that not only was the programmer brilliant, but so was the game. Well, how could I possibly doubt it? (You cynic, Evans. Ed.)

Bruce Jordan of **Novagen** has apparently been fending off the crazed hordes of ST owners by the truckload since last week's column. The object of all the interest is, of course, the best thing at the PCW show, *Backlash*.

Well, the pre-production version was pretty damn good, so roll on the finished product. An interesting point is that Paul Woakes, the programmer, has coaxed 450k out of a single sided disc to enable more features to be squashed in.

Following our Frank's pulverising of porky Joe Bugner t'other week, and excited talk of a Bruno-Tyson (mismatch, what's the betting that either *Frank Bruno's Boxing* reappears or there's a new Bruno boxing game?

Pssst. Completely off the record, and in the strictest of confidence, there are mutterings that **Elite** are going to pull out of computer software completely. They weren't exactly making a lot of noise at the PCW show, were they?

Superior-Baconsoft have released another set of 40 screens for *Repton 3* - the Boulderdash variant. Whatever next I wonder? *Repton* eats his dinner? *Repton* goes down the pub?

Hold the front page, hold the front page! Well, the colour page anyway. Guess what's just plopped into my lap? Only the ST version of *Defender of the Crown!* Oh, heaven. Righto, I'm off home with it. See you next week folks.

Duncan Evans



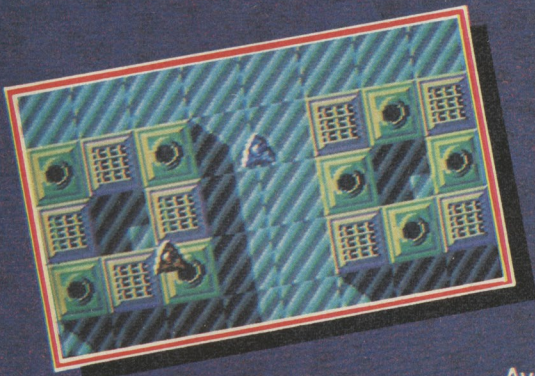
When the Creators of  
**PARALLAX** and **WIZBALL**  
decide to give away their Trade Secrets  
it has to be Something Special...

S E N S I B L E   S O F T W A R E ' S

# SHOOT 'EM UP CONSTRUCTION KIT

INCLUDES  
**4 FREE**  
GAMES

...IT IS!



Available from all good computer game stockists or  
Send Cheque/Postal Order for £14.95 (Commodore 64/128  
Cassette) £19.95 (Commodore 64/128 Disk) plus 80p P&P  
Access and Barclaycard Holders telephone 01-278-0751  
Outlaw Productions, 275 Pentonville Road, London N1 9NL

part of the **PALACE** Group of Companies.





# YOUR NAME IN LIGHTS

Have you ever thought of writing articles for Popular? It's a sure fire passport to fame, if not fortune, and we always welcome contributions from readers for features and articles in the magazine.

## Programs

Technical editor Duncan Evans relies on you for the programs section. It needn't be that machine code masterpiece that NASA was promising you vast sums for, what we're looking out for is handy routines, utilities, anything that you've concocted that makes your life easier as a programmer that you'd like to pass on to others.

Don't make your programs too long, please - it's best if we can print the full listing in one week, and a four part listing is probably the largest we can accept. If they're very short, then so much the better, they'll fit neatly into our Bytes and Pieces page.

## Features

We're also particularly interested in articles about programming, which should be sent to Christina Erskine. If you think you could explain technical

areas of computing to a wider audience then do let us know.

We also welcome articles on any aspect of home computing, although we cannot feasibly accept anything longer than 2000 words. It's worth checking by phone or letter first that your piece will be suitable, but we're open to all ideas.

## Money no object?

If it's not the money you're interested in so much as simply having your say, the Ziggurat slot is where anyone can get up on a soap box and air their opinions. Your article should be 600-650 words long. We pay £15 per Ziggurat published.

For even less money, we'd like to hear your views, comments and opinions on our Letters page, and our columnists are always on the look-out for hints and tips and comments on their own areas of the magazine.

Mark Jenkins welcomes correspondence of a musical nature for Soundcheck, Martin Bryant is interested in any queries or views regarding computer chess, and our communications correspondents will be happy to answer questions about modems and networks (mark your envelope 'Comms').

Any technical or programming problems you're encountering can be addressed to Kenn Garroch. Kenn tries to help as many people as possible in Peek and Poke, but cannot undertake to give personal replies.

## How to submit

For features, it is almost always

better if you write or telephone first to discuss your ideas with us. Your articles should be typed or word processed, preferably in double spacing, using one side of the paper only.

Please don't write more than 2000 words for an article. Program notes should explain what your program achieves and how it works, but, again, please keep them concise.

## Payment

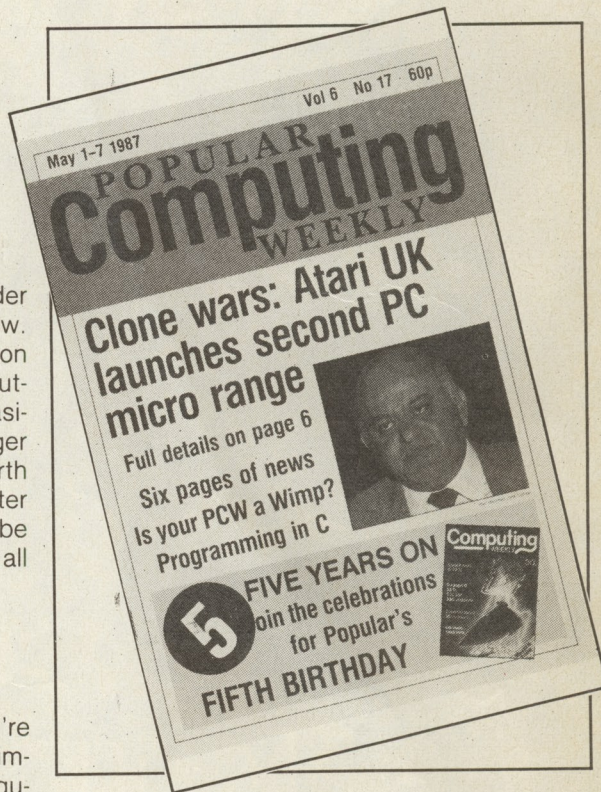
Listings will be paid at a rate of £25 per published page, Bytes and Pieces at £10 each. For feature articles, we pay £40 per published page, which is about 800 words.

Your payment should arrive six weeks after publication date.

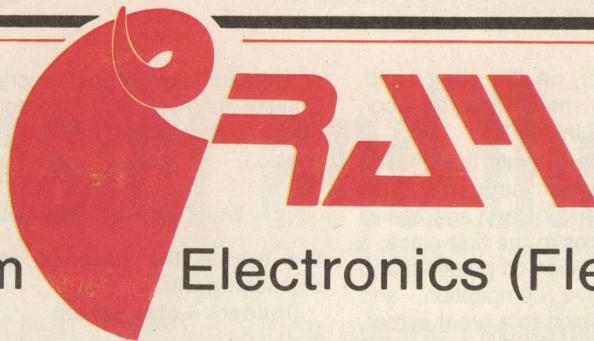
## Where to send them

All submissions should be sent to *Popular Computing Weekly*, 3rd Floor, Greencoat House, Francis Street, London SW1P 1DG. If you mark which department your letter is destined for on the envelope it will help us process them much more quickly.

We will make every attempt to acknowledge receipt of your submission.







# Ram Electronics (Fleet) Ltd

**"MANUFACTURERS OF QUALITY COMPUTER PRODUCTS"**

<b>SPECTRUM</b>	CODE	SRP (Inc. VAT)	<b>AMSTRAD CPC 464/664</b>	CODE	SRP (Inc. VAT)
RAM MkII Interface	S001	£9.95	Music Machine — Tape	A001	£49.95
RAM Turbo	S002	£12.95	Music Machine — Disk	A002	£59.95
Music Machine	S003	£49.95	Speech Synth — Rom	A003	£39.95
Ramprint	S004	£34.95	Speech Synth — Tape	A004	£29.95
Keyboard	S005	£37.50	Light Pen — Rom	A005	£29.95
Light Pen and Interface	S006	£14.95	Light Pen — Tape	A006	£19.95
Centronics Interface	S007	£29.95	64K Ram	A007	£39.95
56 way Ribbon Cable	S008	£9.95	256K Ram	A008	£75.00
DKT Programmable I/F	S009	£14.95	256K Silicon Disk System	A009	£99.95
3 Channel Sound Synth	S010	£24.95	Printer Cable	A010	£12.95
Speech Synth	S011	£24.95	Real Time Clock	A011	£34.95
DKT Single Port I/F	S012	£9.95	TV Tuner	M006	£69.95
DKT Dual Port I/F	S013	£13.00			
Bus Extender Board	S014	£4.95			
<b>AMSTRAD CPC 6128</b>	CODE	SRP (Inc. VAT)	<b>AMSTRAD PCW 8000</b>	CODE	SRP (Inc. VAT)
256K Ram	A101	£75.00	Communicator	A201	£59.95
256K Silicon Disk System	A102	£99.95	Memory Upgrade to 512K	A202	£29.95
Speech Synth — Rom	A103	£39.95	DKT Joystick Interface	A203	£19.95
Light Pen — Rom	A104	£29.95	Music & Sound Synth	A204	£39.95
Printer Cable	A105	£12.95	Real Time Clock	A205	£34.95
Real Time Clock	A106	£34.95			
<b>CBM 16/64/128</b>	CODE	SRP (Inc. VAT)	<b>SINCLAIR QL</b>	CODE	SRP (Inc. VAT)
CBM64 Centronics Cable	C001	£17.50	Centronics Interface	Q001	£29.95
CBM64 128 Sprint	C002	£29.95	Serial Cable	Q002	£7.95
CBM16 16K Ram Pack	C003	£29.95			
<b>BBC/ELECTRON</b>	CODE	SRP (Inc. VAT)	<b>CAMBRIDGE COMPUTERS</b>		
BBC Centronics Cable	B001	£12.95	Z88 Centronics I/F	Z001	£29.95
BBC Joystick I/F	B002	£9.95			
Commander 3 I/F	E001	£14.95	<b>VIC 20</b>	CODE	SRP (Inc. VAT)
<b>IBM PC</b>	CODE	SRP (Inc. VAT)	16K Switchable Ram	V001	£34.95
256K Ram Board	P001	£89.95	32K Switchable Ram	V002	£49.95
384/512 Ram Board	P002	£124.95			
Parallel Printer I/F	P003	£29.95	<b>APRICOT</b>	CODE	SRP (Inc. VAT)
Printer Buffer plus 'Side Print'	P004	£124.95	128K Fast Card	P101	£110.00
			512K Memory Expansion	P102	£124.95

**WE ARE ALSO DISTRIBUTORS FOR THE FOLLOWING PRODUCTS**

Quickshot 2	M001	£9.95	Quickshot 2 Turbo	M002	£12.95
Moonraker Joystick	M003	£6.99	Moonraker (Amstrad Ver)	M004	£7.99
Spec. Plus 2 J/X Adap	M005	£1.99			

**RAM IS NOW ABLE TO OFFER THE WIDEST RANGE OF HOME  
COMPUTER PERIPHERALS CURRENTLY AVAILABLE  
ALL RAM PRODUCTS ARE MANUFACTURED IN THE UK AND CARRY  
A FULL 12 MONTHS GUARANTEE**

**TO PLACE YOUR ORDER JUST SIMPLY FILL IN THE COUPON BELOW AND SEND IT TO:-  
RAM ELECTRONICS, UNIT 16, REDFIELDS INDUSTRIAL PARK, REDFIELD LANE, CHURCH  
CROOKHAM, HAMPSHIRE GU13 0RE OR PHONE US DIRECTLY ON**

**0252 850085/31**



If you have an Access/Visa Card you may telephone  
24 hrs on 0252 850085.



NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
TEL NO. \_\_\_\_\_  
CHQ. NO. \_\_\_\_\_  
ACCESS/VISA \_\_\_\_\_

I WOULD LIKE TO ORDER THE FOLLOWING:-

_____	TOTAL
_____	_____
_____	_____
_____	_____
_____	_____

SIGNATURE \_\_\_\_\_

ALL PRICES ARE INCLUSIVE OF VAT AND PLEASE ALLOW UP TO 28 DAYS FOR DELIVERY.



## Confession

Over the past few weeks I've been watching the debate in this magazine and others about violence in software, and the general hysteria following in the wake of the Hungerford killings.

It seems to me that, while the disgust at all things violent expounded by so many people is in most respects laudable, they may well be missing the point entirely. Violent software, like violent films, books, television programmes and so forth, is a symptom, not a cause.

To bring things onto a personal level, I, like so many others, work in an office, spending most of my time in front of a PC, entering and adjusting data. My work is to a large extent boring in the extreme, the software package (*Symphony v2.00*) is in my opinion quirky, if not downright uncooperative, and the data itself holds little meaning or interest for me.

To get to work I have to fight my way through the London Underground and its crowd of commuters identical in many respects to myself, and to get home I must again face this human sardine tin.

To sum up, my life at work is to a great extent frustrating, boring and unsatisfying and I arrive home at the end of each day full of pent-up tension and aggression, which I take out on my long-suffering girlfriend by moaning on about the people, the job et al until I have relaxed to an extent.

Another way that I relieve this aggression (aha! the confession) is to go and pound the life out of a large number of innocent aliens/enemies/ball-bearings or whatever, on my trusty home micro.

Evidently, it is not the software which makes me aggressive, but quite the opposite, in that the software acts as a punchbag, if you will, which absorbs my violence without suffering any long-term side-effects, like death, that a live human might.

Books and films are in some ways a different case, because of the way that they tend to lead to imitation ("Be like Rambo! Buy the Acme X-treem-lee Nastee Huge Big Sharp Killing Macho Knife" etc ad nauseam). Tell me that I unconsciously want to be like the little spacecraft in FireTrak or

whatever, on the other hand, and I'm more likely to laugh than to buy.

The true fault lies in the society which leads us to build these tensions and aggressive tendencies in the first place, a society based on pressure and aggressive competition, and one in which to a great extent, the more ruthless you are, the more successful you become.

Perhaps, rather than trying to attack the symptoms and merely putting yet more restraints and pressures on the populace, we should be trying to change that attitudes and approach of our society with a view to reducing this pressure?

*Ben Rapp,  
London NW6*

## Sinister 2

I was interested to read the letter from George Godman in your issue of October 23/29th.

My circumstances and views are very similar to his. I am a little younger than he is and I have been doing the puzzle longer.

How right he is to say that the words "due to overwhelming demand" have a "sinister ring".

I am afraid he is also right when he says that these days the magazine has less to offer to people like George and me.

If, in the process of fitting the puzzle into a new format, you spoil it, there will be little point in my continuing to take the magazine!

Granted that you want to hear the ideas of your readers about a new puzzle "format" - why did you not simply ask them in one small paragraph, to write in and continue to publish the weekly puzzle in the meantime?

Your answer to George suggests to a nasty suspicious mind like mine that really all of this arises from a dispute with your compiler about his fee!

*Phil Amey  
Esher, Surrey*

## Beg, beg

Please, please, please bring back the puzzle section as it was - I'm suffering terrible

withdrawal symptoms every Sunday morning (the time for my once weekly brainstorming session).

*Steve Wood  
Wombourne, Staffs WV5*

**We are in the process of organising this.**

**Readers - stay tuned!**

## Sic transit

I'm writing to you with my experience in dealing with a repair firm which advertises in your magazine.

I paid £22 for the repair of a graphical fault on a C64. When the machine was returned it would no longer load a thing and crashed while I was writing a basic routine.

I sent the machine back and told the company of the faults. I heard nothing for two weeks so I rang and was told that the machine was fine when it left them - so any damage must have occurred in transit. They would however repair it for a further £12.

I have so far wasted £22 with this firm, only to receive a C64 in worse condition than I thought possible.

*Mr. A. Elliott  
Maulden, Beds.*

PS. Can anyone suggest a reliable firm to repair my machine?

## Old fashioned

Magazines depend a great deal upon advertising revenue; mail order companies depend upon a wide readership; and potential customers depend upon the honesty and reliability of both publisher and suppliers.

When one of the links in the chain is damaged, it diminishes us all. Here then is (yet another) cautionary tale of mail order mismanagement.

Wishing to purchase some blank discs and a printer cable, I checked through back issues of *Popular Computing Weekly* for a regular (and therefore I reasoned reputable and firmly established) advertiser.

One particular company seemed to fit the bill, so I placed an order over the phone and paid by credit card. A few days

later a package arrived with an invoice.

The invoice was for the goods I had ordered, while the package contained ten discs and a library case less than I had order. I phoned the company shortly afterwards and explained the dilemma to an extremely sympathetic lady.

A little over two weeks later, and four or five phone calls to the company's answerphone asking about the delay, I received a phone call from the same helpful lady asking what it was I was missing. She promised to sort it out promptly.

It has now been a month since that last call and there's still no sign of any of the missing discs.

I realise that there is almost nothing I can do. Once a firm has a customer's credit card number they need only supply the goods they wish to. My statement shows that I have been charged for the full amount of the order. I guess I'm lucky the package wasn't 100 discs short.

It seems a pity that old fashioned concepts like trust and integrity matter so little in today's business environment.

*M. L. Turner  
Birmingham B13*

**It is not Popular's policy to mention companies by name, so we have edited the above two letters accordingly. Readers may rest assured though that the companies involved have been contacted, are looking into these matters, and will, hopefully, get back to us on these issues.**



*"Is that a portable computer in your pocket, or are you just pleased to see me?"*



# The master and the maiden

Nikki Carvey sounds out the implications of the new Virgin-Mastertronic relationship.

**A**fter six months of talks, Virgin eventually acquired a 45 per cent stake in Mastertronic at a rumoured cost of £4m.

Whilst maintaining that it is still a minority shareholder, leaving Mastertronic under autonomous control, one can't help wondering in which direction Virgin is hoping to manoeuvre Frank Herman and Co.

Paul Latham of Virgin Publishing denied that Virgin was going to try and use Mastertronic for its own ends. He stressed, "The relationship is not only of control, but one of participation."

Frank Herman, chairman of Mastertronic, was also of this opinion, saying, "We are planning to carry on doing what we are already doing."

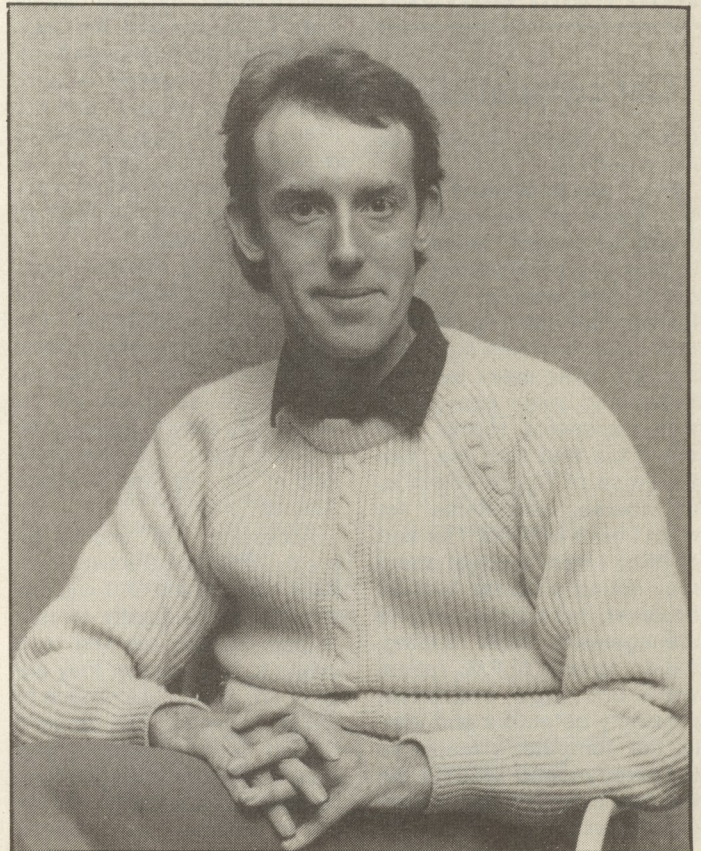
Some of this 'doing' will mean the continued expansion of the U.S. market. In terms of budget software Frank hopes that Mas-

tertronic will soon become the No. 1 budget house in the States. He is also confident that Arcadia, a subsidiary of Mastertronic, has a lot to gain from America. "Arcadia is now more of a U.S. company since the bias of business has gone to the other side of the Atlantic."

Latham believes that Mastertronic wants to develop more business in the States because the market is more stable, more adult-orientated and more profitable, with the margins under less pressure.

Since Mastertronic is so heavily involved in the American market, it is thought that it will float on the U.S. stock exchange rather than in Britain. Herman, however, denied this saying that there was a 'strong possibility' of it going to the British USM.

At present, both parties are evasive about their exact plans for the future. Having failed in



**Nick Alexander: on Mastertronic board**

the past with the 'Rabbit' budget label, Virgin has no plans to produce its own budget software range.

Instead it is likely to pursue a licensing agreement with Mastertronic, whereby original Virgin games, such as *Dan Dare*, will be published as budget titles by Mastertronic.

Whilst Virgin will remain clear of the budget market, Mastertronic will be further expanding its full-price software label, Melbourne House.

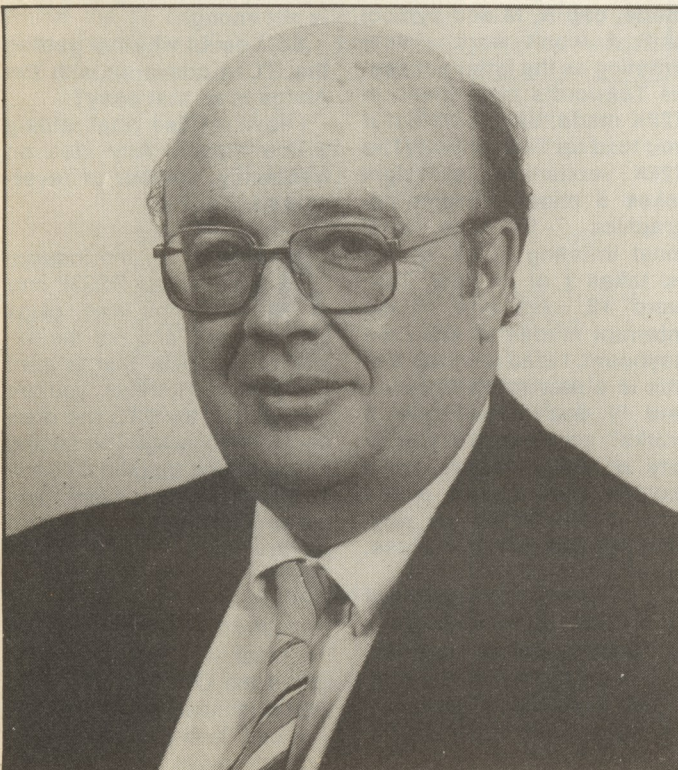
Herman emphasised, however, that these plans would have materialised anyway, they were not the result of the Virgin deal.

What is a result of the deal, though, is Nick Alexander's 'advisory' appointment to Mastertronic's board. As such he is in a good position to influence

Mastertronic in the direction he wishes to go.

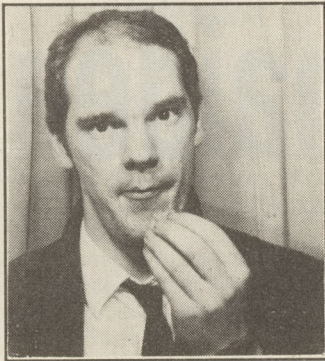
One way in which Virgin may lead Mastertronic is towards the development of new technology software media, such as CD ROM and interactive video - areas in which Virgin is already interested. Whilst Herman conceded that Mastertronic was 'looking particularly closely' at these, he would not comment on whether any specific deal had been settled with Virgin.

In spite of what both Virgin and Mastertronic say, it does seem that in the long term the deal will produce some obvious changes within the software business. For the present, though, Herman assures us that the consumer will notice no difference and that business post-Virgin will go on the same as before.



**Frank Herman of Mastertronics**





with **Kenn Garroch**

## Car compatible?

*Cpl W A Skinner, Royal Engineers, writes:*

**Q** I am interested in the use of computers in the car but I am unable to find any publications that cover this subject. I have leafed through magazines that cover robotics (in terms that are three miles over my head) and been confronted with expensive robots that serve tea and sing the 'Yellow Rose of Texas' which is, of course, unsuitable for what I have in mind. The sort of thing I have thought about may sound a bit far fetched however, here goes: engine management, fault finding, tuning speed, M.P.G. ratios, voice-activated response, proximity detectors and lastly, the computer's response to aerodynamic effects on the car, to adjust spoiler angles for example.

I have a CBM 64 which I think may not be suitable for this purpose. Could you please help me with this subject, whether it is possible, practical, and the computer suitable?

**A** Some of the things you want to do are reasonably practical, others may prove a little difficult to implement. The basic idea can be broken down into three sections; getting information from the car into the computer, processing the data, and sending out controlled responses back to the car. The first and the last involve some kind of interfacing and, as you say, the C64 is not really suitable. You need a machine that is easily interfaced to the outside world, uses very little power, and is capable of quite complex processing. This is quite a difficult niche to

fill as there are computers that have some of the attributes but not others.

A major problem is one of the computer's display. Although it is easily possible to get portable TVs that work from a car batteries, they do use a considerable amount of power and are fairly fragile. An LCD (Liquid Crystal Display - as used in watches) display would be ideal and as most computers that use these are battery powered and portable, one of these would do. Unfortunately, they are usually more expensive than the standard home micro although there are quite a number around. Unfortunately, since I have not used them all, it is difficult to recommend one. One of the Kyosera machines would probably do - say the NEC 8201 or the Tandy portable.

Interfacing is the next problem as most portables do not have user ports as on the 64 or BBC etc. They do have some of the system lines (at least the NEC does) so it should be reasonably easy to make up an interface board that runs some kind of VIA (Versatile Interface Adapter) chip.

Accessing this should be pretty straightforward from Basic using IN and OUT and this then gives the facility to turn outputs on and off, and read inputs to see whether they are on or off. An ADC (Analogue to Digital Converter) can be used to read incoming voltages, and a DAC (Digital to Analogue Converter) used to send out varying control voltages. Such things as temperature, pressure, and proximity sensors, and flow meters can be attached to the ADC while the DAC can be used to alter the timing and hence the tuning of the engine. Speech response is probably beyond the direct processing capabilities of most small portables, and the mathematics of aerodynamics is pretty complicated and also probably beyond its capacity. However, it should be possible to perform simple control and monitoring of the engine. As far as I know, there isn't any literature on the subject (readers please correct this if possible?) so the best place to start would be to get a reasonable background in digital electronics and construction, not a terribly difficult subject once you get the basic ideas.

A good place to start is to peruse as many electronics and computer mags as possible

looking for ideas that can be adapted to your purposes. Experiment with some interfacing to your 64 (see a series of articles in *Popular* in the near future for help on this) and get to know what can and can't be done. Electronics catalogues can be a great help with ideas on what chips and sensors are available, particularly Maplin and Radio Spares (RS). After messing around with the above suggestions, you may have a lot more idea of what is available and be able to be a lot more specific about what you need to know - although once you get the basic idea, you'll find that it is quite straightforward.

I'm sorry that I can't be a lot more helpful and suggest some concrete ways of doing what you require as I lack space, and to explain in full would take lots of it. Don't hesitate to write to me with more detailed questions if you get stuck on a particular thing. There is no real reason why a computer cannot do any of the things you suggest, the main obstacle will probably be money.

## In from the cold

*D A John Wase, of Bishampton, Worcs, writes:*

**Q** I have a problem with a Spectrum +2. When starting from cold, 48K mode, cap N, M and symbol shift A won't work - very irritating as the latter accesses Tasword's main menu in 128K mode, all is well but if you load up Tasword +2 (The 128K version), cursor right takes 5 mins to warm up, graphics 7-10 mins, and, most irritating of all, cursor up takes  $\frac{3}{4}$  of an hour. Tasword +2 uses one of the interrupt modes to scan the keyboard. I read recently that this is a new name to cover and "I don't know how it works" problem. Do you or any of your readers know exactly what causes it and how to cure it? By the way, cold weather makes it worse.

**A** This is a strange one, is it possible that one row of the keyboard is playing up? Since the temperature affects the problem, it appears to be a hardware fault ie, the keyboard switches. As far as I know, the Spectrum +2 uses

membranes under the keytops and it is possible that they are damaged or even damp. Another possibility is a bad connection between the main printed circuit board and the keyboard, or a dry joint somewhere. However, since it works in 128K mode, this looks unlikely. It may be that the software contributes to the problem by reading the keyboard in different fashions - a faster scan might show the problem up whereas normal operation is slow. These are just guesses and basically, I have no idea. Perhaps our readers can help?

## No swap

*Peter Erskine, of Colchester, Essex, writes:*

**Q** In Peek and Poke issue No 38, Vol 6, you suggested to an Amiga sypop that he could swap files between the Amiga and the ST using the RS232.

I have just bought an ST and intended to use my RS232 printer with it - the Atari handbook claims the RS232 port to be "industry standard".

It turns out they are lying... it is impossible to drive a printer with it. The reason is that the ST's CTS line requires to be rattled by the data terminal equipment before the ST will transmit each byte. Sending CTS high is not enough.

So, I doubt whether getting the ST to converse with the Amiga is all that easy?

I have no idea what rattling a line means. Any idea on frequency, number of reversals needed?

**A** First of all, the industry standard for RS232 only defines the lines, plugs and voltages, and not the format of the data that is sent along them. However, you are right in that the CTS line does not work correctly. The rattling simply means that the CTS line is changed after every byte transmitted, most printers hold it high while the buffer is full and then send it low when data is acceptable ie, there is room in the buffer for it (others may do it the other way around). If you ignore the CTS and RTS lines then communication is possible - I can testify to this as I regularly move data from my Mac to ST and back without a



hitch. The only drawback is that the speed must be kept down to a level where the Mac's buffer never gets full (300 baud is acceptable).

One answer is to tell the ST to ignore RTS/CTS and use no handshaking. This is the default on power up but is alterable on the RS232 config control panel desk accessory. Your printer should work in this mode but will have to use a pretty slow communication rate so that the buffer does not overflow.

The best, and most elegant, solution is to patch the operating system so that CTS operates correctly. This is not as difficult as it may seem if you have an assembler. CTS activates an MFP interrupt which in turn operates a service routine. Fortunately, the CTS vector is easily changed.

As far as I can see, what is needed is a routine that senses when the CTS line goes hi and stops transmission until it goes low again (or the other way about depending on the printer). The CTS interrupt is on bit 2 of the MFP i/o port and is read at location \$FFFFA01.

The RS232 transmitter software works in two ways, the first of which appears to be for single bytes and ignores CTS, the sconbd is used when sending buffers full of information eg, when selecting print screen from the menu. In this mode, when a byte has been transmitted, an interrupt occurs, which activates the TX buffer empty routine. Here the RTS/CTS

mode is checked, and if active, then the CTs interrupt is used to send each byte ie, the CTS input clocks each byte out ie, it has to be rattled (this is where the fault is). The XON/XOFF protocol flag is then checked and is active, is used. If neither of these are on then the buffer is checked to see if there are bytes to send and if there are, a byte is transmitted.

What we want the routine to do is very similar apart from the RTS/CTS check. Instead of using this routine to send a byte when the CTS is rattled, all CTS should do is stop transmission if it is high. This means altering the transmit routine to check the CTS interrupt line which is on the MFP i/o port. The CTS interrupt itself is disabled by redirecting it to an interrupt reset command and then RTE. So, how is this done in practice?

Since XON/XOFF and CTS//RTS are unlikely to be used at the same time, the new routine can ignore the former. The 'forec' which holds the pointers to the data can be found with the XB10S 14 trap, and the interrupt vectors at \$128 (TX buf empty) and \$108 (CTS) can be diverted. The routine for the transmitter interrupt is now shown in Fig 1, the CTS routine in Fig 2, and the installation routine in Fig 3. Note that one the installation has been run, the program remains in memory so that the interrupts have access to it. If your CTS line works the other way around, change the wait section

of TRX1 to be TXRIW instead of beq. I was unable to check the routine with software other than

the print screen routine but, as long as other software uses legal ST calls it should work.

CTSIR	bclr	#2,\$FFFA11	Clear interrupt service bit
	rte		And exit

Fig 2 the CTS handler.

start	move.l	a7,a5	Header code
	move.l	#USTK,a7	That sets aside space
	move.l	4(a5),a5	For the program
	move.l	\$C(a5),d0	
	add.l	\$14(a5),d0	
	add.l	\$1C(a5),d0	
	add.l	#\$100,d0	
	move.l	d0,prlen	
	move.l	d0,-(sp)	
	move.l	a5,-(sp)	
	move	#0,-(sp)	
	move	#\$4A,-(sp)	
	trap	#1	
	add.l	#12,sp	
	bra	GO	
prlen	ds.l	1	Length of program store
rsiorec	ds.l	1	Pointer to rsiorec
GO	cir	-(sp)	Select RS232 iorec
	move	#14,-(sp)	XBIOS i4
	trap	#14	Call XBIOS
	addq.l	#4,sp	Correct stack
	move.l	d0,rsiorec	Store iorec pointer
	bsr	super	
	move.l	#TRX1,\$128	Set up new TX
	move.l	#CTSIR,\$108	And new CTS
	bsr	usuper	
	move	#0,-(sp)	Return no error
	move.l	prlen,-(sp)	Save size of prog
	move	#\$31,-(sp)	Keep process in memory
	trap	#1	And terminate it.

TRX1	movem.l	d2/a0-a2,-(sp)	Stack registers
	move.l	rsiorec,a0	Address of RS232 iorec
	lea.l	(\$FFFA01),a1	MFP pointer
	btst	#1,32(a0)	RTS/CTS mode?
	beq	TRXIS	Yes skip CTS check
TRX1W	btst.b	#2,\$FFFA01	Is CTS high?
	beq	TRX1W	Yes then wait till low
TRXIS	move.b	44(a1),29(a0)	Save TX stat reg
	move	20(a0),d2	Get head index
	cmp	22(a0),d2	Compare against tail
	beq	TRXIE	Buffer empty end
	addq	#1,d2	Tail index+1
	cmp	18(a0),d2	Same as buffer size?
	bcs	TRXIN	No
	moveq.l	#0,d2	Reset pointer
TRXIN	move.l	14(a0),a2	Pointer to send buffer
	move.b	0(a2,d2),46(a1)	Byte to MFP TX reg
	move	d2,20(a0)	Save new head index
TRXIE	bclr	#2,14(a1)	Clear interrupt service bit
	movem.l	(sp)+,d2/a0-a2	
	rte		

Fig 1, the new transmit routine.

[[Place the TXRI and CTSIR routines here]]

super	move.l	#0,-(sp)	
	move	\$20,-(sp)	Go into supervisor mode
	trap	#1	
	addq.l	#6,sp	
	move.l	d0,stkvsve	
	rts		
stkvsve	ds.l	1	
usuper	move.l	stkvsve,-(sp)	
	move	\$20,-(sp)	To user mode
	trap	#1	
	addq.l	#6,sp	
	rts		
	ds.l	256	
USTK	ds.l	1	
	even		
	end		

Fig 3 the installer.



# Being STingy

David Lester reviews the development of budget software on the ST which now permeates the market, and the cheaper range of products now available.

**B**udget software has been around now for exactly three years on 8-bit computers, and has grown dramatically ever since it hit the market. Gallup (the independent body which compiles the charts each week) now estimate that six in every ten computer games sold are budget titles (less than a fiver). The ST software market in the UK is just opening up. It seems about to explode, as most of the major players in the 8-bit market find sales starting to drop off as users upgrade. But where does the concept of budget software leave the 16-bit market?

Budget is based upon the "pile it high and sell it cheap" philosophy – which relies on low costs. These rest primarily upon the cheap cost of cassettes: most firms pay about 50p per tape to be duplicated and have artwork produced. Unfortunately, discs cost rather more than that to produce, at least currently, and require more expensive packaging. Furthermore, the 8-bit budget software houses rely upon high unit volumes, so that their total income from each game is as high as it would have been had they charged more for the game, but sold fewer copies of it. Until now, there have not been enough Atari STs around to make such a proposition viable.

Another spanner in the works is that to some extent the marketing is very different. Budget software sells as an impulse purchase, primarily to young schoolboys whose income is normally just pocket money. But the purchasers of Atari STs are typically older, and have substantially higher incomes. So the software houses have argued that price is a much less important factor in the ST market: if an ST owner likes a product, he can afford to simply go out and purchase it, regardless of cost.

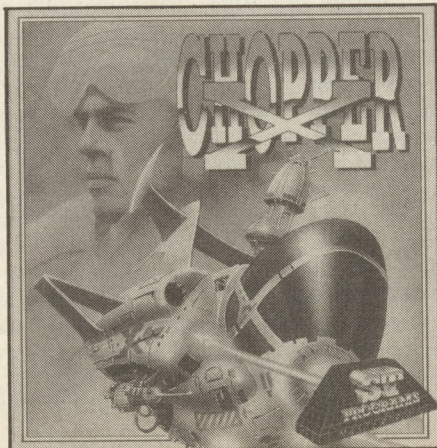
A further problem with starting ST budget software is finding the programmers. One major software house very active in the 8-bit field explained that they would not be bringing much out for the Atari ST yet, since there were not enough programmers around capable of producing the goods. Luckily not all software houses find this insurmountable.

A more real problem exists in that ST software requires more programming than 8-bit software – so the programmers want more recompense for their efforts. This is simply due to the fact that the facilities are so much better that the punters expect far more for their money, principally in terms of

graphics and sound, but also in terms of depth. Hence development takes longer, and costs more: one of the reasons why you won't see ST games on sale for £1.99 just yet!

This Autumn, though, the situation is changing. Trade sources report an estimated shortfall of Atari STs of about 200,000 units (a lot of computers in anyone's eyes). This shortage speaks volumes about quantities of STs which are in fact selling, and any ST dealer will tell you just how fast the machines are shifting. And all these new purchasers will want software. Enter the budget software houses, as future sales volumes should support at least some budget titles.

But budget software for the ST will not be £2.99 tapes; the problems and different costs involved mean that a higher price is inevitable and the market leaders have picked £9.95 as the 16-bit budget level. Anco has been selling titles at this price for some months, presumably with some success as they continue to churn out new games. But some software houses are also toying with £12.95 as a budget price. Which is reminiscent of the price differences among the first budget houses back in 1984 (£1.99, £2.50, £2.99, £3.95 and even £4.95 were all tried before the market settled back to just two common price levels). With the sheer might of Mastertronic and Code Masters, the two budget software leaders behind £9.95, though, this looks set to become the principal 16-bit price point.



Chopper: budget software

The first company to consider in any budget article can only be Mastertronic, who, along with Atlantis and the now extinct Ace, pioneered the new philosophy and reached rich rewards. Not slow to spot rising trends, they have already brought out their first ST products, namely *Ninja Mission* and *Outcast*. This Autumn they will be releasing quite a few more, although most of these will apparently be on the newly relaunched Melbourne House range, retailing at £19.95.

*Ninja Mission* won no awards (to my knowledge), but was good run-of-the-mill hack-and-kill martial arts fare. *Outcast*, a more recent release, is more stylish – and likely to earn Mastertronic a reputation as a force to be reckoned with in the ST world. The game is extremely impressive, and at £9.95 is better value than many games currently selling at twice its price. It is a variation upon the *Star Glider*/space age 3D flight simulator theme, with a very strong shoot 'em up emphasis, the graphics are well-designed, smooth, colourful and fast, and the game is nicely finished with an excellent, atmospheric sound-track. (Furthermore, the introductory blurb is more original than usual!)

An imminent release from the same stable is *Chopper X*. This is not the combat flight simulator a la *Gunship* which I expected, but rather a slick vertically scrolling shoot 'em up with a remarkable resemblance to Vortex's *Tornado Low Level*. You are cast as the usual hero, the only difference being that you are actually expected to commit suicide for your country, taking as many of the enemy with you! (With friends like that . . .)

You control a nicely designed chopper, fitted with the latest . . . as per usual – yes, you've guessed it – gun! Your mission is to attack an enemy base, destroying all armour in sight, but they don't mind if you happen to get a few cars as well, while you're there.

The action is smooth, although not as fast as it might be. This is no hindrance to addictiveness, since the armour you're attacking takes a lot of destroying, and is manned by alarmingly accurate defenders! The game has a number of levels, between which you refuel, and variety is added by different forms of targets, such as hit-and-run gunships (it's a coastal base). The

continued on page 16 ▶



# "GREAT GAMES GARY"

TWO OF THE GREATEST SOCCER GAMES EVER DEvised

CUP WINNERS CUP

HOME WIN

## GARY LINEKER'S SUPERSTAR SOCCER

The most original computer football game of all time... Available on:

LEAGUE CUP

COMPUTER GAME PRICES

CBM 64/128  
 £9.99, d.£14.99  
 Amstrad  
 £9.99, d.£14.99  
 Spectrum £7.99  
 Atari ST £19.99

## GARY LINEKER'S FOOTBALLER OF THE YEAR

Enjoy the world of a Football League Player, suffering the pain and winning the glory, starting at the bottom and becoming a legend... A Footballer of the Year.

LEAGUE CHAMPIONS

FA CUP

WORLD CUP

AWAY WIN

ORDER YOUR GAMES NOW!!

If you would like us to rush of these great games direct to your home at no extra charge fill in this coupon NOW and post to: GREMLIN BOARD GAMES/GREMLIN GRAPHICS SOFTWARE LTD. Alpha House, 10 Carver Street, Sheffield S1 4FS.

I would like ..... copies of Gary Lineker's Footballer of the Year. (Cheques made payable to Gremlin Board Games)

I would like ..... copies of Gary Lineker's Superstar Soccer. System ..... (Cheques made payable to Gremlin Graphics Software Ltd.)

Name .....

Address .....

Postcode .....

Total Amount Enclosed £.....

CHEQUE/PO. OR ACCESS/VISA ONLY. Please debit my Access/Visa account.

Signature .....

Date .....

£14.99

GARY LINEKER'S FOOTBALLER OF THE YEAR BOARD GAME



Gremlin Graphics Software Ltd., Alpha House, 10 Carver Street, Sheffield S1 4FS. Tel: (0742) 753423



◀ continued from page 14

atmosphere is well-finished with an appropriate background tune, which can be plugged into your MIDI synth, should you have one. All in all a nice, if simple, blaster; not worth £19.95, but good value at under a tenner.

Arch rival to Masteronic, Code Masters have now been around for just over one year, and have made huge inroads into the budget market in terms of their market share. They, too, are set to try to take the ST punters by storm, with their first products due out within the month. At the same time of going to press, there was nothing available on demo, although David Darling assures me that the Amiga version is now complete, and the ST will be here within days.

Their first title to appear will be *BMX Simulators*, the top-selling Spectrum and Amstrad game. Code Masters are one of only a few software houses simply intending to upgrade existing titles to the new format – most seem more intent on starting from scratch with new ideas. The price will be £9.95, and while Code Masters seem likely to release fewer than Mastertronic this year, they will have a fair range available by Christmas.

Firebird are the other of the 'Big Three' budget houses, but currently have no plans for any ST product in this category. A spokesperson expressed the view that any ST product from Firebird for the foreseeable future will almost certainly come from Firebird Gold (and, of course, Rainbird – who have already made their name in 16-bit with the instant classic, *Star Glider*). This product will therefore retail at £19.95.

Players/Interceptor Micro will be releasing a number of titles between now and Christmas, although release dates are not as yet available. These games, too, will be priced £9.95, and will apparently be based round the existing titles, principally the Players range. These should be worth waiting for, as Interceptor have already had some success with the ST, via their Pandora label's *Eagles Nest* game.

Bug Byte, the budget label owned by the Argus group, are also just announcing their entry to the 16-bit market. They, too, have selected £9.95 as the initial price point, with the first titles an upgrade of a shoot 'em up already out for the 8-bit Ataris – *Missing: One Droid*. An Argus spokesman was extremely bullish about the title and Bug Byte's likely success on ST, although the next title is not due until February 1988. Thereafter, there are plans to bring out as many ST titles as they can.

One of the interesting things about the emergence of a new market, or the dramatic growth of an existing one, as here, is the composition of its suppliers. A quick comparison of any list of top ST software with the corresponding 8-bit list will reveal substantial differences in software houses. People such as Psygnosis or Microdeal are major ST houses, but are unheard of by most Spectrum or Commodore owners. But things are changing, in conjunction with the



Budget-priced software

trends outlined above, as the major games software houses from Spectrum, Commodore and Amstrad CPC markets move up to the ST.

This time of fluctuation gives new firms, or small ones, a great opportunity to expand – and that's just what several have done. Tynesoft have long been a bit of an oddity as a software house; they have done very well out of converting major hits onto lesser formats which the larger firms leave out – for example *Jet Set Willy* onto such computers as the Plus 4 and Electron. In addition to this, though, they have been selling ST games for some time now, and one of their recent releases, *Plutos*, has been extremely well received in the specialist press. They, too, have a reasonable range of ST budget games, although they use a number of different price points at the moment.

*Liberator* and *Mousetrap* change hands at £12.95 each. *Liberator* is a standard shoot 'em up, with some nice graphics effects, while *Mousetrap* is a straightforward platform game, which looks decidedly dated on the ST. *Timeblast*, selling for £9.95, is an enhanced ST version of *Scramble* – you need to pilot your chopper through an incredibly long cavern with the most ridiculous twists, shooting various enemies which get in your way, destroying fuel dumps along the way, all the while avoiding the rockface! More simple than the ST is capable of, but a great way to while away that rainy day. Best of the lot is *Plutos*, but there are no plans to relaunch it at a budget price as yet.

Similarly, Anco have expanded quite substantially into both ST and Amiga software, which have been selling at budget prices for some time. Very tight-lipped about the success of this ST product, they will be releasing all ST products from now on at one of two price points, the familiar £19.95 and £9.95. Imminent releases are *Strip Poker 2* (supposedly with digitised graphics for added realism) and *Go-Karting* – the former at budget prices.

Like Tynesoft, and others, they seem to be taking the softly, softly approach and treading very carefully in terms of pricing, no doubt comparing keenly the different sales volumes of each price point.

Cascade have leapt to relative fame in the last twelve months following years of something less when their sole product was cassette 50, on virtually any micro you care to name. Most noted for Ace (not available on ST), they also gained publicity recently over a legal wrangle with Microprose about the two firms' pirate games. It is quite astonishing that after years of computer games, no pirate game has been released, and then you get two at once; but it could just be a coincidence. Either way, *Pirates of the Barbary Coast* is Cascade's current entry into the budget ST market. Unfortunately, this is one of those products sold at budget price, not for any business philosophy, but just because it is not worth any more.

The game casts you as Captain of the American Star (as if there was just one; I always thought America consisted entirely of Stars!!). Your daughter has been kidnapped and you have either to raise enough cash (via piracy or, for the barrow boys amongst you, trading) to pay the ransom for her. There is a combat mode which you can use on every voyage if you wish to (you can decide instead to run for it), but I wouldn't get too excited by this.

Instead of the shoot-out or cutlass-swinging I had envisaged, you get a static picture of two vessels entwined, a few (admittedly realistic) gun and cannon shot sounds, and the answer as to who has won! Oh, yes, you also have to load the cannon; each one, individually. And this was before the days of ready-made shell cartridges. You need to separately put in powder and ball, and ram each into the barrel, and then brush the whole lot down. This involves overtime by your mouse, made far harder by the worst pointer operation I have come across. Far from the highlight of the game, combat proves to be the point which turns this from a sub-standard trading game... to an utter waste of money. The graphics consist of a few (maximum of five, at my count) static screen pictures which are okay, but the public domain discs which are given away free with new STs contain infinitely better ones.

Gremlin have an excellent reputation for good quality software for the older formats, and are now just getting into the 16-bit field. Their first product for the ST falls into the budget category here – *Ninja Master*, at £12.95. Of the other budget firms, none had plans for imminent ST budget ranges. Many seem to regard the ST market as the inevitable next step, some in conjunction with the Amiga, although the over-riding impression is that they will use the jump as an excuse to put prices back up again.

It is interesting that by far the best budget software comes from the budget specialists; the firms criticising budget several years ago as being an outlet for sub-standard products are now using the low price-point as just that – for their own lousy titles! Meanwhile, specialists such as Mastertronic, Code Masters and Tynesoft/Microvalue are producing good quality software; where Players and Anco fit in remains to be seen. Watch this space!



# NEW LOW PRICE ST!



## ONLY FROM SILICA

Finally, there's a personal computer that not only solves problems like other computers, but also solves the one problem that other computers have created. Affordability. Silica Shop are pleased to present the ST range of personal/business computers from Atari. The ST was designed utilizing the most recent breakthroughs in semiconductor technology, producing a personal computer that performs tasks with fewer parts. Which means it costs less to make. And less to buy. The latest ST computers now include built in power supplies and built in disk drives. The TOS operating system and GEM window environment are now on ROM chips which are already installed in the ST keyboard. This enables automatic instant booting when you switch on. Silica Shop are pleased to offer the complete Atari ST range. Our mail order department is situated in Sidcup and we have 3 retail outlets at Sidcup, Lion House (Tottenham Court Rd) and Selfridges (Oxford Street). We have eight years experience of Atari products, longer than any other UK company, and are well established as the UK's No.1 Atari specialist. With a group turnover of over £9 million and in excess of 80 staff, we offer you unbeatable service and support. We provide several facilities which you will find invaluable during your Atari computing life and most of these facilities are available **ONLY FROM SILICA**. We suggest that you read through what we have to offer, before you decide where to purchase your Atari ST.

### FREE STARTER KIT - Only From Silica

When you purchase any Atari ST keyboard, you will not only receive the best value for money computer on the market, but you will also receive the following from Atari Corporation as part of the package:  
 \* BASIC Language Disk \* BASIC Manual \* ST Owners Manual \* TOS/GEM on ROM

If you buy your ST from Silica Shop, you will also receive:

\* NECochrome Sampler - colour graphics program \* 1st Word - Word Processor

In addition, we at Silica would like to see you get off to a flying start with your new computer, so we have put together a special ST STARTER KIT worth over £100, which we are giving away **FREE OF CHARGE** with every ST computer purchased at our normal retail prices. This kit is available **ONLY FROM SILICA** and is aimed at providing users with a valuable introduction to the world of computing. We are continually upgrading the ST Starter Kit, which contains public domain and other licensed software, as well as books, magazines and accessories all relevant to ST computing. Return the coupon below for full details.

### DEDICATED SERVICING - Only From Silica

At Silica Shop, we have a dedicated service department of seven full time Atari trained technical staff. This team is totally dedicated to servicing Atari computer products. Their accumulated knowledge, skill and experience makes them second to none in their field. You can be sure that any work carried out by them is of the highest standard. A standard of servicing which we believe you will find **ONLY FROM SILICA**. In addition to providing full servicing facilities for Atari ST computers (both in and out of warranty), our team is also able to offer memory and modulator upgrades to ST computers.

**1Mb RAM UPGRADE:** Our upgrade on the standard Atari 520ST-M or 520ST-FM keyboard will increase the memory from 512K to a massive 1024K. It has a full 1 year warranty and is available from Silica at an additional retail price of only £86.96 (+VAT = £100).

**TV MODULATOR UPGRADE:** Silica can upgrade the 1040ST-F to include a TV modulator so that you can then use it with your TV set. This is an internal upgrade and does not involve any untidy external boxes. A cable to connect your ST to any domestic TV is included in the price of the upgrade which is only £49 (inc VAT). The upgrade is also available for early 520ST computers at the same price.

### THE FULL STOCK RANGE - Only From Silica

We aim to keep stocks of all Atari related products and our warehouse carries a stock of over £½ million. We import many software titles direct from the USA and you will find that we have new releases in advance of many of our competitors. Unlike dealers who may only stock selected titles, we have the full range. In addition, we carry a complete line of all books which have been written about the Atari ST. A range as wide as ours is something you will find is available **ONLY FROM SILICA**.

### AFTER SALES SUPPORT - Only From Silica

Rest assured that when you buy your ST from Silica Shop, you will be fully supported. Our free mailings give news of releases and developments. This will help to keep you up to date with new software releases as well as what's happening in the Atari market. And in addition, our sales staff are at the end of a telephone line to service all of your Atari requirements. If you purchase an ST from Silica and would like any technical advice, we have a full time technical support team to help you get the best from your computer. Because we have both the staff and the systems specifically dedicated to providing after sales service on Atari ST computers, we are confident that our users enjoy an exceptionally high level of support. This can be received **ONLY FROM SILICA**.

### FREE CATALOGUES - Only From Silica

At Silica Shop, we recognise that serious users require an in-depth information service, which is why we mail free newsletters and price lists to our ST owners. These are up to 48 pages long and are crammed with technical details as well as special offers and product descriptions. If you have already purchased an ST and would like to have your name added to our mailing list, please complete the coupon & return it to us. This information service is available **ONLY FROM SILICA**.

### FREE OVERNIGHT DELIVERY - From Silica

Most orders are processed through our computer within 24 hours of receiving them. Most hardware orders are sent by the overnight GROUP 4 courier service **FREE OF CHARGE** to customers within the UK. This method helps to ensure minimum delay and maximum protection.

### PRICE MATCH - Only From Silica

We hope that the combination of our low prices, **FREE UK** delivery service, **FREE Starter Kit** and **FREE** after sales support, will be enough to make you buy your Atari equipment from Silica Shop. If however, there is something you wish to purchase, and you find one of our competitors offering it at a lower price, then please contact our sales department, providing us with our competitor's name, address and telephone number. If our competitor has the goods in stock, we will normally match the offer (on a 'same product - same price' basis) and still provide you with our normal free delivery. We realise that we are not the only company who will match a competitor's price. However, if you come to us for a price match, you will also be entitled to our after sales service, including free newsletters and technical support. This makes our price match promise rather special, something you will receive **ONLY FROM SILICA**. We don't want you to go anywhere else for your Atari products. So shop at Silica, the UK's No.1 Atari Specialist.

**SIDCUP (& Mail Order)** 01-309 1111  
1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

**LONDON** 01-580 4839  
Lion House (1st floor), 27 Tottenham Court Rd, London, W1P 0HX

**LONDON** 01-629 1234 ext 3914  
Selfridges (1st floor), Oxford Street, London, W1A 1AB

# £260

+VAT=£299

## SO MUCH FOR SO LITTLE!

There is nothing that can compare with the incredible value for money offered by Atari's 520ST-FM. For only £260 (+VAT=£299), you can purchase a powerful 512K RAM computer, with a 95 key keyboard (including numeric keypad), MIDI interface, GEM, a palette of 512 colours, mouse controller, and a 512K built-in disk drive. The 520ST-FM has a TV modulator built-in, and comes with a lead to allow you to plug it straight into any domestic colour television set. The mains transformer is also built-in to the keyboard, so there are no messy external boxes. You couldn't wish for a more compact, powerful and stylish unit. Atari ST computers are now firmly established in the UK, there are nearly 500 software titles already available for a wide variety of applications and the list is growing all the time. And that's not all. When you buy your new 520ST-FM (or any Atari ST computer) from Silica Shop, you will get a lot more, including a **FREE Silica ST Starter Kit** worth over £100. Read the **ONLY FROM SILICA** section on the left, to see why you should buy your new high power, low price 520ST-FM from Silica Shop, the UK's No.1 Atari Specialists. For further details of the range of Atari ST computers and the **FREE Silica ST Starter Kit**, complete and return the reply coupon below.

**ATARI 520ST-FM NOW ONLY £260 (+VAT=£299)**  
 520ST-FM with 512K RAM & mono monitor £399 (inc VAT) Upgrade from 512K RAM to 1024K RAM £100 (inc VAT)

### ATARI 1040ST-F - NEW PRICE

We are pleased to announce a new reduced price point on the 1040ST-F which is now available for only £499 (inc VAT). The 1040 is a powerful computer with 1Mb of RAM and also includes a built-in 1Mb double sided 3½" disk drive. The 1040 has been designed for use on business and professional applications most of which require a high resolution monochrome or colour monitor. It does not therefore have an RF modulator for use with a domestic TV set. Modulators can be fitted for £49 (inc VAT).

1040ST-F Keyboard Without Monitor ..... £499 (inc VAT)  
 1040ST-F Keyboard + High Res SM125 Mono Monitor ..... £599 (inc VAT)

If you would like further details of the 1040ST-F, return the coupon below.

### MEGA ST's NOW IN STOCK

For the user who requires even more RAM than the 520 or 1040 ST's offer, the new MEGA ST computers are now available. There are two MEGA ST's, one with 2Mb of RAM and the other with a massive 4Mb. Both new computers are fully compatible with existing ST's and run currently available ST software. The MEGA ST's are styled as an expandable Central Processing Unit with open architecture and a detachable keyboard. They are supplied with GEM, a free mouse controller and all extras as with the 520 or 1040. Prices are as follows:

MEGA ST 2Mb Keyboard + CPU ..... £899 (inc VAT)  
 MEGA ST 2Mb Keyboard + CPU + SM125 Mono Monitor ..... £999 (inc VAT)  
 MEGA ST 4Mb Keyboard + CPU ..... £1199 (inc VAT)  
 MEGA ST 4Mb Keyboard + CPU + SM125 Mono Monitor ..... £1299 (inc VAT)

If you would like further details of the MEGA ST's, return the coupon below.



To: Silica Shop Ltd, Dept PCWK 1087, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

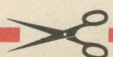
**PLEASE SEND ME FREE LITERATURE ON THE ATARI ST**

Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode:

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





# Load that perfect beat

MARK JENKINS with more for the 64 . . .

Last week we looked at two new music packages from Sonus, the *Super Sequencer* (which is available in C64 or C128 versions) and the optional MIDI Processor which gives you greater editing power over files created by *Super Sequencer*.

This time we are looking at two Sonus packages which could more correctly be described as applications, since they do not play sounds themselves.

One is the *RX Librarian*, which will be useful if you own a Yamaha drum machine, and the other is the *Double Banked Librarian/Programmer*, which will be useful if you own a Yamaha DX synth, and even more so if you own two of the things.

On to the *RX Librarian* first though. The package works with Yamaha's RX11, which is a mid-price drum machine, and with the RX21, which is definitely on the budget side of things.

There is also a Latin version of the RX21 called the RX21L, which is presumably compatible, although some of the factory patterns supplied with the software may not make much sense when played on the L version.

Yamaha's latest drum machine is the RX17, but it seems unlikely that the package will work with this one since the 17 has more sounds and several new programming features.

However, there is a large user base of 21 and 21L owners out there, so the package has some appeal.

The package works with a C64 or a C128 in 64 mode and with a MIDI interface from Sonus, Passport, Yamaha (not available in the UK!), Syntech, or Sequential Model C64 or 242.

Both MIDI In and MIDI Out jacks need to be connected to the drum machine and the first page of the software asks you to choose the appropriate interface.

The top line of the first page of software includes an eight-letter File Name, a Pattern Data Present indicator, a Mix data Present indicator, and a System Exclusive Channel number.

Mix Data refers to a performance memory on the drum machine which sets MIDI Channel, MIDI Note, Instrument Level, Accent Level, Pan Position and other parameters for a particular pattern, while System Exclusive Channel refers to the MIDI channel used for transmitting pattern data. On the RX11 this has to be channel 1; on

the RX21 it can be any channel from 1-16 as long as you set the same channel on the drum machine itself.

The other main point you have to observe before the thing will function is that you have to bring up the System Information Available display on the drum machine, otherwise it will ignore the System Exclusive codes whizzing towards it from the computer.

The Pattern Map box is a matrix labelled from 0 to 9 across and downwards, and blocks in this matrix are shaded to indicate whether a particular pattern has been recorded. On the RX21, patterns 56-99 are preset, but you can copy them into programmable memories for editing.

Like all Sonus programs, the *RX Librarian* has a Menu at the bottom of the screen which is driven by the Function keys. Holding Shift will give you another four Menu options, and in the Mix menu, holding down control will give you a third set of options.

Hidden commands include C to change MIDI Channel; Shift/L to print out the screen; Shift/Q to Quit; and so on.

Working the program normally requires use of the function keys almost exclusively though; for instance, F1 will "Get RX memory", (which includes all pattern and Song data) and F3 will "Send RX Memory".

It is possible to enter names or comments for individual patterns and to edit these comments, which can be up to 20 lines long.

You could use this for data about the settings on the mixer which you intend to use when mixing down the drum part.

A drum Mix can be named and saved and of course you can get a disc directory and scratch files at will.

Unfortunately the Sonus package does not have any facilities for composing new patterns or songs visually, which would have been interesting; however, it is a boon for frequent Yamaha users and much more reliable than saving songs to tape. Price is £30.

The *Double Banked Librarian/Programmer* is a little more expensive at £60, which is understandable since it's a much more complex program.

The program operates in a similar way to the *RX Librarian* and handles two banks of sounds, A and B, and you can switch from one to the other quickly and easily.

The obvious application lies in editing a DX7 synth connected to a TX7 module, when in many cases you will want to create sounds which are combinations of the output of the two synths.

Sonus certainly provide plenty of sounds for you to get started, with eight banks (eight times 32 sounds) on the disc. It is easy to move around banks and individual sounds to arrange them in a convenient order, but the actual sound editing facility is not all that special; there is no graphic element as on some other DX editors, simply various lists of figures divided into three pages which cover all the DX parameters such as Operator (oscillator) frequencies, scaling, keyboard modes and so on.

However, at the price, the Sonus package is pretty good value for money. It really is pretty offputting to have to edit DX synths using just the single Data Entry slider on the synth itself, and anything which displays all parameters simultaneously (and then does it all over again for a second synth) is well worth considering.

**"It is easy to move around banks and individual sounds to arrange them in a convenient order, but the actual sound editing is not all that special"**

**SONUS UK  
PO Box 18  
Wokingham  
Berks RG11 4BP  
Tel: (0734) 792699**



# AMAZING OFFERS!

Brand New  
**SPECTRUM PLUS's 48k**

A scoop purchase for Christmas at

only **£79.95**

With power supply, User Guide,  
introductory cass, TV aerial & 90 day warranty

**ELECTRON COMPUTERS**

Superb value — only **£59.95**

**ELECTRON PLUS 1's**

only **£43.95**

with View & Viewsheet — only **£65.95**

Please add 95p for P. & P.  
Cheques, P.O or quote Access or Visa



0532 687735

SAE for latest product offers  
Please state which machine

SOFTWARE BARGAINS  
DEPT. PCW  
8/8A REGENT STREET  
LEEDS  
LS7 4PE

TRADE OR EXPORT ENQUIRIES WELCOME

# SPECIAL OFFER POLAROID PALETTE FOR THE B.B.C. MICRO

System includes  
Autoprocessor,  
Cutter Mounter,  
Sample Films.

The simple way to  
instant 35mm  
presentation  
slides, prints  
and overhead  
transparencies.



To take advantage of this limited period offer please send  
your order to: Robin Cartwright Polaroid (U.K.) Ltd.,  
Ashley Road, St. Albans, Hertfordshire AL1 5PR.

- Please debit my Polaroid Account No:.....
- Cheque for full order value enclosed (£563.50 inc VAT).....
- Please debit my Access Account No:.....  
Barclaycard Account No:.....

Name..... Address.....

..... Signature.....

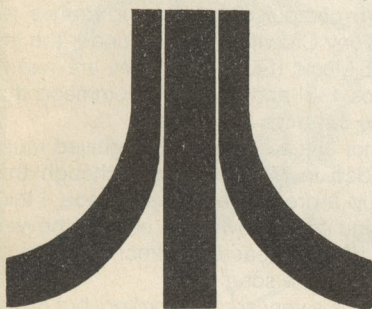
ELECTRIC PROCESSOR/ILLUMINATED CUTTER MOUNTER £50 EXTRA (+ VAT)

**Polaroid**

Polaroid is a registered trademark of Polaroid Corporation, Cambridge, Mass. USA

C.I.

## Don't miss the BIG Atari event of 1987!



**ATARI  
USER  
CHRISTMAS  
SHOW**

Champagne Suite  
Novotel,  
Hammersmith,  
London W6



The record-breaking Atari User  
Show is back at the Novotel,  
Hammersmith — with three action-  
packed days devoted to the ever-  
expanding Atari market.

- ★ Try out the very latest UK and US 8-bit software
- ★ See the full ST range, including the new mega-ST
- ★ Snap up the never-to-be-repeated bargains
- ★ Expand your system with powerful new add-ons
- ★ Get helpful advice from Atari User's own experts
- ★ Experience the fascinating world of communications ... and much, much more!

### Exhibitors include:

Atari (UK)	Electric Software/GST	Page Six
Adamssoft	Frontier Software	Precision
Advanced Systems & Tech.	Gem Distribution	Prospero Software
Amten/Once Bytten	Glentop Publishers	Pyramid Video & Software
Atari User/Atari ST User	Golner Publishing	Quickbeam Software
Atari User Club	Gultronics	Reflex Magnetics
Bargain Software	HB Marketing	R H Designs
Calisto Computers	Hi-Soft	Robtek
Centec	HSV	Silica Shop
Compumart	KKS Electronics	Software Express
Computer Concepts	Kuma	Software Store
Computer House	Llamosoft	Start Systems
CPM	MCD Software	Storm Gallery Software
Cut Price	Metacomco	Stort Soft
Dataphone	Microdeal	TTT
Demon Software	Micronet	Trowbridge Computer Shack
Digita	Micro Media Computer Sup.	Trybridge
Direct Disk Supplies	Miniature Tool/Videk	Tunesoft
Eidersoft	Monitor Magazine	Zonefour

Bring this coupon to the Show to get 50p  
per person off the normal admission price  
of £3 (adults), £2 (children).

**50p  
OFF**

**ATARI  
USER  
CHRISTMAS  
SHOW**

10am-6pm Friday, November 20  
10am-6pm Saturday, November 21  
10am-4pm Sunday, November 22

Champagne Suite, Novotel,  
Hammersmith, London W6

12.87.36

A209

Nearest Tube: Hammersmith

Ample car parking nearby



# Let the music play

Graham Edkins takes us on a guided tour of music programs available on the Compunet system.

**W**ay back when Compunet started, the first programs to gain real popularity were short pieces of music, written to take full advantage of the CBM 64's sound chip (SID).

The most popular writer of these was Bogg, and it is a pretty safe bet that most users of the network have something by him stored away.

Music still has a major role on the network, there are areas covering hardware and software, as well as music programs and magazine areas about music.

Many of the programs that I shall mention are recommended for downloading and saving, so get yourself a few blank discs and be prepared to fill them!

Go to MUSIC for the Music Hall; the first entry is FM Music Files which contains some very detailed and useful information on the CBM FM Sound Expander, Sound Studio and FM Editor/Composer which are all written by CRJT85.

You will also find a large selection of Pre-written music for use with your Sound Expander, a couple to mention here are 'Samples' from Ramjet and Annie's Song.

The MUSIC directory also contains the Midi Help Line (GOTO MIDI), IM94 covers every aspect of the MIDI that you could think of, including Channels, Real/Step time, Messages, Controllers and Data sheets, in addition to the information on Computers & MIDI and Keyboards along with a full glossary.

The writer is very knowledgeable on all aspects of the MIDI interface and this area provides interesting and informative information which will be fascinating even to those who do not use one.

Other areas in the music hall hold music demos, of particular note is Matt Grey's section where he has 12 tunes.

One that I particularly liked was the 'Holiday Re-Mix' which is based upon 'Holiday Morning' and arranged on Sound Monitor. Matt also has an area in the Music Hall of Fame (GOTO MUSIC) where he has a further 11 tunes.

The Music Hall of Fame contains some astonishingly good music demos, and Bogg, who started the music trend on Compunet, has his own area (GOTO BOGG) where you will find two albums. These are simply collections of the demos that he has uploaded which have a main Boot or Menu Program to make loading faster and easier.

To download an album will take quite a time, and will also take a large amount of storage space, but the effort is very worthwhile.

Bogg's Album 1 holds his earlier work which are arrangements of other tunes, the second album has tunes composed by himself.

If you want to hear him playing a selection of his hardware then you could take up his offer of a cassette, you receive a full tape in return for a blank tape and return

postage, details of this are on a text frame in his area.

Rob Hubbard joined Compunet when one user sent him a modem because he was such a fan of his music in games, GOTO ROB and you will see the fruits of this, including an incredible bit of software called the Thrust Concert.

Most users must surely by now have this saved, but if you are one of the few that hasn't, then download it and find out what you have been missing.

Another piece well worth seeing is The Monster Show which is in Maniacs Den (GOTO MANIAC), this has a interesting adaptation of a tune written by Bach (I think) complete with a good hi-res graphic screen, and a nicely styled and readable scrolling message in the bottom border. Matt Perry's area (GOTO MATT) has a further two albums with graphics by Shandor which gives you two good reasons to download them. They are Album 1 and The Xmas Album.

More compulsions of music demos are from Tony Crowther working under the title of WE Music (GOT WE). They are named 'Demos 1-3' and I would recommend that you do not miss any of them.

Kanor has a selection of digitised music uploaded in MUSICH and, although they take up a great deal of disc space, I think that you must download one at the very least just to hear the effect of a digital recording of a song.

Each is a very short recording, but is on a continual loop so that the tune will run indefinitely. My favourite of these is the Holiday Rapp, if you download this one, I am sure it will make you want to hear the rest.

There are many more items in the Music Hall of Fame, here I have just covered the first directory page. The good news is that all of the demos and programs that I have mentioned can be downloaded with no charge, so there is another good reason to log-on and have a look.

As I mentioned at the start, there are also magazine-type areas for music lovers, a good example of this is Diceman's Megawatt II area in the Hotbed (GOTO 303627). Here you can read about the world of heavy metal music, including news updates and local gigs.

There is a good chance you will be able to find an area which fits your particular musical taste, but if you can't then there is nothing stopping you from starting one.

TALENT SHOWCASE MUSIC MUSIC HALL	PRICE
MUSIC1 >>MORE>>	T+
217643 FM FM MUSIC FILES	D+
220514 MATT GRAYS MUSIC	T+
227443 SAMPLES DIR	T+
233575 MEGA SALE	D+
244391 MIDI HELPLINE	D+
244574 ONETHAS DIR AT-	T
245185 JAPS MUSIC	D+
	D+
	T
	D+

(F7)

CODERS, ARTISTS, MUSICIANS--GET INTO THE CNET CODERS DIRECTORY NOW! F1 TO ENTER

Screenshot of music section of Compunet



# TELETEXT

A world of information at your fingertips

A Microtext Adaptor turns your computer into a sophisticated Teletext receiver. Giving you a full colour display of any of the free pages from Ceefax or Oracle, you can save pages and print them out and even access Teletext from your own programs. On Teletext you'll find the latest news and sports results, there's road, rail and air travel information, what's on TV and weather reports. You can get an update on share prices or bargain holidays. And not only does Teletext cater for special interests, like computing, motoring, or gardening, but you'll also find things to do and places to go in your area, prize competitions and even your daily horoscope, plus much, much more. It's all free, easy to use and it's all at your fingertips.

When purchased separately, a Microtext Adaptor is supplied with a lead which connects to the 'VIDEO OUT' socket of your video recorder so using your video as the tuner for the system.

Or, there's our own Tuner (UK only) which has been specially designed to provide the signal that the Adaptor needs. Just plug in an aerial, it tunes itself in (!) and channels are selected from the computer keyboard.

Tune into Teletext, a world of information at your fingertips.

	Commodore 64	Amstrad CPC	Spectrum
Microtext Adaptor:	£69.95	£74.95	£79.95
Adaptor and Tuner:	£114.80	£114.80	£124.80

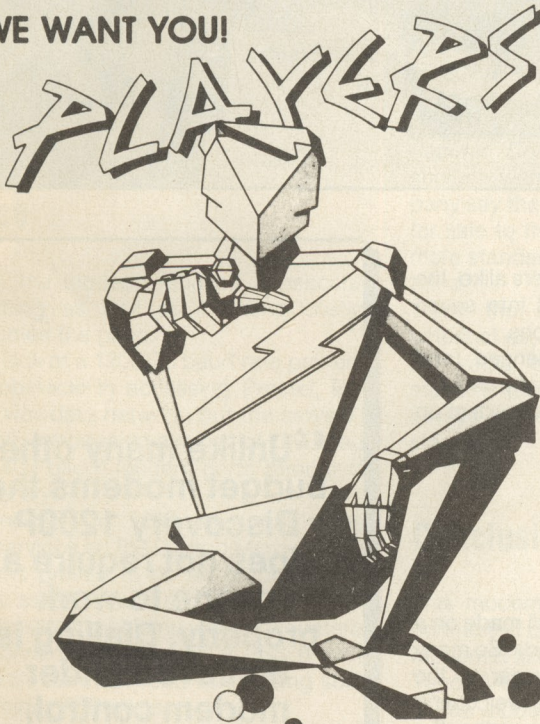
Prices include VAT and P.&P.! (Overseas add £2)

Only from:

## MICROTEXT

Dept. PW, 7 Birdlip Close, Horndean, Hants PO8 9PW  
Telephone: (0705) 595694

WE WANT YOU!



THE PLAYERS TEAM ARE OUT LOOKING FOR YOU!

CAN YOU WRITE COMMERCIAL QUALITY GAMES IN MACHINE CODE?

Write in Strictest Confidence to:  
RICHARD PAUL JONES  
PLAYERS SOFTWARE, CALLEVA PARK  
ALDERMASTON  
BERKS. RG7 4QW

or phone: (07356) 77421 (5 lines)

## Prices

ALL PRICES INCLUDE VAT & DELIVERY

NEXT DAY DELIVERY £5.00 EXTRA

# Crushed

520 STFM NEW LOW PRICE

ATARI **Only £279.00** ATARI  
*Back in stock*

520STFM with 1MEG memory upgrade installed	£338.00
1040 STF	£469.00
MEGA ST 2	£899.00
SM125 M.monitor	£134.00
MEGA ST 4	£1199.00

All ST prices include: mouse etc. PLUS 5 disks full of s'ware including demos, utility, wordpro & game

Philips CM8833 Hi-res colour monitor c/w ST cable £279.00

(ONLY £269.00 if bought with an ST)

Atari SC1224 Hi-res colour monitor £299.00

Atari SMM804 Printer (Special, few only) £149.00

1MEG MEMORY UPGRADE (STFM ONLY) £59.00

(Requires soldering, free fitting if you buy a new ST from us)

3.5" disks 10..... £11.95 in 10 cap plastic case £13.95  
25..... £27.95 in 40 cap plastic case £34.95  
Fully guaranteed double sided media.

## AMSTRAD 1512/1640

ALL PRICES VAT & DELIVERY INCLUSIVE

Select an Amstrad PC from our wide range

We have a full range of models including the highly popular Evesham upgraded models. Our single floppy 21/32 MEG models are professional internal installations leaving maximum expansion room. The twin floppy versions use a hardcard. 1512 models can be supplied with 640K RAM upgrade installed for £20.00 extra. Prices in light type are ex VAT

STOP PRESS FREE with 1512... Migent Ability & 4 games (former retail value over £200.00)

	SD	DD	AMS 20MEG	SD 21MEG	DD 21MEG	SD 32MEG	DD 32MEG
MONO 1512	381.74 439.00	477.39 549.00	N/A	598.26 688.00	693.91 798.00	641.74 738.00	737.39 848.00
COLOUR 1512	520.87 599.00	616.52 709.00	N/A	737.39 848.00	833.04 958.00	780.87 898.00	876.52 1008.00
MONO 1640	494.78 569.00	581.74 669.00	868.70 999.00	711.30 818.00	798.26 918.00	754.78 868.00	841.74 968.00
CGA (col.ou) 1640	625.22 719.00	712.17 819.00	912.17 1049.00	841.74 968.00	928.69 1068.00	885.22 1018.00	972.17 1118.00
ECD (EGA) 1640	755.65 869.00	842.61 969.00	1129.57 1299.00	972.17 1118.00	1059.13 1218.00	1015.65 1168.00	1102.61 1268.00

32MEG HARDCARD...Western Digital Filecard, supplied with XTREE file management software FREE (Normally £50.00) Supplied ready configured..... NOW ONLY ..... £299.00

21MEG HARDCARD Tandon Business card, top quality at a low price. Supplied fully configured .. NOW ONLY ... £249.00

## Commodore

64C computer only	£149.95	Connoisseurs pack	£199.95
C128 computer only	£199.95	C128 starter pack	£239.95
1541C D.drive	£189.95	Music exp. pack	£75.00
Excelsator+ CBM compat. disk drive (inc. GEOS)	£159.95		
Excelsator+ as above c/w Freeze Machine cart.	£179.95		

SCOOP Complete brand new '64 circuit boards. Use for repair, spare or upgrade a VIC-20. Limited qty. **only £45.00**

AMIGA A great offer on the fabulous new 500 model. Includes TV modulator, Deluxe Paint, Silent Service & 5 disks of public domain s'ware. PLUS one of either Skyfox, One on One or similar. Price includes voucher allowance. **only £469.00**

Philips CM8833 hi-res colour monitor, STEREO sound, inc cable £279.00 (ONLY £269.00 if bought with an AMIGA)

## PRINTERS PRICES INCLUDE VAT, DELIVERY & CABLE

We use and recommend Star printers, they offer the best combination of features, print quality, reliability and value for money. Sheet feeders in stock.

Star NL-10 New low price (state cartridge type)	£219.00
..SPECIAL: 2 spare ribbons value £13.90 FREE with NL-10..	
Star NX-15 Wide carriage version of NL-10	£319.00
Star NB24-10 Brilliant 24 pin printer 216cps 72cps NLQ	£479.00
Star NB24-15 Wide carriage 24 pin	£599.00
Amstrad LQ-3500 24 pin printer, now in stock	£379.00
PANASONIC KXP-1081. Best sub £200.00 model	£179.00

Many other models in stock at competitive prices

All prices include VAT/delivery. Next day delivery £5.00 extra.

### How to order

Send cheque, P.O. or ACCESS/VISA details  
By phone with ACCESS/VISA details  
Govt., Educational or PLC orders accepted  
Same day despatch whenever possible  
Callers welcome, open 6 days 9.30-5.30  
All goods subject to availability E.&O.E.  
TELEX: 333294 FAX: 0386 765354

**Evesham Micros**  
63 BRIDGE STREET  
EVESHAM  
WORCS WR11 4SF  
Tel: 0386 765500

Also at: 1756 Pershore Rd., Cotteridge, Birmingham B30 3BH Tel: 021 458 4564



# Call home

Modems, like all technical gadgets, are getting smaller. Here Steve Gold tries out one of the smallest (and newest) on the market today – the Discovery 1200P.

Judging from the number of modems on sale today, the last thing the market needs is another modem. Or so I thought until I met Clive Warner of Digital Matrix.

Digital Matrix is a small (but growing) West Midlands firm that specialises in things computerate. Warner's latest project is importing low-cost pocket modems and selling them at ridiculous prices in the UK. Judging from the Discovery 1200P – a modem capable of 300 and 1200 baud full duplex – he looks to be on to a winner.

The Discovery 1200P comes in a beige unit no bigger than a deck of cards.

Power comes from an integral – and replaceable – 9 volt PP3 battery. On one end of the unit is the familiar 25-way RS232 serial interface, into which is plugged a cable from your computer.

On the side of the unit are two female telephone sockets – one is for the phone line, and the other is for a standard phone.

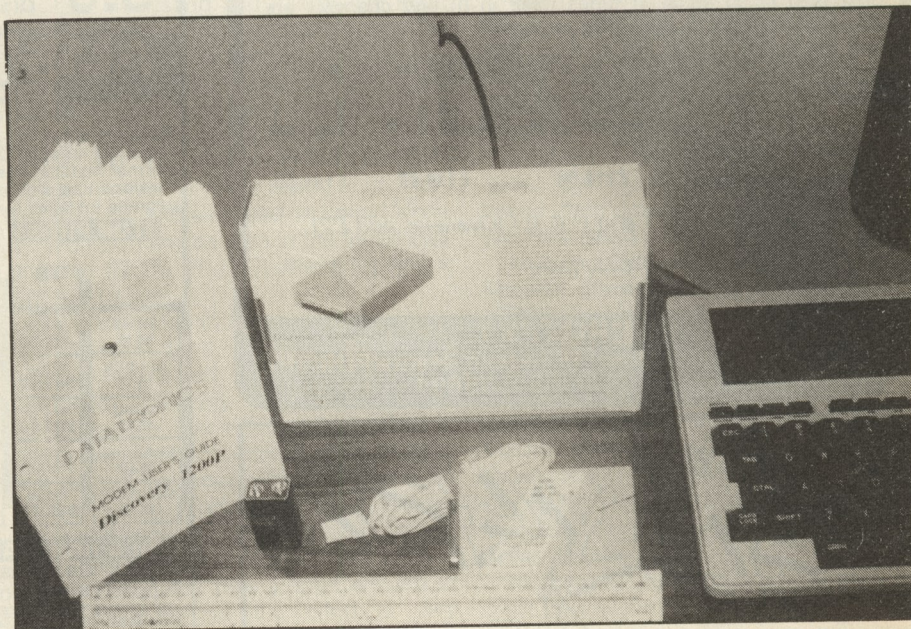
Unlike many other budget modems, the Discovery 1200P does not require a phone to work properly. Dialling is achieved – using pulses (loop-disconnect) and/or tones (DTMF) – under modem control, which is instructed from the computer keyboard.

As is usual with many of today's modems, the Hayes command set is fully supported and – unlike many of the British made units – the extended Hayes command set for host system etc, use is also available.

Tucked away inside the battery compartment is a four-gang set of dip-switches. They control respectively: Bell/CCITT frequencies, Auto-answer state (on/off), DTR (Data terminal ready) state (real or forced true), and carrier detect (real or forced true).

Do not worry too much if these dip switches don't mean much to you. If you are a modem user and are not familiar with the jargon in the preceding paragraph, the modem's manual adequately explains the correct dip-switch settings for a variety of situations.

In fact, such is the clarity of the excellently-produced 56-page printed manual (colour/A5 sized) that many British modem manufacturers should compare their own manuals with the Discovery's, and then



hang their heads in shame.

For beginners and novice users alike, the Discovery's manual is divided into seven distinct and easy-to-read sections.

Section 1 is for the experienced (and hasty novice) user, and – for many users – is all that is necessary to get the modem up and running.

## Calls in progress

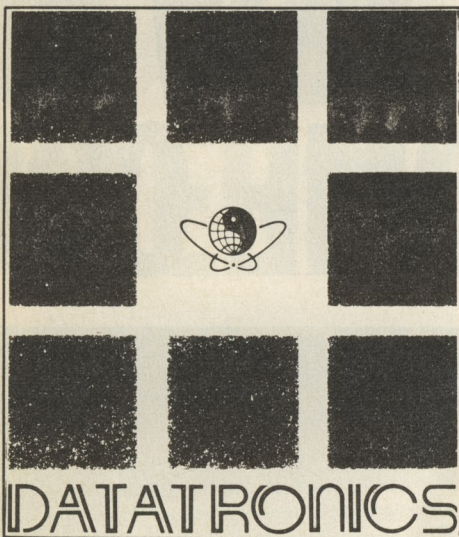
Monitoring the progress of a call made on a modem is not as easy as it sounds. So many times I have had to cock my ear to the modem, straining to hear the welcoming sound of a distant carrier answering the call.

The Discovery removes this onerous task, using three front panel LED indicators, and a variable-volume call loudspeaker on the rear of the unit to monitor the progress of a call.

The LED's show respectively: the state of the battery; the speed of the call (1200 baud equals high speed); and carrier detect.

**“Unlike many other budget modems the Discovery 1200P does not require a phone to work properly. Dialling is achieved under modem control, instructed from the computer keyboards”**





The loudspeaker can be set to remain quiet at all times, or can be set on whilst the call is connecting, and on continuously. Additionally, the speaker's volume can be varied under Hayes-command control.

As mentioned previously, the dip-switches inside the modem's battery compartment control the state of the modem after powering-up.

Unlike many other US Hayes-compatible modems, the Discovery's hardware dip-switch settings can be altered wholly under software control, allowing the unit to be used with a variety of computers and terminals, without touching the dip switches at all.

In fact – a nice touch from Digital Matrix here – the modem comes with its dip-switches set to a UK default.

## In use

In use, the modem behaved impeccably, performing as well as modems costing three times the price.

The lack of a 1200/75 baud rate proved a small obstacle in accessing Prestel, BT's public viewdata network, but the service is gradually introducing a series of 1200 baud (and 2400 baud) modem ports throughout the country.

Connection to 1200 baud full duplex (V22) services on the BT and Mercury trunk networks proved to be no problem – the modem sailed on and on.

Some slight problems were encountered with connecting to the BT's PSS (Packet Switch Stream) network, when using some of the older PSS ports.

This is due to the age of the modems in use on PSS, and no fault of the Discovery modem at all.

By skilful setting of the modem's internal 'wait for carrier' delay – using the ubiquitous Hayes command set – the problem was resolved.

PSS say that these 'old' modem ports are being phased out in the coming months, following complaints from several modem users.

It's said that by 1988, the service should be fully equipped with newer modems, so hopefully the problem should solve itself.

## Gripes

At £199.00 – who's complaining? My one gripe about the modem would be its failure to give any indication of its auto-answer status.

It would be nice to have an indication of this, as unwary callers could be greeted with the relatively unfriendly (to humans, that is) warble of a modem answering the phone. This is only a minor criticism, and, providing the auto-answer functions are enabled only within software (ie, the dip-switches are set for auto-answer off), there should not be too many complaints from Auntie Ethel trying to contact the family!

## Peripherals

Despite its budget price-tag, the Discovery comes in a well-packed box – ironically this is no larger than many mains-powered modems – containing a good length of phone cable (for connection between the UK phone socket and the modem), an alkaline high-energy battery, a neat plastic/leatherette carry case, and a comprehensive manual.

Digital Matrix say that a UK mains power transformer – for stepping down from 240 volts A/C to 9 volts D/C – will shortly be available for the Discovery.

On the pre-production unit supplied to *Popular Computing Weekly*, the phone sockets were of the US variety. The company say that the production units available for sale to the general public will have the more standard BT 'series 600' type sockets fitted.

For the couch potato modem users amongst us, the series 600 sockets are the flat white type that BT is installing in modern houses. Virtually all UK modems always have this type of socket fitted as standard.

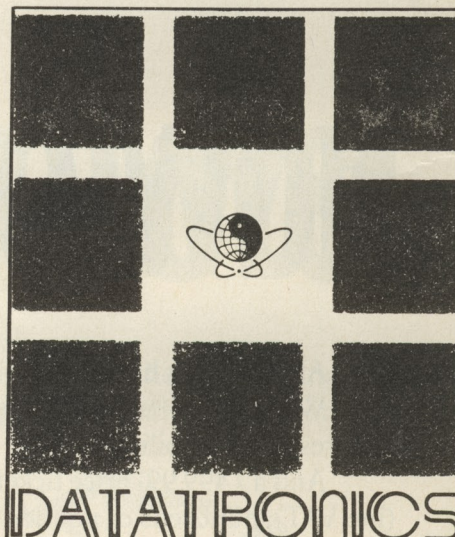
## Conclusions

This modem was used extensively whilst connected to an IBM PC compatible, a BBC Modem B and – whilst 'on the road' – with a Tandy Model 102 laptop.

The modem was also successfully used in conjunction with an NEC handheld portable cellular phone whilst aboard a British Rail train (although it was in the station at the time!)

I would have no hesitation in recommending this modem as one of the best buys on the communications market today.

Its Hayes compatibility and battery-powered portability make it an ideal first choice – as well as a back-up – modem for everyday use.



**“In use the modem behaved impeccably, performing as well as modems costing three times the price . . . despite its budget price, the Discovery comes in a well-packed box – containing a good length of phone cable, an attractive high-energy battery, neat plastic carry case and a comprehensive manual”**

## Technical details

Discovery 1200P modem:

V21 and V22 (300 and 1200 baud) CCITT

Bell 103 and 212A Bell frequencies Hayes-compatible, battery-powered modem.

£199.00 from:

Digital Matrix Ltd.,  
75 Willow Road,  
Solihull,  
West Midlands B91 1UF.

Tel: 021-704 1300 (Voice)  
021-705 5187 (Data)



# NEW AMIGA NOW OTHER HOME COMP

Amiga 500 is here.

With a mind-blowing array of features and capabilities.

And a £499.99\* price ticket (inc. VAT), hundreds of pounds less than anyone could have predicted.

"...a miracle of compression..." writes *Popular Computing Weekly*\* "...it all adds up to a formidable system which is clearly better than anything else at the price."

This elegant little machine takes family computing into new dimensions of creativity, excitement and productivity.

It outruns and outguns office PCs as a business multi-tasker, performing a deskful of different jobs simultaneously, at over 7 million steps per second in realtime.

So other home computers may not be the only machines it consigns to the toy cupboard.

## AMAZING SCIENCE FACT.

Amiga is used by Disney, Universal and other Hollywood studios for its dazzling 3D graphics manipulation and animation powers.

A sophisticated high-speed graphics processor called a blitter chip transforms images in realtime.

You can paint the screen with more than 4,000 colours. Create and modify designs and effects as you like, with pin-sharp resolution.

You command an almost limitless workshopful of stunning professional graphics capabilities.

With an optional Genlock interface, you can capture images off videotape. Manipulate and mix



them with graphics. Then re-transfer them to videotape!

This means you can produce spectacular special effects like those created by Amiga computers for Channel 4's *Chart Show* and the American TV science fiction series *Amazing Stories*.

## YOU AIN'T HEARD NOTHING YET!

Concealed within the sleek Amiga shape, there is also a pro-quality sound synthesiser and four-track stereo sound system.

Driven by another powerful and unique custom chip, it can synthesise musical instruments and

\* Includes DeluxePaint from Electronic Arts worth £79 + VAT! (Excludes monitor or TV modulator.)



# AMIGA 500. COMPUTERS ARE JUST TOYS.

Your Amiga can also synthesise the human voice.

It can speak back anything you care to write on the keyboard.

So this is one computer that can not only word process with faultless professionalism, and incorporate superlative graphics into the text, it can also read the text back to you aloud.

## GAMESMANSHIP AND WORKMANSHIP!

The new Amiga 500, in fact, dumbfounds its competitors in every way.

Graphics, stereo sound, multi windowing, multi screens, 512K to 1Mb RAM (expandable by an incredible 8 further megabytes externally\*\*), 3½" internal disk drive with 880K of mass memory, 4 unique dedicated chips plus the 16/32-bit power and 7.14MHz speed of its central processor, communications and vast expansion potential all add up to a computer of immense professional capability.

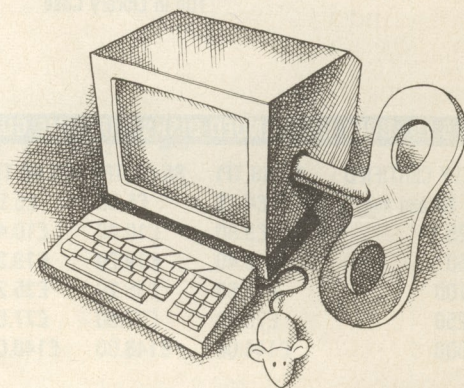
Yet the same technology allows the Amiga 500 to play games so mind bending that only full-scale arcade machines have been able to play them until now.

## AND AMIGA MEANS 'FRIEND'!

However many of the Amiga's extraordinary talents you find yourself using, they will all be beautifully simple and natural.

You will be totally at home in the friendly and effortless Amiga

environment, where everything happens by windows, icons, mouse and pulldown menus.



And the Amiga 500 simplifies life in another way too.

There is now no comparable home computer. At any price.

**INCREDIBLY**  
ONLY **£499.99\***  
INCLUDING VAT

Try the astonishing new Amiga 500 at your nearest Commodore Amiga dealer.

And discover why *Personal Computer World*†, having tested the graphics performance of Amiga's latest and most powerful rival, concluded "...Amiga still reigns supreme..."

ET! sound effects.

An optional digitiser allows you to take onboard real sounds. Mix and modify the two. Translate your compositions from keyboard to sheet music. Play them back through the monitor's speaker or your hi-fi.

\*Popular Computing Weekly, 22-28 May 1987. †Personal Computer World, February 1987. \*\*Subject to availability.

AMIGA IS A TRADEMARK OF COMMODORE-AMIGA INC. © 1987 COMMODORE BUSINESS MACHINES (UK) LTD. ALL RIGHTS RESERVED.



**Commodore**





# ZONEFOUR LTD

## All disks now sent 1st class or courier



### MIMIC IN FREE LIBRARY CASES

DS 96 TPI	10s	£7.60
FLIPSIDED	10s	£7.15
DS 48 TPI	10s	£6.80
UNIVERSAL	10s	£7.95

### MIMIC 3.5"

SS	10s in Library Case	£13.55
DS	10s in Library Case	£15.95

### 5.25" BULK UNBRANDED DISKS (LIFETIME GUARANTEE)

FULLY CERTIFIED	SS 48 TPI	SS 96 TPI	DS 48 TPI	DS 96 TPI
Try 10 and see	£4.75	£5.55	£5.55	£6.35
25	£9.60	£10.40	£10.40	£11.20
50	£18.40	£19.20	£19.20	£20.80
100	£33.60	£35.20	£35.20	£36.80
250	£76.00	£77.60	£77.60	£80.00
500	£144.00	£148.00	£148.00	£152.00

AMSOFT CF2 3"	10s	£20.00
MAXELL CF2 3"	10s	£20.00
3" MIMIC CF2DD	10s	£26.40

### ACCESSORIES INC VAT

IBM/Amstrad PC1512 Printer Cable GPR10125 x cent.	£7.15
Disk Notcher/doublers	£3.60
Disk cleaners 3.5"	£3.95
5.25" cleaner	£3.60
Mini Vac for printers and keyboards	£5.55

### 5.25" BULK COLOUR UNBRANDED

FULLY CERTIFIED	SS 48 TPI	SS 96 TPI	DS 48 TPI	DS 96 TPI
10*	£7.15	£7.95	£7.95	£8.75
25	£17.60	£19.20	£19.20	£20.80
50	£32.00	£36.00	£36.00	£38.40
100	£60.00	£64.00	£64.00	£72.00
250	£140.00	£152.00	£152.00	£160.00
500	£272.00	£208.00	£208.00	£300.00

### RED, GREEN, BLUE, YELLOW, WHITE

10 in single colour OR 2 of each please state in large quantities your choice. (If stocks are available) \* in library cases

## NEW CATALOGUE AVAILABLE NOW

### 3.5" BULK UNBRANDED DISKS 135 TRILIFETIME GUARANTEE

	SS	DS
10	£11.95	£13.55
25	£28.00	£32.00
50	£52.00	£64.00
100	£96.00	£120.00
250	£220.00	£280.00
500	£400.00	£520.00

### MIMIC HIGH DENSITY COBALT COATED 1.6 MEG SUITABLE FOR A.T.S.

10	50	100
£14.40	£64.00	£120.00
Verbatim preformatted for use with Kodak 6.6 meg drive or equivalent (5 Pack)		
		£90.00

### DISK BOXES INCLUDING VAT

5.25"	50 capacity £6.95	100 capacity £9.35
3.5"	40 capacity £6.80	80 capacity £9.55
3"/3.5"	80/90 capacity £9.55	
10 x 3.5" or 5.25" (library case)	£1.20	

### AMIGA HARDWARE

A500 Amiga	£475.00
Cumana compatible 1 meg disk drive	£140.00
Modulator	£24.95

### SOFTWARE

We sell the full range of SAGE POPULAR SOFTWARE	
ABC All in One Business Package	£150.00

ALL 5.25" DISKS HAVE REINFORCED HUB RINGS, SLEEVES, LABELS AND WRITE PROTECTS.

ALL DISKS CARRY A LIFETIME GUARANTEE.

ALL DISK PRICES INCLUDE VAT AND P/P.

TO ORDER PLEASE CALL DIRECT DISK LINE: 10AM 6PM

**Please Note: We can now offer you a duplicating service and in-house printing, packaging and most services you require. If you require any of these services, please telephone for a quotation on 0707 331076.**

**ZONEFOUR, Unit 11, Mundells Court, Welwyn Garden City, Herts. Tel: 0707 334460**

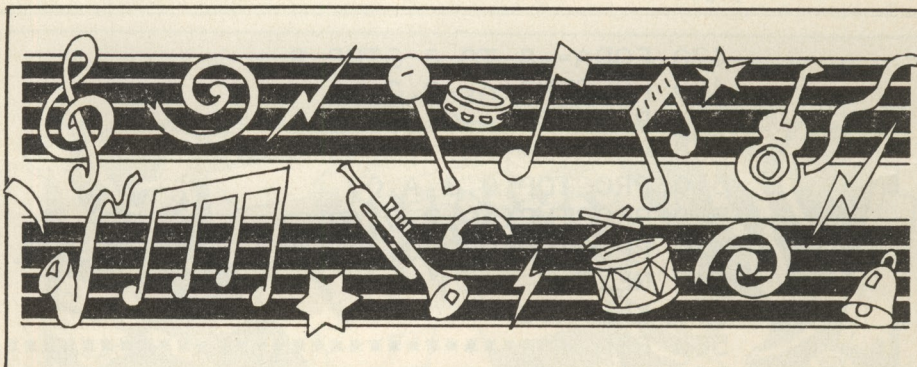
Please call for bulk and seasonal prices and a full list of Paper, Labels, etc. etc. and new catalogue



# 3D Graphics

D J Uys

This program features the basic formulae for 3D plotting. The user enters a function with X and Y as the independent variables. After this a 3D grid of the function is plotted with X and Y incrementing from -7 to +7. The routine does lack error trapping but this can easily be incorporated by the reader.



```

10 MODE0
20 REM ** SCALE FACTOR **
30 SCALFAC=40
40 PROCSCREEN
50 INPUTTAB(1,1);"Z(X,Y)="A$
60 REM ** Draw 3-D grid of function Z(X,Y) **
70 FORX=-7 TO 7
80 Y=-7
90 Z=EVAL(A$)
100 PROCTMP(X,Y,Z)
110 FORY=-6 TO 7 STEP 0.5
120 Z=EVAL(A$)
130 PROCTDP(X,Y,Z)
140 NEXTY,X
150 FOR Y=-7 TO 7
160 X=-7
170 Z=EVAL(A$)
180 PROCTMP(X,Y,Z)
190 FORX=-6 TO 7 STEP 0.5
200 Z=EVAL(A$)
210 PROCTDP(X,Y,Z)
220 NEXTX,Y
230 REM ** Hit any key for new graph **
240 REM ** or P to print **
250 REPEAT
260 K$=INKEY$(10)
270 UNTIL K$<>""
280 IF K$="P" PROCDDUMP
290 GOTO40
300 REM *****
310 DEFPROCSCREEN
320 CLG
330 REM ** Draw x,y and z axes **
340 VDU29,640;512;
350 MOVE-640,-512:DRAW-640,508
360 DRAW636,508:DRAW636,-512:DRAW-640,-512
370 MOVE0,-512:DRAW0,512
380 VDU5
390 MOVE25,485:PRINT"z"
400 MOVE-640,0:DRAW640,0
410 MOVE615,-10:PRINT"x"
420 MOVE670*COS(PI/6),670*SIN(PI/6)-20:PRINT"y"
430 MOVE895*COS(PI/6),895*SIN(PI/6)
440 DRAW-900*COS(PI/6),-900*SIN(PI/6)
450 VDU4
460 REM ** Draw tics on axes **

```

Continued on page 28 ►



# PROGRAMMING: BBC

◀ Continued from page 27

```
470 FORA=-8 TO 8 STEP 2
480 PROCTMP(A,-0.3,0)
490 PROCTDP(A,0.3,0)
500 PROCTMP(-0.3,A,0)
510 PROCTDP(0.3,A,0)
520 PROCTMP(-0.2,0,A)
530 PROCTDP(0.2,0,A)
540 NEXT
550 ENDPROC
560 REM *****
570 REM ** Draw 3-D point on 2-D screen **
580 DEFPROCTDP(X,Y,Z)
590 XN=SCALFAC*(X+(Y*COS(PI/6)))
600 YN=SCALFAC*(Z+(Y*SIN(PI/6)))
610 DRAWXN,YN
620 ENDPROC
630 REM *****
640 REM ** Move to 3-D point on 2-D screen **
650 DEFPROCTMP(X,Y,Z)
660 XN=SCALFAC*(X+(Y*COS(PI/6)))
670 YN=SCALFAC*(Z+(Y*SIN(PI/6)))
680 MOVE XN,YN
690 ENDPROC
700 REM *****
710 DEFPROCDUMP
720 REM *****
730 REM * Insert or call *
740 REM * printer dump routine *
750 REM * here *
760 REM *****
770 ENDPROC
```

# PROGRAMMING: AMSTRAD

## String Split

Simon T Goodwin

Split up strings into the verb/noun format which is used by many adventure games, with this string handling routine for the Amstrad CPC micros. The main routine starts at line 100, takes the string A\$ and splits it into VERB\$ and NOUN\$.

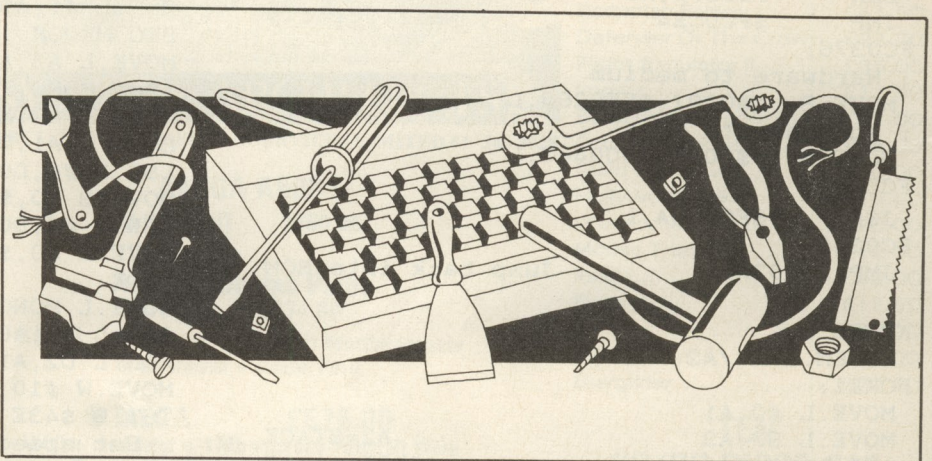
```
10 A$="get the old peice of rope"
20 GOSUB 100:PRINT "VERB:";verb$:PRINT "NOUN:";noun$
30 END
40 :
100 fo=0:a1$=LOWER$(a$):FOR n=1 TO LEN(a1$)
110 IF MID$(a1$,n,1)=" " AND fo=0 THEN verb$=LEFT$(a1$,n-1):fo=1
120 NEXT
130 IF fo=0 THEN verb$=a1$
140 fo=0:FOR n=LEN(a1$) TO 1 STEP -1
150 IF MID$(a1$,n,1)=" " AND fo=0 THEN noun$=RIGHT$(a1$,LEN(a1$)-n):fo=1
160 NEXT
170 RETURN
```



# Mono Emulator

Mick West

Save yourself £150 with Mick West's Mono Emulator, the program that emulates the hi-res monochrome mode and will then run a number of hi-res only applications. Alternatively, only save £146 and send £4 for a ready assembled program on disc, to Needham Hall, 205 Palatine Road, West Didsbury, Manchester M20 8TU.



```

MOVE.L $0436(A5),A0
ADD.L #SPACE-XBIOS,A0
MOVE.L A0,POKE1+2          ; SPACE ADDR
MOVE.L A0,POKE2+2          ; IN BOTH ROUTINES
; SET FLY TO TOP OF SCREEN
MOVE.L #0,MONOPOS+SPACE
SCANPOKE:
; FORTY LINES/VBLAN DEFAULT
MOVE.W #40,MONOLINES+SPACE
MOVE.W #0,MONOCOUNT+SPACE ; NONE YET
MOVE.L $0436(A5),A2        ; Get Memtop
MOVE.L #XBIOS,A1           ; NOW MOVE THE
; CODE FOR XBIOS & VBLANK
MOVE.W #XEND-XBIOS-1,D0
XMOVE:
MOVE.B (A1)+,(A2)+
DBF D0,XMOVE
LEA GEN,A1                  ; Generate the move code
MOVE.W #39,D0 ; 40 MOVES to first plane
GENMOVE1:
MOVE.L (A1),(A2)+
DBF D0,GENMOVE1
ADDQ.L #4,A1
MOVE.W (A1)+,(A2)+        ; Move SUB #158,A0
MOVE.L (A1)+,(A2)+
MOVE.W #39,D0 ; 40 MOVES to other plane
GENMOVE2:
MOVE.L (A1),(A2)+
DBF D0,GENMOVE2
ADDQ.L #4,A1
MOVE.W (A1),(A2)+        ; Move the RTS
MOVE.L $0436(A5),A0
MOVE.L A0,$B8 ; New XBIOS Vector to $B8
ADD.L #VBLANK-XBIOS,A0
MOVE.L A0,$70 ; New VBLANK Vector to $70
LEA $04CE(A5),A0
MOVE.L A0,$0456(A5)
MOVE.W #$0007,D0
FC033E:
CLR.L (A0)+
DBF D0,FC033E
JSR $FC21B4
MOVEQ #$02,D0
JSR $FC0596
FC0360:

```

Continued on page 30 ►



# PROGRAMMING: ST

◀ Continued from page 29

```
LEA    FC0376,A6
JMP    $FC0CE4      ; Wait for fly
FC0376:
; Hardware to medium
MOVE.B #$0001,$FF8260.L
; software to mono
MOVE.B #$0002,$00044C.L
FC0386:
JSR    $FCA76A.L
FC03A0:
JMP    $FC03A8      ; Jump back into ROM
```

```
XBIOS:
MOVEM.L A1/A2,-(SP)
POKE1:
MOVE.L #0,A1
MOVE.L SP,A2      ; A2=STACK
ADD.L #8,A2      ; SKIP A1/A2
BTST #5,(A2) ; IF CALLED FROM USER MODE
BNE NOTUSER      ; THEN
MOVE.L USP,A2    ; GET THE USER STACK
SUB.L #6,A2      ; OFFSET AS SUPER STACK
NOTUSER:
MOVE.W #6(A2),D0 ; GET CODE
CMP.W #2,D0      ; CHECK FOR PHYSBASE CODE
BEQ PHYSBASE ; JUMP NEW PHYSBASE ROUTINE
CMP.W #4,D0      ; CHECK FOR GETREZ CODE
BEQ GETREZ ; JUMP TO NEW GETREZ ROUTINE
CMP.W #5,D0      ; CHECK FOR SETSCREEN CODE
; NAUGHT NEEDS CHANGING SO NORMAL XBIOS
BNE NORM_XBIOS
MOVE.W #-1,16(A2) ; NO CHANGE TO RES.
MOVE.L 12(A2),D0 ; GET NEW PHYS
CMP.L #-1,D0      ; IF NEGATIVE
BEQ NORM_XBIOS   ; THEN NO CHANGE
MOVE.L D0,MONO(A1) ; NEW BASE FOR MONO
MOVE.L #-1,12(A2) ; SET TO NO CHANGE
; AND CONTINUE WITH NORMAL XBIOS
BRA NORM_XBIOS
PHYSBASE:
MOVE.L MONO(A1),D0 ; GET MONO ADDR
MOVEM.L (SP)+,A1/A2
RTE      ; AND RETURN IT AS 'REAL' SCREEN
GETREZ:
MOVE.W #2,D0      ; RETURN MONO RESOLUTION
MOVEM.L (SP)+,A1/A2
RTE
NORM_XBIOS:
MOVEM.L (SP)+,A1/A2
; JUMP INTO THE NORMAL XBIOS ROUTINE
JMP $FC0748
```

```
VBLANK:
MOVEM.L D0-D7/A0-A6,-(SP)
MOVE.W #$333,$FF8242 ; Grey for single
MOVE.W #$333,$FF8244 ; For 01 and 10
BTST #0,$FF8240      ; Check inverted
BEQ INVERT           ; Jump if so
MOVE.W #$777,$FF8240 ; White back
MOVE.W #$000,$FF8246 ; Black ink
BRA POKE2
INVERT:
MOVE.W #$000,$FF8240 ; Black back
MOVE.W #$777,$FF8246 ; White ink
POKE2:
MOVE.L #0,A5 ; A5 To base of var space
CLR.L D0
MOVE.B $FF8201,D0 ; Video base high
LSL.L #8,D0
MOVE.B $FF8203,D0 ; Video base low
LSL.L #8,D0
MOVE.L D0,A3
MOVE.L MONO(A5),A0
```

```
MOVE.L MED(A5),A1
CMP.L A1,A3      ; MED still real screen?
BEQ MEDOK      ; Yes so jump
MOVE.L A3,A0
; Set MONO From new Physbase
MOVE.L A0,MONO(A5)
MOVE.L A1,D0
LSR.L #8,D0
MOVE.B D0,$FF8203 ; Physbase back to MED
LSR.L #8,D0
MOVE.B D0,$FF8201
MEDOK:
MOVE.L MONOPOS(A5),D2
ADD.L D2,A0
ADD.L D2,A1
MOVE.W #10,D1
TST.B $43E
; Set speed to 10 if using disk drive
BNE COPYMOVE
TST.B $9BE
BNE COPYMOVE
MOVE.W MONOLINES(A5),D1 ; ELSE preset
COPYMOVE:
BSR XEND ; COMBINE & MOVE TWO MONO LINES
SUBQ.L #2,A1 ; BACK TO NORMAL PLANE
; DOWN ONE MED, TWO MONO LINES
ADD.L #160,MONOPOS(A5)
ADD.W #1,MONOCOUNT(A5) ; ONE MORE LINE
CMP.W #200,MONOCOUNT(A5) ; DONE 200 ?
BNE NOT200
MOVE.L #0,MONOPOS(A5) ; TO TOP OF SCREEN
SUB.L #32000,A0 ; FOR MONO
SUB.L #32000,A1 ; AND MED
MOVE.W #0,MONOCOUNT(A5) ; RESET COUNTER
NOT200:
; LOOP ROUND MONOLINES TIMES
DBF D1,COPYMOVE
MOVEM.L (SP)+,D0-D7/A0-A6
; FIRST BIT OF NORMAL VBLANK
ADDQ.L #1,$466
SUBQ.W #1,$452 ; TEST IF ENABLED
BMI NOVBL ; SKIP IF NOT
MOVEM.L D0-D7/A0-A6,-(A7)
ADDQ.L #1,$462
SUB.L A5,A5
JMP $FC069E ; SKIP MONITOR DETECTION
NOVBL:
ADDQ.W #1,$452
RTE ; NO VBLANK SO RETURN
GEN:
MOVE.W (A0)+,(A1) ; 40 MOVE FOR 1 LINE
ADDQ.L #4,A1
SUB.L #158,A1 ; A1 BACK TO LINE START
; THEN 40 MOVES TO NEXT PLANE
MOVE.W (A0)+,(A1)
ADDQ.L #4,A1
RTS
MESSAGE:
DC.B 27,'E','The Mono Emulator - Mick
West 1987',13,10,13,10,0
INPUT:
DC.B 13,10
DC.B 'Enter speed (10-80, return=40)'
EVEN
SPACE: DS.L 6 ; SPACE FOR VARIABLES
MONO: EQU 0 ; ADDR OF MONO SCREEN
; ADDR OF REAL MEDIUM SCREEN
MED: EQU 4
MONOPOS: EQU 8 ; POS IN MONO SCREEN
MONOLINES: EQU 12 ; NO OF LINES/VBLANK
MONOCOUNT: EQU 14 ; LINE NO IN MONO
XEND: NOP ; POS OF CALCULATED CODE
```



## AMIGA SPECIALS

Barbarian Palace.....	£11.50
Defender Of The Crown ..	£22.00
Flight Simulator II .....	£35.00
Faery Tale Adventure.....	£37.00
Impact .....	£11.50
Aegis Sonics .....	£69.00
Arozales Tombs .....	£28.00
Barbarian (Psygnosis) .....	£20.00
Deja Vu.....	£24.00
Digipaint .....	£52.00
Guild Of Thieves.....	£20.00
Hollywood Poker .....	£15.00
Mouse Trap .....	£12.00
Pawn.....	£20.00
Pluto's .....	£11.50
Portal.....	£28.00
Silent Service .....	£20.00
Starglider .....	£20.00
Uninvited .....	£24.00

**TEN  
DS/DD DISCS  
£14.50**



● All prices inc VAT. ● Please make cheques payable to: Systems Architects Ltd. ● Telephone orders on 01-549 3028. ● Please add 50p. ● Callers welcome at the shop. ● Items usually despatched within 10 days. Allow up to 28 days delivery.

"OFFICIAL COMMODORE DEALERS"



COMMERCIAL AND COMPUTER SERVICES LIMITED 01- 549 3028

### AMIGA A500

● STRAIGHT £450.00

**A500 + Deluxe Paint  
SPECIAL £474.00**

**A500 + Modulator + Textcraft Wordprocessor  
or Goldrunner + Deluxe Paint**

● MEGA £575.00

A500 + modulator + 1Mb upgrade Textcraft Word  
Processor or Goldrunner + Deluxe Paint

● JUMBO £747.00

A500 + Monitor + Textcraft Word Processor  
or Goldrunner + Deluxe Paint

● MEGA JUMBO £848.00

A500 + Monitor + 1Mb Upgrade + Textcraft Word  
Processor  
or Goldrunner + Deluxe Paint

## ATARI ST SPECIALS

Barbarian Palace.....	£11.50
Defender Of The Crown ..	£22.00
Flight Simulator II .....	£35.00
Impact .....	£11.50
Barbarian (Psygnosis) .....	£22.00
Colonial Conquest .....	£25.00
Guild Of Thieves.....	£20.00
Hollywood Poker .....	£15.00
Leaderboard .....	£20.00
Mouse Trap .....	£12.00
Pawn.....	£20.00
Pluto's .....	£11.50
Portal.....	£28.00
Silent Service .....	£20.00
Starglider .....	£20.00

**TEN  
SS/DD DISCS £10**

1Mb Upgrade.....	£99.00
Commodore 1081	
Monitor .....	£299.00
Cumana 1Mb Disc Drive.....	£139.95
Atari 520 STFM .....	£275.00
Atari 1040 ST.....	£459.00
Atari 1040 ST +SM 125	
Mono Monitor.....	£559.00

## SYSTEMS ARCHITECTS

Systems Architects, (PCW), Syndicate Store, 6-9 Market Place, Kingston Upon Thames, Surrey KT1 4BR.  
Tel: 01-549 3028 (24-hr ansaphone)

**10am-6pm  
Friday November 13**  
**10am-6pm  
Saturday November 14**  
**10am-4pm  
Sunday November 15**



Organised by  
Database Exhibitions

Royal Horticultural Hall  
Westminster, London SW1

SEE the first software, hardware and books for the Archimedes from companies like Clares, Minerva, Computer Concepts, Watford Electronics, Beebugsoft, Superior Software, and many others.

**BUT THAT'S NOT ALL!**

- ★ Hardware and software galore for BBC Micro and Electron owners
- ★ Lots of bargains for the BBC Micro and Electron at rock-bottom prices
- ★ Technical advice from the experts over the whole range of Acorn machines

Here's just some of the exhibitors who have booked so far:

Acorn User	Discount Software	Miniature Tool Company
Advanced Computer Products	Disking Int	Norwich Computer Services
Advanced Memory Systems	Electro Music Research	Pace Micro Technology
Amten	Format Systems	Peartree Computers
Argus Specialist Publishing	F Soft Software	Permanent Memory Systems
Bascrown	Gultronics	Pineapple Software
BBC Software	High Level Algorithms	Ramp
Beebug	Home & Business	Slogger
Beebugsoft	Hybrid Technology	Solid Disk
Bowthorpe EMP	HSV Computer Services	Superior Software
CDS Software	Impact Posters	Technical Advice
CPM	JB Software	Towerhill Computers
CJE Micros	KKS Electronics	Twillstar Computers
Care Electronics	Kansas City Systems	Tynesoft
Centec Electronics	LCL Educational Supplies	Video Electronics
Computer Concepts	Lutronics	Viglen
Computer Depot	MWD	Vine Micros
Computer Bookshops	Meedmore	Watford Electronics
Computer Technical Services	MicroLink	Weserve
Dabs Press	Micromedia	Wigmore House
Database	Micropower	Wight Scientific
Dataphone	Micronet	Zonefour
Direct Disk Supplies	Minerva Systems	

Here's your personal invitation to try out the revolutionary Archimedes for yourself

Bring this coupon to the show to get 50p per person off the normal admission price of £3 (adults), £2 (children).



**10am-6pm, Friday, November 13**  
**10am-6pm, Saturday, November 14**  
**10am-4pm, Sunday, November 15**

**Royal Horticultural Hall,  
Westminster, London SW1**

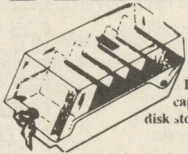
A208

12.87.36





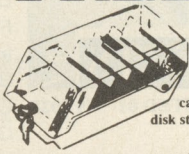
# FREE



Large (100 disk capacity) lockable disk storage box worth £13.95 -

When you buy 25 disks (DS/DD) for only **£18.75** including VAT & postage

# FREE



SCHOOL ORDERS WELCOME

Large (100 disk capacity) lockable disk storage box worth £13.95 -

When you buy 50 disks (DS/DD) for only **£28.95** including VAT & postage

Alternatively, buy 100 5 1/4" ds/dd disks for only **£49.95** and get the box free!!!



All disks supplied are now

## JAPANESE HIGHGRADE

5 1/4" DS/DD CERTIFIED TO 96tpi High quality disks with hub rings and user sets

WITH UNIQUE

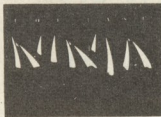
# 5

YEAR GUARANTEE

## FREE SOFTWARE

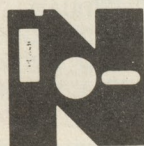
If you already have a disk box, you may like to choose a FREE (or cheap) program with your disks *instead*.

If you are buying 25 disks (£18.75) or 50 disks (£28.95) or 100 disks (£49.95) then choose any one of the programs below, paying only the price in brackets (many FREE!!).



	Our Price price with alone disks	Our Price price with alone disks	Our Price price with alone disks	Our Price price with alone disks	
Road Runner	11.95 (3.00)	Big 4	7.95 (FREE)	Paperboy	11.95 (3.00)
Barbarian	11.95 (3.00)	Last Ninja	11.95 (3.00)	Living Daylights	11.95 (3.00)
World Leaderboard	11.95 (3.00)	Wizard	10.30 (1.00)	Game Over	11.95 (3.00)
Konami Coin-Hits	7.95 (FREE)	Head Over Heels	10.30 (1.00)	Enduro Racer	11.95 (3.00)
Aliens	11.95 (3.00)	Colossus Chess 4	11.95 (3.00)	Dink!	11.95 (3.00)
Fighter Pilot	11.95 (3.00)	Elite - Firebird	14.35 (6.00)	Ress Plus	10.30 (1.00)
Hitch Hikers Guide	19.95 (9.95)	Judge Dredd	11.95 (3.00)	Gunship	15.95 (8.00)
Trap	7.95 (FREE)	Egypt Epics	11.95 (3.00)		

Most other games stocked - phone for prices. All prices are inclusive of post & VAT



Nebulae, Dept NJ, FREEPOST, Kilroot Park Industrial Estate, Carrickfergus, Co Antrim BT38 7BR  
Telephone (09603) 51020 (Monday to Friday 9 to 5)  
7 Day delivery. One year guarantee & 14 day money back period

ORDER BY PHONE FOR SAME DAY DISPATCH  
(09603) 51020

We accept orders from all government bodies, schools, universities, PLCs, etc  
We despatch on receipt of an official purchase order.

FREEPOST YOUR ORDER TODAY - NO STAMP REQUIRED

## A MUCH BETTER DEAL - WEEK AFTER WEEK

HARDWARE & PERIPHERALS	RRP	WAVE
Amstrad CPC6128 Computer + Colour Screen + Disc Drive	399.99	309.57 (ANC)
Amstrad PCW8256 Computer/Word Proc. + Monitor & Printer	458.85	293.25 (A)
Amstrad PCW9512 Computer/W.P.+Mon. +Daisy Wheel Printer	573.85	418.95 (A)
Amstrad PC1512 Double Drive Colour+Free Ability & 4 U.S. Gold Games	838.35	553.45 (ANC)
SOFT06071 Amstrad/Pace RS232 Interface Inc: Comstar - CPC	59.95	46.09 (C)
SOFT06064 Amstrad/Pace Nightingale Modem Inc: RS232 Lead	140.00	78.26 (C)
Ribbon, Printer - DMP2000/3000 (Pkt 5)	29.75	14.74 (D)
AMS AMX Mouse - CPC	69.95	50.43 (C)
Romantic Robot Multiface Two - CPC (tape/disc backup)	46.95	32.66 (E)
AMPL 1 Lead, Printer Centronics Parallel - CPC	9.95	6.09 (E)
PSD3AC Pace 2nd 5.25" Disc Drive Inc: TDOS utility disc	190.90	146.09 (C)
Amstrad DMP2000 Printer Inc: FREE Cable for CPC	169.99	126.09 (A)
Micro Peripherals MP135 DM, 80col, 135cps, F&T, NLQ, Parallel	194.35	136.40 (A)
Panasonic KXP1081 DM, 80col, 120cps, F&T, NLQ, Parallel	281.75	143.48 (A)
Epson LX86 DM, 80col, 120cps, Tractor, NLQ, Parallel/IBM	316.25	183.75 (A)
Star NL10 DM, 80col, 120cps, F&T, NLQ, Parallel, Reqs Cart I/F	274.85	185.50 (A)
JY2 Amstrad Joystick - CPC	9.99	7.09 (E)
SOFTWARE		
U.S. Gold World Class Leaderboard-CPC Disc	14.99	9.75 (E)
U.S. Gold World Class Leaderboard-CPC Cass	9.99	6.52 (E)
Ocean Tai-Pan CPC Disc	14.95	9.75 (E)
Amsoft Supercalc 2 - 6128/PCW	49.99	33.04 (C)
Amor Protext inc. Spell Checker & Mailmerge - 6128/PCW	79.95	39.10 (C)
Campbell Masterfile III - 6128/EXP. 464/664	39.95	26.04 (D)
Caxton Cardbox - 6128/PCW	59.99	40.43 (D)
Digital Research DR. Graph or DR. Draw - 6128/PCW	49.95	27.83 (D)
Hisoft The Knife - 6128/PCW	12.95	8.70 (E)
Micro-Simplex Disc - 6128/8256/8512/PC	287.50	57.39 (C)
Sage Retrieve - 6128 Twin/PCW	69.99	43.48 (D)
Gilsoft The Illustrator (disc) - CPC	14.95	6.99 (E)
CF2 3" Blank Discs DS/For all 3" Drives, cased Box 10	49.50	18.64 (D)
BULK by Basf, Xidex, RPS etc. 5.25" DS/DD 40T (Pkt 25)		9.57 (D)

All current chart games software retail less 25% + £1 P&P  
WAVE PRICES EXCLUDE VAT.

ANC: 3Day £9.00 Next Day £12.00. Admin Offices, Callers by appointment only  
UK post & ins.: (A) £5.00 (B) £4.00 (C) £3.00 (D) £2.00 (E) £1.00 (F) 50p  
Payment: CWO, Spectrum Chg. Card. Prices in this advert are valid for 14 days.

## W.A.V.E. (Dept. POP 3010)

Walney Audio Visual & Electrical.  
53 Shearwater Crescent, Barrow-in-Furness,  
Cumbria LA14 3JP. Telephone: 0229 44753/29109  
Hours: Mon.-Fri. 10-5.00

### LIKE TO EARN £100's? DO YOU WRITE GAMES? ARE YOU BETWEEN 8-80?

If the answer is yes why not let us turn your ideas into **HARD CASH**. You may have an "ELITE" which could make you a fortune. Ring us on 091 565 8473 or write to **SKYSLIP COMPUTERS 5 Stockton Road, Sunderland SR1 3NR. RING TODAY.**

# SKYSLIP

495

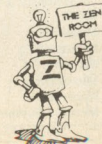
# FORGET WIRE-FRAME 3D. FREESCAPE™ IS SOLID!

# PROGRAMMERS

Over the last year the ZEN ROOM has produced some of Europe's top games, like TAU CETI, DRACULA, CYBORG, ACADEMY, DEATH OR GLORY, BALLBREAKER and THE ROCKY HORROR SHOW. Now Britain's most innovative software development team are looking for experienced freelance programmers to join them. If you have just written a game or are about to and would like the financial and programming back-up the ZEN ROOM can offer contact **Michael Hodges** on 01-985 2391 or write to the ZEN ROOM, Unit 7D, Kings Yard, Carpenters Road, London E15.

# THE ZEN ROOM

A DIVISION OF CRL GROUP PLC





# Crow control

One of the biggest sellers on the Apple Mac in the States over the past 18 months has been Silicon Beach's *Dark Castle*. Ostensibly a surreal platform and ladders game, *Dark Castle* is lifted out of the mire of similar mediocre product by the extensive use of sampled sound-effects and interwoven humour.

The original Mac program has been converted to the Amiga and ST by another American company, Three Sixty, and Mirrorsoft has picked up the licence to distribute all versions in this country.

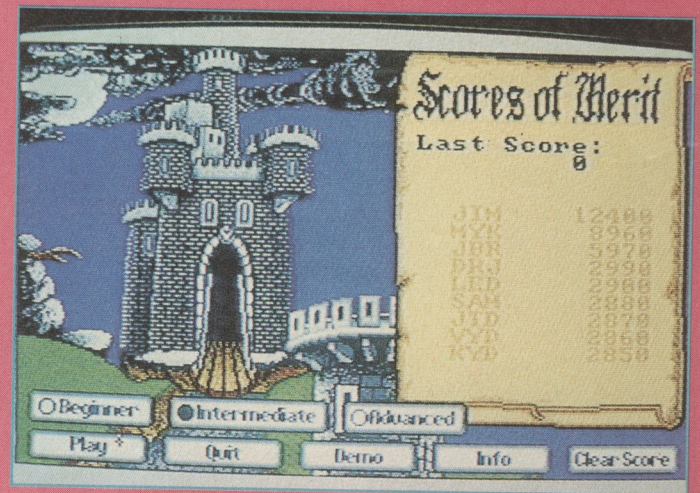
The objective of *Dark Castle* is to enter the said haunted castle on the hill, and defeat the Black Knight. Before you can meet the Knight in the usual final confrontation, you must collect a shield, fireball, and a wizard's blessing, to help you in this laudable quest.

The first thing a prospective doer-of-good has to decide is which level to play on. Beginner level may sound a bit girly, but it's essential if you're going to avoid being stuck with arrows like a pin cushion early on. Having set up the options the castle drawbridge creaks convincingly and slams open. And in you go.

Now it's decision time. You're stood in the castle entrance hall, minor doors adorn each side of the hall while straight ahead loom the main doors

leading, eventually, to the Black Knight. Select a door, obviously not the main one because it's pointless if you don't have all the gear, and off you trot.

One of the strange aspects of the game becomes immediately apparent; the control system. Left, right, up, down, pick up, and use item, are all on the keyboard while arm rotation and fire are mouse controlled. On first impressions you'd think this was designed for an octopus, or at the least, someone



arm and fire as well. Not only that you only ever need to use two keys at once, and with them in close proximity complex control becomes a reality.

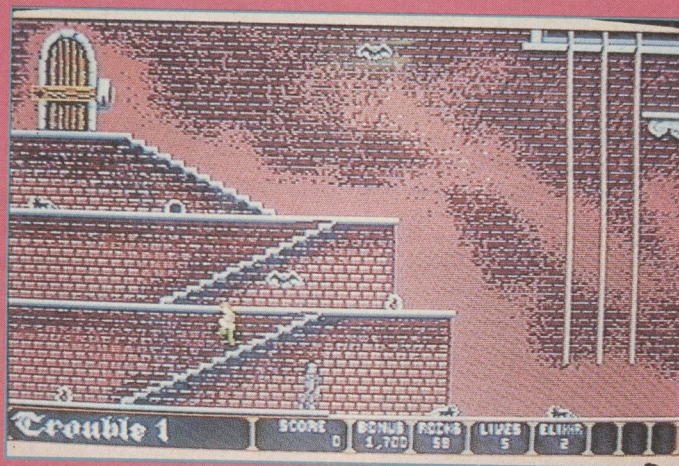
Many of the scenes in *Dark Castle* are variations on well-worn themes. On one, you are standing by the side of a tower,

Some of the scenes contain *Donkey Kong* elements, large rocks are hurled down platforms towards you, booming as they pound along, while others reminiscent of *Hunchback* with their swinging ropes and carefully timed leaps over foot level hazards. One of the nicer touches to this charming game becomes apparent when you fall off a low platform and out of the screen altogether. Instead of losing a life you end up in a screen called 'Trouble'. To get back to where you were, you have to get out of Trouble successfully.

Graphically, it has to be said that *Dark Castle* is not going to win any awards; this isn't another *Defender of the Crown*. What does make up for the mediocre graphics are the sound and humour. Squeaks, grunts, whipcracks (a guard whipping prisoners is a trifle pery), creaks, groans, splats, laughter, splashes (in a water-filled cavern with stalactites dropping from the ceiling) and a dragon roaring are all exquisitely well done and genuinely amusing in places.

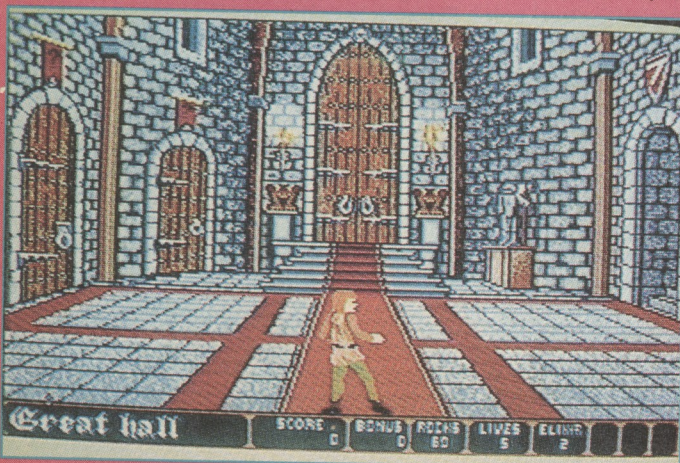
While I doubt that this game will convert to 8-bit at all satisfactorily, *Dark Castle* for Amiga/ST owners is just that bit different from the usual platform and ladders format to warrant serious consideration in the money out of wallet department.

Duncan Evans



with three arms. Having the major directional keys on A, D, and W, S initially causes even the most tolerant of players to rant and rave, but, when you've played the game for a while you come to realise that this set-up is the only feasible one if you want to be able to point your

a flock of crows are gathering overhead, and the exit to the screen is on a cliff on the other side of the screen. You get to the top by shinning up one of three ropes. But of course it isn't that easy. It never is. The crows wheel and dive towards you like German Stuka dive bombers, your anti-crow fire consists of a barrage of rocks. The air is quickly filled with the sounds of diving crows, dying crows, and crows going splat as they crunch into the ground. Hee hee. After plastering the aerial menace you must leap towards the bottom of the ropes and face the second danger, the meanies. I'm not sure what they're actually called but they are like hobbits which run along, wave their hands in the air and issue squeaky laughter. Squash the little buggers with a rock and you can shin up the rope to safety.



**Program** *Dark Castle* **Type** Arcade **Price** £24.95. **Supplier** Mirrorsoft, Athene House, 66-73 Shoe Lane, London EC4P 4AB.



# NEW RELEASES

## Your complete guide to all the software released this week



### Amiga

**Program** *The Lurking Horror* **Type** Text Adventure **Price** £24.95 **Supplier** Activision, 23 Pond Street, London NW3.

Surely the ultimate insult to the Amiga. A text adventure. While those who like Infocom will appreciate this foray into the world of horror it's a bit much to expect Amiga owners to pay this sort of money for a program that makes no use of their machines abilities.

**Program** *Nord and Bert Couldn't Make Head or Tail of It* **Type** Text Adventure **Price** £24.95 **Supplier** Activision, 23 Pond Street, London NW3.

Nord and Bert go shopping is probably the duller game Infocom have produced. Eight tales of sheer boredom.

### Atari ST

**Program** *Chopper X* **Type** Arcade **Price** £9.95 **Supplier** Mastertronic, 8-10 Paul Street, London EC2A 4JY.

Remember Paradox, the people who did ST Karate and a range of singularly awful arcade games, for Eidersoft? The programmer and graphic artist, Mrisc-Flogel and Amyat-Leir have produced their latest effort for Mastertronic, and I'm glad to report that they've learnt something since last year.

Horizontally scrolling action with you as a decent sized Helicopter blasting away at tanks and military vehicles just about encapsulates the entire game.

The scrolling is noticeably jerky but the scenery is nicely drawn and quite colourful. Unfortunately the MIDI compatible music is just like

that on all the other Paradox titles. Awful.

Less professional but more interesting than the similar Jupiter Probe.

### Commodore 16

**Program** *Aliens* **Type** Arcade **Price** £9.95 **Supplier** Electric Dreams, Terminus House, Terminus Terrace, Southampton SO1 1FE.

Not to be confused with the US version, this is the UK single game interpretation of the gloriously exciting film.

### Commodore 64

**Program** *Kromazone* **Type** Arcade **Price** £2.99 **Supplier** MAD, 8-10 Paul Street, London EC2.

**Program** *Starlifter* **Type** Arcade **Price** £1.99 **Supplier** Mastertronic, 8-10 Paul Street, London EC2.

**Program** *Freddy Hardest* **Type** Arcade **Price** £8.95 (tape)/£12.95 (disc) **Supplier** Imagine, 6 Central Street, Manchester M2 5NS.

Run, kick, kill, jump, splodge, die. See last week for other biting comments.

**Program** *Beat-It* **Type** Arcade **Price** £1.99 **Supplier** Mastertronic, 8-10 Paul Street, London EC2.

The deluge of Mastertronic releases continues this week with quite a horrible game where you collect musical notes.

**Program** *Spore* **Type** Arcade **Price** £1.99 **Supplier** Bulldog, 8-10 Paul Street, London EC2.

Not too sure about this one either. Genetically altered spores have run rampant throughout the lab and you must go in and de-infest the place with insecticide (sounds a bit like our office).

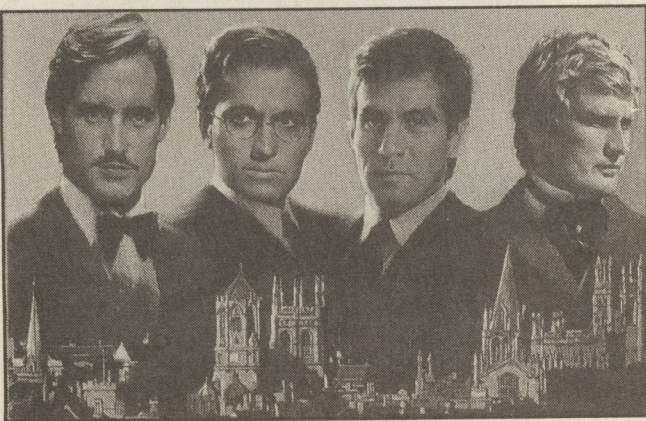
**Program** *IK+* **Type** Arcade **Price** £9.95 **Supplier** System 3, 23 Pond Street, London NW3 2PN.

International Karate + leaps onto your screens. Can't be bad if you fancy more of the same.

**Program** *Red LED* **Type** Arcade **Price** £9.95 (tape)/£14.99 (disc) **Supplier** Starlight Software, 9 Disraeli Road, Putney, London SW15.

Ariolasoft's label at last comes good. Excellent Marble Madness style scrolling graphics and sounds by Tony Crowther make this one worth getting.

**Program** *Blockbusters* **Type** Quiz **Price** £7.95 **Supplier** Domark, 22 Hartfield Road, London SW19 3TA. Re-heated version of TV quiz game which features Bob 'patronising' Holness.



**M**ANY of you may have been unfortunate enough to run into the Domark stand at the PCW show. If you were really unlucky, you'd have run into it while Jeffrey Archer was there plugging the computerisation of his bestseller, *Not a Penny More, Not a Penny Less*.

Quite why they all thought that computerising a book released in 1976, and hardly sparkling with a timeless quality, was a good idea. I don't know. Anyway, the plot is this.

Harvey Metcalfe, something of a crook, set up a dodgy company to attract greedy investors. Once the readies are in the bank, he causes the value of the shares to plummet, ruining the four major piglets both financially and socially (oh dear). Sounds a bit like the BP share offer, really.

You are one of the 1970's yuppies, and joining up with a Harley Street doctor, a Viscount, and a Bond Street art dealer, you promise to steal all of the \$1,000,000 back, not a penny more, not a penny less (as the advertising keeps telling you).

Sensibly, Domark have turned the book into an adventure game (of sorts) and incorporated digitised pictures and even speech. The entire package is attractively presented and, rather essentially, there's a free copy of the book.

The display is basically in three parts. The main section contains the digitised picture (a small monochrome snapshot), some decoration and a terse description of the scene. In the middle is any response to your input and at the bottom is the command line.

You start the adventure in your room in Magdalen College, Oxford, armed only with a dossier, camera and a few other effects. Rather than progressing along traditional adventure lines, *Not a Penny . . .* guides the player through the plot. If you have collected an essential item for later on, you won't be allowed any further into the story. Being told that you decide to return to the college when you have no intention of doing so is rather galling and hardly in the adventure spirit. Domark recommend that you read the novel before starting play. I would say that it is absolutely essential that you do so, but that might be enough to dissuade you from buying this game.

Use of the very small digitised pictures and sporadic speech is rather gimmicky, but it does add flavour. As an adventure game this is dismal, but as a computer version of a book, it's quite nicely done.

It all comes down to whether or not you like Jeffrey Archer and can sympathise with such a bunch of jerks that are the good guys. Despite being offered £2000, I'm afraid I couldn't.

Duncan Evans

**Program** *Not a Penny More, Not a Penny Less* **Type** Adventure **Price** £19.95 **Machine** Atari ST **Supplier** Domark, 22 Harefield Road, London SW19 3TA.

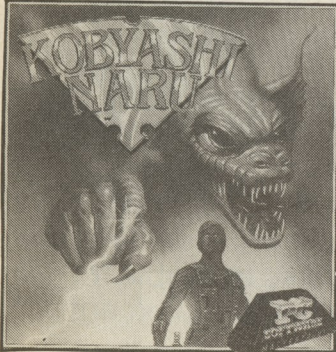


# NEW RELEASES

## BBC B

**Program** *Jet Pac* **Type** Arcade  
**Price** £1.99 **Supplier** Ricochet,  
8-10 Paul Street, London EC2.

Golden oldie zapper, well worth the money but doesn't every BBC owner already have a copy?



## Commodore 64/128

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

Budget platform and ladders with some pretty graphics in places.

**Program** *Mask* **Type** Arcade **Price** £9.99 (tape), £14.99 (disc) **Supplier** Gremlin Graphics, Alpha House, 10 Carver Street, Sheffield S1 4FS.

**Program** *Indiana Jones and the Temple of Doom* **Type** Arcade Adventure **Price** £9.95 **Supplier** US Gold, Unit 2-4, Holford Way, Holford, Birmingham B6 7AX.

Another indifferent arcade conversion, but quite a bit better than the ST version anyway.

**Program** *Timetrax* **Type** Arcade Adventure **Price** £2.99 **Supplier** Bug-Byte, Victory House, Leicester Place, London WC2H 7NB.

**Program** *Halls of the Things* **Type** Arcade Adventure **Price** £1.99 **Supplier** Firebird, First Floor, 64-76 New Oxford Street, London WC1A.

Literally ancient Spectrum collect and kill extravaganza. Excellent in its day, but that was years ago.

**Program** *BMX Kidz* **Type** Arcade **Price** £1.99 **Supplier** Firebird, First Floor, 64-76 New Oxford Street, London WC1A 1PS.

## IBM PC

**Program** *Knight Orc* **Type** Adventure **Price** £19.95 **Supplier** Rainbird Software, 74 New Oxford Street, London WC1A 1PS.

Interesting adventure with graphics, if you have the right card. You think you're an orc but by part two the plot changes, and changes ridiculously again in the third.

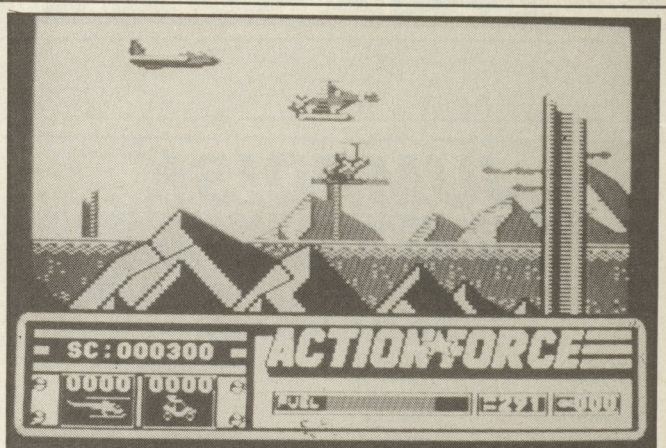
Palatable enough, but with mediocre graphics, Level 9 are turning into the poor man's Magnetic Scrolls.

**Program** *Strike* **Type** Simulation **Price** £9.99 **Supplier** Mastertronic, 8-10 Paul Street, London EC2.

Reasonable ten pin bowling simulation but it certainly isn't 10th Frame. Control is keyboard only.

**Program** *Kobyashi Naru* **Type** Adventure **Price** £9.99 **Supplier** Mastertronic, 8-10 Paul Street, London EC2.

Adventure with icons and graphics which resemble earlier Level 9 product. Pseudo mystical hogwash for plot doesn't help but at least it isn't another pixie quest.



**T**HE enemy COBRA have launched a surprise attack on the island of Botsneda. In the rapid evacuation sensitive documents were left behind (reminiscent of *Sunshine Towers*) and now a strike force, nay, more an ACTION FORCE, have been dispatched to retrieve those copies of *Spy Catcher*, or whatever.

*Action Force* is the latest film/cartoon/toy/cuddly toy (delete as applicable) licence, and rather surprisingly, as these efforts are usually a let-down, it's quite good. The job then, is to trek across the industrialised surface of the island, reach the installation computer and retrieve the data file from its hard disc unit. Only, you haven't been assigned that job.

What you have to do is fly the Dragonfly helicopter and cover the A.W.E. Striker jeep while it winds its way across the island. Enemy fighters and planes attempt to shoot you down and destroy the Striker, so you have to fend them off half the time, all the while keeping an eye on the Striker and blasting away obstructions and winching bridging sections to cover rivers (big holes in other words).

The screen scrolls smoothly from side to side as you fly backwards and forwards trying to keep everything under control. The graphics are typical of the C64, big, bright and attractive. The sound effects are disappointingly routine, though, and the music on the title page is somewhat repetitive, but still mildly pleasant for all that.

If your taste in arcade games runs to the frenetic and you want a good dose of heart-stopping excitement, you could do no better than give *Action Force* a try.

Duncan Evans

**Program** *Action Force* **Type** Arcade **Machine** C64 **Price** £9.95 **Supplier** Virgin Games, 2-4 Portobello Road, London W11 2DX.

## CHARTS Top Twenty

- 1 (3) Joe Blade
- 2 (4) Grand Prix Simulator
- 3 (1) Renegade
- 4 (5) Soccer Boss
- 5 (2) Indiana Jones
- 6 (7) Pro Ski Simulator
- 7 (9) Fruit Machine Simulator
- 8 (6) BMX Simulator
- 9 (11) International Karate
- 10 (13) Back To The Future
- 11 (10) Dizzy
- 12 (14) Bubble Bobble
- 13 (17) Football Manager
- 14 (8) Paperboy
- 15 (15) Super Robin Hood
- 16 (21) ATV Simulator
- 17 (38) Barbarian
- 18 (16) World Class Leaderboard
- 19 (23) Uchi-Mata
- 20 (12) Arcade Classics

- Players
- Code Masters
- Imagine
- Alternative
- US Gold
- Code Masters
- Code Masters
- Code Masters
- Endurance
- Firebird
- Code Masters
- Firebird
- Addictive
- Elite
- Code Masters
- Code Masters
- Palace
- Access-US Gold
- Alternative
- Firebird

All figures compiled by Gallup/Computer Trade Weekly

## MSX

**Program** *Knight Orc* **Type** Adventure **Price** £14.95 **Supplier** Rainbird Software, 74 New Oxford Street, London WC1A 1PS.

Now available on just about everything, MSX owners feeling neglected by the major software houses will welcome this conversion.

Alas there are no graphics, though knowing what they're like you're not missing very much.

Too dated even at this price for todays sophisticated Spectrum owner.

**Program** *Level 5* **Type** Arcade **Price** £1.99 **Supplier** Mastertronic, 8-10 Paul Street, London EC2.

Scrolling Gauntlet/maze game. Not bad, but nothing new or exciting so you pays your money...

**Program** *Laser Wheel* **Type** Arcade **Price** £2.99 **Supplier** Mastertronic, 8-10 Paul Street, London EC2.

## SPECTRUM

**Program** *Jet Pac* **Type** Arcade **Price** £1.99 **Supplier** Mastertronic, 8-10 Paul Street, London EC2.

From the author of *Trailblazer* comes something spectacularly unoriginal. Keep eight screens of asteroids style action clear simultaneously or go shopping instead.



# MICRO-FILE

FOR SALE

## JUMPDISK

THE US of A's No 1 MONTHLY MAGAZINE ON A DISK  
**AMIGA COMPUTERS**  
 NEW LOOK NOVEMBER ISSUE NOW AVAILABLE

### PROGRAMS

FAST AMIGO Arcade Game in 'C'	CALCULATOR Clickable Math	RAINBOW Color Demo
PIE 3D Generates Pie Charts	KNOCKOUT Dice Game	ZOOM LENS Magnify Screen Areas
VARIABLE LISTER Dissect Basic	NOTYPE The Pointing Writer	OPENWINDOW Demo with CNOTES
DISK MAN Reconfigurable Disk Manager	QUARTET Technique	DEPARTMENTAL PROGRAMS Printall: Send JUMPDISK to Paper Speakall: Hear on Record Articles How I Run Instruction
AUTOMATA Modula 'Life' Style	SNEAK PEEK Revealing the Hidden	

### ARTICLES

DISK MAN Documentation	AUTOMATA Alternate Life Style	EARL WEAVER BASEBALL Review
VARIABLE LISTER Viscera of Basic	PEACE History of a TV Spot	S.D.I. Review
PD DISKS £3 each, FISH#89 to #102	TRANSFORMER'S NEW TRACKS	NEWSBREAKS The Amiga Scene
PIE CHART Round Out Your Reports	VAPOR CAPER Satire	INSTANT ORDER FORM Print Me!
AMIGADOS PRIMER Built-in Help	SCULP 3-D Review with Art	HOW TO SUBSCRIBE THE EDITOR'S TWO CENTS
CNOTES C'ing in Depth	KEYBOARD CADET Review	

**ALL OF THIS FOR  
£8.50 inc. VAT**

to: **GEORGE THOMPSON SERVICES LTD**  
 Dippen Lodge, Dippen Brodick, Arran KA27 8RN  
 Scotland. Tel: (077082) 234

Please send the NOVEMBER ISSUE to me by return

**NAME** .....

**ADDRESS** .....

I enclose a cheque or money order for £8.50

*Price includes first class P&P within UK & EUROPE*

**SAME DAY DESPATCH OF ORDERS. THERE IS A GUARANTEE WITH EVERY ISSUE**

## COMMODORE 64

COMPENDIUM PACK

**ONLY £145**

Price includes VAT and 90 day guarantee,  
 plus carriage by Securicor B service.

Compendium pack also available for  
 £115, including all above except  
 guarantee.

*All goods fully checked and sold in  
 working order.*

## TWO-BIT COMPUTERS

26-28 Bowesfield Lane  
 Stockton on Tees  
 Cleveland TS18 3ER

**Telephone: 0642 604768**

(538)



**SPECIAL OFFER !!**

25 SS/48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£16.00
50 SS/48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£25.00
100 SS/48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£39.95
25 DS/48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£17.00
50 DS/48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£26.50
100 DS/48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£42.00

**BUY NOW FOR XMAS**

Just write for more information. Cheques etc. payable to STORT SOFT (international orders remit in pounds Sterling by bank draft or international money order and send amount quoted which will be exclusive of VAT but include additional postage. Write for quote in any other currency)

ACCESS/MASTERCARD/EUROCARD/VISA accepted. CREDIT CARD ORDER LINE - 0279 89509 24 HOURS A DAY, 7 DAYS A WEEK - VAT & P.P. INC. NO HIDDEN EXTRAS - WHAT YOU SEE IS WHAT YOU PAY

**18 CROWN CLOSE, SHEERING, BISHOP'S STORTFORD, HERTS CM22 7NX**

**3.5" SPECIAL OFFERS** (543)

25 SS/DD 135 TPI(MF1DD) & 80 or 60/90 locking disc box	£35.00
50 SS/DD 135 TPI(MF1DD) & 80 or 60/90 locking disc box	£59.95
25 DS/DD 135 TPI(MF2DD) & 80 or 60/90 locking disc box	£39.95
50 DS/DD 135 TPI(MF2DD) & 80 or 60/90 locking disc box	£65.00



**AMIGA A500 NOW IN STOCK FOR ONLY £439.95**  
**ONLY 56 DAYS**

*Light the candles!*

**ATARI 520 STFM NOW IN STOCK FOR  
 NEW PRICE ONLY £289.95**  
 Includes mouse controller, manual, language disc and starter pack

*And let's all be as happy  
 as children this Christmas!!!*

Buy from Sound N Vision this Christmas.

**SEE HALF PAGE FOR BEST PRICES ON HARDWARE/SOFTWARE ETC.**

**SOUND N VISION**

11 Silk St, Leigh, Lancs WN7 1AW.  
 Phone now for details - Tel: (0942) 673689

Cheques and P/Orders payable to: Sound N Vision P.&P./VAT INCLUDED  
 Visitors welcome in showroom. Send S.A.E. for price list. (534)

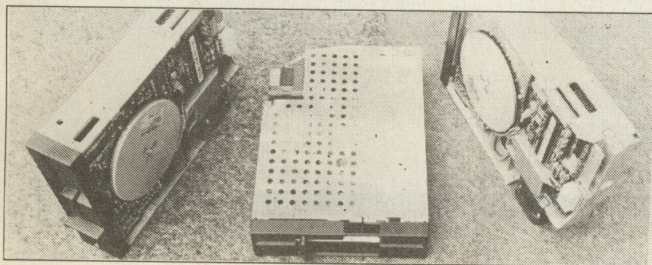
## ADVERTISING RATES FOR MICRO-FILE

Semi Display      £8 per single column centimetre (+VAT)  
 Lineage            35p per word (+VAT)

CALL SUSANNAH KING or ROBERT COLE on 01-834 1717 FOR SEMI DISPLAY ADVERTISING



## 80 TRACK / DS DD 5 1/4" HALF HEIGHT DISC DRIVES



- Uncased bare drive ..... £60
- Drives in cream metal cases ..... £70
- Cased drive with connecting leads to suit BBC micro ..... £74.95

### Special Offers on IBM compatible add-ons

- Few only:
- Olivetti plug in 20 megabyte hard card ..... £199
  - Racal CP2123 plug in modem card ..... £99
  - Teac 40 track DS/DD bare drives, black fronted ..... £60
  - AT and T CDC Wren 1 36mb hard disc drives (45µS) (uncased) ..... £335

Money back if not satisfied and returned undamaged within 7 days. Callers welcome Mon-Fri 9-5.

### Pinboard Computers Ltd,

Unit 9, Bondor Business Centre,  
London Rd, Baldock,  
Herts SG7 6NG  
Tel: (0462) 894410

Prices include VAT, packing and parcel post.



(477)

## DIGIPIX Disk Price Special 3.5" DS/DD DISKS



	10	25	50	100
Unbranded DS/DD 135tpi (MF2DD) inc labels & p&p	9.95	24.00	46.00	90.00
Mimic DS/DD 135tpi (MF2DD) cases labels p&p	14.95	36.50	70.00	130.00

All Disks Fully Guaranteed

Disk customers may also purchase any amount of the following with their order. (Available only with Disk orders.)

Mouse Mat £3.50 ★ 40 capacity, locking 3.5" Disk Box £5.75  
80 capacity, locking 3.5" Disk Box £7.00 ★ 100 3.5" Disk Labels £1.50

Send Cheque or P.O. to:

**DIGIPIX**

(494)

1 Brasher Close, Bishopstoke, Hants. SO5 6PY

Please note that the price for 50 DS/DD discs in last issue should have been £46 not £45 as stated

### CROWN COMPUTERS!!!

ANY PRICE AND WE WILL MATCH IT!!!

In Stock now

- Atari 520 STFM ..... 269.95
- Amiga 500 Sports Bundle ..... 519.00

NEW

- PC 1640 Mono Single Drive ..... 539.95
- PC 1640 Colour Single Drive ..... 699.95
- PWW 9512 Mono/M Daisy Printer + Software ..... 539.95
- PC 1512 Mono Single Drive ..... 445.45
- PC 1512 Colour Single Drive ..... 599.00

Commodore, Amstrad, Spec 10% off RRP

**6 High Street,  
Boston, Lincs.  
Tel: (0205) 53611**

Phone now for orders!

(528)

## MICROWARE COMPUTER SERVICES

### AMIGA HARDWARE

Amiga 500 including Deluxe Paint, Starter Pack	£499				
A1081 Colour Stereo Monitor	£369				
Philips CN8852 medium-high resolution	£329				
Amstrad PC range		Full range available from £459-£1299			
NEC 3 1/2" 880K External Disc Drive	£139				
A501 Ram Expansion, 512K/1024K	£99				
A520 TV Modulator	£22				
Digiview Version II, Video Digitiser	£175				
Digiview 2 A500 adaptor	£22				If bought with camera £10
Video Camera for use with Digiview	£239				
Digipaint	£59				
Aegis-Digi Communications program	£69				
Logistix	£99				
V.I.P. Professional	£129				
Word Perfect (WP)	£275				
City Desk (desk top publisher)	£139				
Viza Write Desk Top (WP)	£89				
Dynamic c.a.d. version 2.3	£399				
Alien Fire	£34				
Barbarian	£21				

Description	Pack 1	Pack 2	Pack 3	Pack 4	Pack 5
Amiga 500	£499	£499	£499	£499	£499
A1900M Mono Monitor	£104				
A1081 Colour Monitor					£349
A1010 Disc		£249		£249	
NEC 3 1/2" Disc					£139
Starter Pack	£82	£82	£82	£82	£82
Deluxe Paint	£90	£90	£90	£90	£90
RRP Total	£886	£1032	£1147	£1434	£1296
MCS Total	£559	£689	£799	£1129	£959

Any items may be purchased separately. With every Amiga 500 you will receive a free Starter Pack containing a mouse mat, Karate Kid II and 10 discs full of public domain software.

### ATARI HARDWARE

Description	Pack 1	Pack 2	Pack 3	Pack 4
520 ST-M CPU	£229.99	£229.99	£229.99	£229.99
Mono Monitor			£149.99	£149.99
1Mb Disc	£149.99		£149.99	
1Mb Disc		£199.99		£199.99
Mouse Controller	£24.99	£24.99	£24.99	£24.99
Word Processor	£59.99	£59.99	£59.99	£59.99
Starter Pack	£34.70	£34.70	£34.70	£34.70
RRP Total	£499.66	£549.66	£649.66	£689.66
MCS Total	£299.00	£369.00	£399.00	£469.00

With every Atari ST-M you will receive a free Starter Pack containing five discs full of public domain software, and Spell-It to use with your word processor.

Atari 1040 ST-F Keyboard with 1024K Ram 1Mb drive, mouse, no modulator ..... £449  
1040 ST-F as above + high res. mono monitor ..... £549  
1040 ST-F as above + medium res. colour monitor ..... £799

Full range of hardware/software for all machines. Only weeks left to Christmas - Order Early.

PO Box 2, Skegness, Lincolnshire PE25 2QL. Tel: 0754 610217

Order instructions: write name, address, postcode and phone number. Write order out clearly stating quantity, description and price, make cheques or POs payable to

Microware Computer Services and send to above address.

All prices are fully inclusive. Prices subject to change without notice on availability. E. & O.E.

(541)

### SPECIAL OFFERS

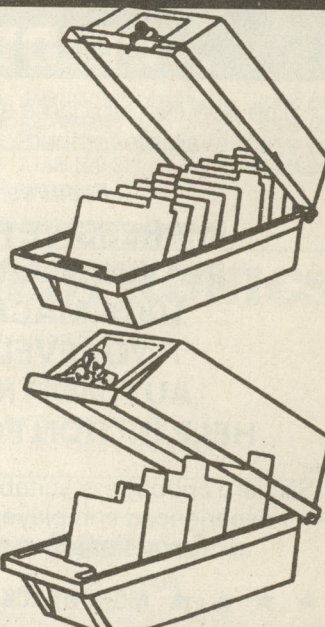
#### ★ EXCEPTIONAL VALUE

★  
25 x 5-25" DS-DD DISCS  
PLUS  
100 CAPACITY LOCKABLE DISC BOX  
FOR  
**ONLY £17.60**

OR  
50 x 5-25" DS-DD DISCS  
PLUS  
100 CAPACITY LOCKABLE DISC BOX  
FOR  
**ONLY £27.10**

OR  
20 x 3-5" DS-DD DISCS  
PLUS  
40 CAPACITY LOCKABLE BOX  
FOR  
**ONLY £29.50**

OR  
50 x 3-5" DS-DD DISCS  
PLUS  
90 CAPACITY LOCKABLE BOX  
FOR  
**ONLY £68.20**



**REMEMBER THE PRICE YOU SEE IS ALL YOU PAY. (U.K. ONLY)  
THEY INCLUDE VAT AND CARRIAGE**

Cheque or Postal Order to:



**Manor Court Supplies Ltd**

Dept YC10, Glen Celyn House, Penybont,  
Llandrindod Wells, Powys LD1 5SY.  
Telephone: 0597 87784 or 0597 87792

Orders accepted from educational and government depts.  
Dealer enquiries invited.

(510)



# STORT SOFT

ATARI MAIL ORDER SPECIALISTS

## INCREDIBLE LOW PRICES!

ALL DISKS CARRY A NO QUIBBLE REPLACEMENT GUARANTEE ARE CERTIFIED 100% ERROR FREE AND COME WITH LABELS, 5 1/4" ALSO HAVE SLEEVES AND WRITE PROTECTS. FLIP SIDED DISCS HAVE TWO INDEX HOLES AND TWO NOTCHES.

### SPECIAL OFFER !!

25 SS 48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£16.00
50 SS 48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£25.00
100 SS 48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£39.95
25 DS 48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£17.00
50 DS 48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£26.50
100 DS 48TPI 5.25" DISCS & 100 CAP LOCKING DISC BOX	£42.00

5 1/4" DISCS FROM AS LITTLE AS 33 PENCE

### BLANK 5 1/4" DISKS

DISK NOTCHER FREE WITH EACH 100 DISKS PURCHASED

UNBRANDED	TRIAL 10	25	50	100	10 in a plastic lib. case
SS48 TPI	£4.50	£9.00	£17.00	£33.00	£5.50
DS48 TPI	£5.50	£11.00	£19.00	£35.00	£6.50
DS96 TPI	£6.50	£13.00	£21.00	£37.00	£7.50
DS96 TPI FLIP SIDED	£7.00	£14.00	£22.00	£38.00	£8.00
MIMIC FLIP SIDED DS96 TPI	£8.95	£20.00	£38.00	£70.00	£9.95
MIMIC HIGH DENSITY 1.6meg	£23.00	£52.00	£100.00	£180.00	£24.00

### LOCKING DISK BOXES

5 1/4" HOLDS 50	£7.95	5 1/4" HOLDS 100	£9.95
3 1/2" HOLDS 40	£7.95	60/90 (HOLDS 60 3" or 90 3 1/2")	£9.95

### 3.5" SPECIAL OFFERS

25 SS/DD 135 TPI(MF1DD) & 80 or 60/90 locking disc box	£35.00
50 SS/DD 135 TPI(MF1DD) & 80 or 60/90 locking disc box	£59.95
25 DS/DD 135 TPI(MF2DD) & 80 or 60/90 locking disc box	£39.95
50 DS/DD 135 TPI(MF2DD) & 80 or 60/90 locking disc box	£65.00

	10	25	50	100	500	10 into case
135tpi unbranded						
SS/DD (MF1DD)	11.95	29.00	57.00	98.00	—	12.95
DS/DD (MF2DD)	13.95	33.00	62.00	110.00	—	14.95

### CUMANA DRIVES

ATARI ST 1 MEGABYTE	£139.00
AMIGA 1 MEGABYTE	£129.00

### ATARI HARDWARE - BARGAIN PRICES

520 STFM £279.95	£279.95
520 STM, SF354 (1/2 meg drive)	£339.95
520 STM, SF314 (1 meg drive)	£374.95
520 STM, SF354 & SM125 mono monitor	£434.95
520 STM, SF314 & SM 125	£570.00
1040 STF & SM125 mono monitor	£845.00
Mega ST (2 megabyte RAM & 1 meg drive)	£935.00
Mega ST (2 megabyte RAM & 1 meg drive) & SM125	£1095.00
Mega ST (4 megabyte RAM & 1 meg drive)	£1190.00
Mega ST (4 megabyte RAM & 1 meg drive) & SM125	

All Hardware comes with free dust covers!! All STs come with 5 public domain disks including CPM emulator and the arcade game Megaroids, 5 blank discs to get you going or choose 5 additional discs from our public domain library. Basic language disk and manuals. 520 STM ONLY comes with 1st Word word processor and spelling checker.

### COMPUTER ACCESSORIES

5 1/4" DISK NOTCHER (Double your disk capacity on a single sided drive)	£3.95
DISK CLEANING KITS Liquid non-abrasive type - protect your valuable software	
5 1/4" DCK	£3.95
3 1/2" DCK	£4.95
ST/IBM/AMSTRAD 1512 TO CENTRONICS PRINTER LEAD (2 metres)	£8.95
ST TO RS232 MODEM LEAD (2 metres)	£8.95
BATTERY POWERED MINI-VAC - for keyboards, printers etc.	£9.95

Just write for more information. Cheques etc. payable to STORT SOFT (International orders remit in pounds Sterling by bank draft or international money order and send amount quoted which will be exclusive of VAT but include additional postage. Write for quote in any other currency)

ACCESS/MASTERCARD/EUROCARD/VISA accepted. CREDIT CARD ORDER LINE - 0279 89509  
24 HOURS A DAY, 7 DAYS A WEEK - VAT & P.P. INC. NO HIDDEN EXTRAS - WHAT YOU SEE IS WHAT YOU PAY

18 CROWN CLOSE, SHEERING, BISHOP'S STORTFORD, HERTS CM22 7NX

(548)

## CRIBBAGE

The popular pub game six card cribbage is now available for the Spectrum 48K/128K

Features include:

- IMPRESSIVE FULL COLOUR
- PLAYING CARD GRAPHICS
- 100% MACHINE CODE
- TWO LEVELS OF PLAY
- AUTOMATIC SCORING
- HELP OPTION FOR BEGINNERS

Six card cribbage is suitable for both beginners and experienced crib players and comes with full instructions and rules of the game.

★ ★ ★ ★ MONEY BACK GUARANTEE ★ ★ ★ ★

If you are not delighted with six card cribbage then simply return the tape within 5 days and your cash will be refunded.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Send cheque or postal order for £6.95 to

### ESEM SOFTWARE

95 Rodway Road, Patchway, Bristol BS12 5PH  
Tel: 0272 236064

(490)

## Athene Consultants

33 Holly Grove,  
Fareham, Hants PO16 7UP  
Tel: 0329 282083

ALL DISCS SUPPLIED WITH LABELS  
AND LIFETIME GUARANTEE  
Disc manufacturer Memorex

Description	Price
3-5 DS/DD 10 discs	£11.50 inc.
3-5 SS/DD 10 discs	£10.95 inc.
Storage Box (holds 10 discs)	£1.30 inc.
Popular Computing Weekly Special Offer only 1 free disc box worth £1.30 with ten discs Quantity Discount starts at 50 discs	
3-5 DS/DD 50 discs	ONLY £52.90 inc. (92p each + VAT)
3-5 SS/DD 50 discs	ONLY £49.90 inc. (87p each + VAT)
3-5 DD 100 discs	£100. 3-5 SS/DD 100 £94.30

Despatch by 1st class post

Remember prices include VAT, postage and labels. All discs by top manufacturers with a Lifetime Guarantee. PLUS a 14 Day Money Back Guarantee.

QL Turboquill described as "Absolutely Essential" by *QL World* now has even faster version, QL Turboquill + for expanded memories QLs only. QL Turboquill + only £13.50 please state mdv or 3-5 inch disc & quill version.

To take advantage of these very low prices, send cheque/P.O. to:

### Athene Consultants

Dept (POP), 33 Holly Grove,  
Fareham, Hants PO16 7UP  
Tel: 0329 282083  
Prestel MBX 329282083

CALL FOR THE LOWEST  
PRICES FOR QUANTITY IN U.K. (414)

(548)



**AMIGA A500 NOW IN STOCK  
FOR ONLY £439.95**

**AMIGA HARDWARE**

	RRP	OUR
Amiga A500 + 1081 colour monitor	£918.85	£879.95
Amiga 200	£1259.25	£1094.95
XT Bridge Card (Amiga 2000)	£573.85	£499.94
Internal 1 Meg Disc Drive (Amiga 2000)	£228.85	£139.95
1010 External Disc Drive	£286.85	£259.95
Amiga Internal 1 Meg Upgrade	£113.85	£99.95
Triangle 1 Meg Disc Drive	—	£139.95
Cumana 1 Meg Disc Drive	—	£139.95
Amiga (2000) 2 Meg RAM expansion	£458.85	£399.95
Commodore 64 C pack	—	£169.00

Now in stock SEGA Master Systems £99, + software now in stock

**AMIGA SOFTWARE**

Barbarian	£19.95	Chess Master 2000	£19.95
Gold Runner	£19.95	Earl Weaver Baseball	£24.95
Terrapods	£19.95	Seven Cities of Gold	£12.95
Ogre	£19.95	Mean 18 Golf	£24.95
Archon/toni	£17.95	Deep Space	£24.95
Flight Sim II	£39.95	Area/Bratticus	£29.95
Deluxe Paint II	£69.95	Diablo	£16.95
Marble Madness	£16.95	Alien Strike	£11.95
Instant Music	£19.95	Mouse Trap	£12.95
Sinbad	£34.95	Plutos	£12.95
Super Huey	£16.95	Road War 2000	£19.95
Bards Tale	£19.95	Portal	£29.95

**BUSINESS SOFTWARE**

Word Perfect	£239.95
Super Base	£79.95

More Software than we can show please ring.

**We are a Commodore appointed dealer  
All trade enquiries welcome**

**ATARI 520 STFM NOW IN STOCK FOR  
NEW PRICE ONLY £289.95**

Includes mouse controller, manual, language disc and starter pack

	RRP	OUR
Atari 1040 ST	£499.95	£459.95
Atari 1040-ST + SM125 mono monitor	£599.95	£559.95
Atari 520 STFM	£299.95	£289.00
Atari Mega ST 2 + SM125 mono monitor	£999.95	£894.95
Mega ST4 + SM125 mono monitor	£1205.95	£1149.95
Atari 12" medium res colour monitor	£399.99	£369.95
Triangle 1 meg drive	£159.95	£139.95
Cumana 1 meg drive	£159.95	£144.85

**ST SOFTWARE AT GIVEAWAY PRICES**

Flight Sim. II	£39.95	Art Director	£39.95
Knight Hawk	£16.95	Fantasy III	£19.95
Arctic Fox	£16.95	Barbarian	£19.95
Music Construction set	£19.95	Mud Pies	£6.95
Bards Tale	£19.95	Indiana Jones	£16.95
Gato	£24.95	Trivial Pursuits	£16.95
Eagles Nest	£16.95	Impact	£12.95
Flip Side	£6.95	Barbarian (Palace)	£16.95
Terrapods	£19.95	Rama Rama	£16.95
Centinel	£16.95	Timeblast	£9.95
Degas Elite	£24.95	Plutos	£9.95
Chess Master 2000	£19.95	Diablo	£16.95
Sky Fox	£14.95	3D Galax	£15.95

**BLANK DISCS**

10	20	50	100
£11.95	£23.50	£54.95	£105.00

Trade enquiries welcome

Lockable disc boxes 3.5" holds 80 .....£9.95

Spend over £50 on Software and get a Free Calculator



**SOUND N VISION**



11 Silk St, Leigh, Lancs WN7 1AW.  
Phone now for details - Tel: (0942) 673689

Cheques and P/Orders payable to: Sound N Vision P.&P./VAT INCLUDED

Visitors welcome in showroom. Send S.A.E. for price list.

(534)

**GRAPHIX**

Serious computer application used around the Amiga computer, video packages, gen-lock devices, titling packages, digitisers, camera etc.

Graphics packages, drawing tablets, input devices, all graphic software supplied.

Design, animation, cartooning, home desk-top publishing.

Laser printers, new 24-pin printers, colour printers - all Commodore software supplied.

**Phone 0760 24947 (9am to 9pm)  
Monday to Saturday for prices  
on any of the above.**

(544)

**SPECIAL CHRISTMAS OFFER  
ON ALL COMPUTER REPAIRS**

AMSTRAD CPC 128	£17.60	AMSTRAD PCW 8512 (+ parts)	£18.00
BBC B	£17.60	ACORN COMPACT	£18.00
COMMODORE 64	£17.60	COMMODORE 128	£18.00
ATARI 130 XE	£17.60	ATARI 520 ST	£18.00

PRICES NOT INC. PARTS OR VAT

1 week turnover. Free collection for businesses.

**WINTER ELECTRONICS**

Unit 30F, Atlas Village, Oxgate Lane,  
Staples Corner, London NW2 THU.

Telephone office hours 9-5.  
**01-452 5660**

**COME ALONG AND DROP IT IN  
OR PHONE US PLEASE BEFORE SENDING.**

(551)

**Phone for the best price**

5 1/4" DS/DD	3 1/2" DS/DD
10.....£5.90	10.....£9.50
25.....£12.50	25.....£23.50
50.....£19.95	50.....£45.00

3" MIMIC CF2 (10).....£20.00

80 capacity 5 1/4" LSB.....£8.00	Spectrum 128+.....£99.00
100 capacity 5 1/4" LSB.....£11.00	Citizen 2 col. dot matrix printer £28.95
3 1/2"/5 1/4" library cases.....95p	Datex Microstick joystick.....£8.99
40 capacity 3 1/2" LSB.....£7.95	C2N data recorder.....£25.99

All prices include VAT and postage.

ALL TRADE ENQUIRIES WELCOME.

**M.D.S. Computer Supplies**

11 Church Street, Banbridge BT32 4AA

24-hour Credit Card Hotline  
08206 23477

Enquiries - Tel: 08206 23399

A Division of Brocklis Enterprises Ltd.



(468)



FOR SALE

# PANTHER SOFTWARE!

"The No. 1 Mail Order Centre"

More stock than you can imagine. Please send S.A.E. envelope for list, state which computer you want info on.



Title	Our Price
Peripherals	
Joystick IBM	21.99
Light Pen Amstrad PC1512	17.95
Mouse IBM	65.95
Mouse Mat	2.25
5xCI5 Standard Tape	1.80
IOXC15 Standard Tape	3.40
Joystick 125-Cheetah	6.95
Joystick Match I	12.99
Joystick Quickshot II	6.95
Joystick Quickshot II Plus	9.95
IBM PC Games	
Borrowed Time	20.95
Championship Golf	30.95

Title	Our Price
Basketball	22.49
Portal	22.49
Fourth Protocol	17.95
Bridgemaster	17.95
Alex Higgins Snooker	17.95
Cyrus II Chess	17.95
Winter Games	17.95
Pit Stop 2	17.95
Fahrenheit 451	17.95
Trivial Pursuit	22.49
Jewel of Darkness	13.49
Saboteur 2	17.95
Space Max	39.99
Deadline	26.49
Passengers On The Wind	22.49
Hobbit	26.49
F15 Strike Eagle	19.49
Solo Flight	17.95
Top Gun	17.95
G.A.T.O.	22.49
World Games	22.49

Title	Our Price
Basketball	22.49
Int. Karate	17.95
Little Comp. People	30.95
Skyfox	22.49
Trailblazer	22.49
Leather Goddess Of Phobos	26.49
Deadline	26.49
Passengers On The Wind	22.49
Turbo G.T.	13.95
Ninja	9.49
Karate Kid 2	22.49
Airball	22.49
F15 Strike Eagle	19.49
Ultima 3	22.49
Balance Of Power	26.49
Chess	22.49
Hardball	22.49
Leaderball Golf	22.49
Roadwar 2000	22.49
Winter Games	22.49

Title	Our Price
World Games	22.49
Print Master	26.49
Hobswriter	52.95
Lattice C Compiler	87.95
Animator	26.49
AMICA Games	
Golf	30.95
Hollywood in jinx	26.49
7 Cities of Gold	26.49
Skyfox	26.49
Arctic Fox	26.49
Ballyhoo	26.49
Moon Mist	26.49
Silent Service	22.49
Balance Of Power	34.95
Simbad	34.94
S.D.I.	26.49
Deep Space	26.49
Winter Games	22.49

Title	Our Price
Music Studio	30.95
Mr-Amiga File	87.95
Lattice C	113.95
Lisp	129.95
Pascal	70.95
☆☆☆ DISKS ☆☆☆	
10x5.25 DS 48TPI disks & plastic library case	8.99
10x5.25 DS 48TPI disks	7.49
20x5.25 DS 48TPI disks	13.99
25x5.25 DS 48TPI disks	16.49
50x5.25 DS 48TPI disks	28.99
10x3.25 DS 96TPI disks	8.49
25x5.25 DS 96TPI disks	17.49
100 Capacity 5.25 lockable disk box (supplied with dividers and keys)	13.99



Please make all cheques payable to PANTHER SOFTWARE, 2 Riverway Gardens, The Meadows, Nottingham NG2 3LL or Phone: The Hotline 0602 860 664

Orders under £7.00 please add 50p for P&P.

Central Media shop now open at address below

## CENTRAL MEDIA

### 3.5 INCH DISCS

10 UNBRANDED S/S D/D £9.50  
10 UNBRANDED D/S D/D £10.00

### 5.25 INCH DISCS

10 DATATECH D/S D/D 96tpi £7.99  
10 DATATECH D/S D/D 48tpi £6.50  
10 TDK S/S D/D 48tpi £5.99  
10 AMSOFT CF2 3" £24.00

All prices inc. VAT & P.&P.

TRADE ENQUIRIES WELCOME

ALL CHEQUES & PO's PAYABLE TO  
CENTRAL MEDIA

101 SPRING BANK, HULL HU3 1BH TEL: (0482) 26581 (493)

WE SELL  
ATARI ST  
HARDWARE  
Ring for  
details

520 STFM  
£275  
1040 - £475

We sell  
the AMIGA  
Genlock  
computerised  
video system,  
ring for  
details you  
will not be  
disappointed

## AMAZING

This is the verdict from all our customers who purchased a copy of "The Gamester". This is a truly unique utility that allows the user to gain infinite lives on most types of games, and includes the brilliant "Stomo" device, to slow down most programs to your desired speed. Win all those top prizes with "The Gamester".

"Well worth buying . . ." CRASH  
"Very easy to use . . ." A.S.D. Mid-Glamorgan  
"Absolutely brilliant, now I play all those impossible games and easily gain high scores." R.D. Manchester

Spectrum 48+/128/+2/+3

Compatible with Multiface 1/Multiface 128/Snapshot

R.R.P. £9.99.....MAIL ORDER £5

Cheques/POs to:

S.U., 155 Wash Lane, Yardley, Birmingham B25 8PX

SAME DAY DESPATCH

(540)

35 LONDON ROAD, TOOTING,  
LONDON SW17 9JR

TIMESOFT TEL: 01-685 9849

PLEASE PHONE IF YOU DO NOT SEE WHAT YOU WANT !!!



### ATARI ST

#### NEW RELEASES

Defender Of The Crown	£24.95
Marble Madness	£19.95
Academy	£19.95
Bardstale	£19.95
Tai-Pan	£14.50
TNT	£14.50
Phantasie 3	£17.50
Guild Of Thieves	£17.50
Fahrenheit 451	£9.95
Perry Mason	£9.95
Impact	£11.95
F15 Strike Eagle	£16.95
Boulderdash Con. Set	£9.95
Winter Games	£14.50
Golden Path	£12.95
Strike Force Harrier	£14.50
Silicon Dreams	£9.95
Chessmaster 2000	£18.95
Thai Boxing	£9.95
Barbarian	£11.95

### AMIGA

#### NEW RELEASES

Marble Madness	£15.95
GFL Football	£17.95
Deluxe Paint 2	£64.95
Kings Quest 3	£13.95
Sky Fox	£13.95
Winter Games	£18.95
Fairy Tale Adventure	£34.95
Chess Master 2000	£19.95
Gold Runner	£18.95
Arctic Fox	£14.95
Defender Of The Crown	£19.95
Impact	£11.50
Silent Service	£18.95
Terrorpods	£18.95
Bardstale	£19.95
Rocket Attack	£7.95
Flight Simulator 2	£34.95
Mouse Trap	£11.50
Barbarian	£17.95
Ogre	£17.50
Guild Of Thieves	£17.95
Phalanx	£6.95

PLEASE MAKE ALL CHEQUES  
PAYABLE TO TIMESOFT!

IF YOU DO NOT SEE WHAT YOU REQUIRE PLEASE  
PHONE FOR A LOW PRICE.

(496)

## YOUR LAST CHANCE TO BUY!!

- \* SPECTRUM  
48K + £54.95.....28K £74.95  
RECONDITIONED, TESTED, AS NEW.
- \* ALPHACOM 32 PRINTERS..... £42.00
- \* EXPANSION PACKS..... £59.95  
INCLUDES MICRODRIVE, I/FACE 1, BOOKLET, NETWORK LEAD, INSTRUCTION CARTRIDGE AND FLEX.
- \* MICRODRIVES WITH SOLID CONNECTOR... £24.95
- \* SUPADRIVE UTILITY..... £7.95  
FORMATS TO LOOK, FINDS FILES ETC.
- \* ACCESSORIES  
MICRODRIVE FLEX CONNECTOR..... £3.50  
MICRODRIVE SOLID CONNECTOR..... £3.50  
NETWORK LEAD..... £3.50  
DEMO-INTRO CARTRIDGE..... £5.50  
CARTRIDGE BLANKS (10)..... £16.00  
CARTRIDGE SINGLE..... £1.75
- \* POWER SUPPLIES  
SPECTRUM AND SP+ (1400mA)..... £8.95  
128K (1850mA)..... £9.95
- \* RS 232 PRINTER LEADS..... £12.95

MINIMUM ORDER £10, UNDER £35 ADD £2 P.&P. OVERSEAS  
ADD £4. TERMS C.W.O. OR VISA.

ORDERS TO EEC LTD, 18-21 MISBOURNE HOUSE,  
CHILTERN HILL, CHALFONT-ST-PETER,  
BUCKS SL9 9UE. Tel: 0753 888866.

(552)



# PRINTER SALE

STAR NL10 ..... £229

CITIZEN 120-D ..... £169

OLIVETTI SPARK JET ..... £69

PANASONIC 1081 ..... £189

C.B.M. PLOTTER ..... £29

ACCESSORIES ALSO IN STOCK

## THE COMPUTER DEPOT

205 Buchanan Street  
Glasgow G1 2JZ  
Telephone: 041-332 3944



(545)

# SALE

WHILE STOCKS LAST

**SPECTRUM + £54**  
**MICRODRIVES £20**  
**CARTRIDGES 10 for £16**

## PRINTERS

**ALPHACOM 32 £85**  
**\*ALPHACOM 42 £38**  
**\*ALPHACOM 81 £40**

\*Only for BBC and Atari

PLEASE ADD 15% VAT and £2 p.&p.

## JRC CAMERAS

3 CHESTNUT WALK, CHALFONT-ST-PETER, BUCKS. Tel: 0753 886286

(549)

## KENT BARGAINS

Generous discount on  
**ATARI and COMMODORE software**

SPECIALISTS IN BBC AND AMSTRAD

**Master Compact ..... SAVE £300**  
— BUSINESS OFFER

**Amstrad PC1512 ..... SAVE £100**  
— BUSINESS PACK

BUY A PRINTER AND  
WE PAY THE

V.A.T.

EDUCATIONAL SOFTWARE A SPECIALITY

**Lighthouse Computer Service**  
4 Park Avenue, Deal. Tel: (0304) 362049

(537)

SOFTWARE CITY BARGAINS SOFTWARE CITY BARGAINS

## NEW AND USED BARGAINS

### USED COMPUTERS

Spectrum 48K	£39.00
Spectrum Plus	£53.00
Spectrum 128K	£85.00
Commodore 64	£99.00
BBC Model B	£299.00
BBC Master (twin drives)	£350.00

### USED PERIPHERALS

Opus Discovery	£135.00
Opus Twin	£175.00
1541 Drive	£120.00
C64 Datasette	£20.00
MP5801 Printer	£99.00

### NEW COMPUTERS

Spectrum Plus	£79.00
Sinclair QL	£119.00
Acorn Electron	£69.00

### NEW INTERFACE

Competition Pro	£6.95
Ram Turbo	£12.95
Electron Interface	£13.95

### NEW JOYSTICKS

Konix Speed King	£9.95
Starfighter	£8.95
Competition Pro 5000	£9.95
Tac-3	£10.95
Tac-5	£11.95
Quickshot II Turbo	£10.95
Slik Stik	£5.95
Moonraker I	£4.50

### NEW SPARES

Spectrum PSU	£9.95
Commodore PSU	£19.95
4815 Membrane	£4.95
Plus Membrane	£7.95
48K Template	£2.95
Cassette leads	£1.50
Ariel leads	£1.50
Plus case	£25.00

All prices include VAT & P.&P. Add £15 for Securicor delivery. All items include a 3 months guarantee. Please allow 14 days for delivery.

## SOFTWARE CITY (PCW)

173 Mansfield Rd  
Nottingham NG1 3FR  
Tel: (0602) 410493

WANTED: COMPUTERS AND SOFTWARE  
PHONE FOR A QUOTE OR  
SEND YOUR EQUIPMENT FOR A CHEQUE BY RETURN

(553)

## We've got you covered with Seal 'n' Type



- \* Protective keyboard cover through which you can type freely & easily.
- \* 24-hour dust/spill cover.
- \* Removable, washable, re-usable.

£10.55

Patent & registered design pending

### Screen 'n' View £14.50

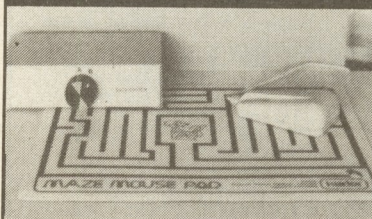
- \* Superior anti-glare VDU filter.
- \* Ultra-fine framed mesh. Velcro fittings.
- \* Available for mono or chromo.

### Plonker Box £4.99

- \* Working disc holder.
- \* Plonk your discs out of harm's way.
- \* Holds all standard sizes of discs.

### Data Switch Box £26.95

- \* Provides easy switching of data from PC to 2 outlets: printers/micros/modems.
- \* No more constant plugging and unplugging. Cables £5.75 each.



### Kador Mouse Pad £5.95

- \* Prolongs life of your mouse & protects work surface.
- \* Generous size (34x29cm).
- \* Anti-friction, anti-static.

## SEND FOR OUR CHRISTMAS CATALOGUE

Cheques/P.O. payable to KADOR, P.O. Box 20,  
Prices are fully inclusive Ashford, Middx. TW15 3QE.

**kador**



## SERVICES

400/800 **LOOK** NOW  
XL/LE **ST**

**ATARI OWNERS**

Are you having difficulty finding suitable software. If so, then look no further. We have available for both hire and purchase one of the largest selections of both the UK and American titles to choose from. Games and Utilities for all ages. Hardware and add-on utilities at discount prices and special deals regularly being offered. If you would like further information please send a large s.a.e. to:

**CHARWOOD PRODUCTS AND GAMES**  
30A Warwick Avenue, Quorn, Loughborough  
Leicestershire LE12 8HD  
Tel: 0509 412604 (465)

**AMIGA**  
**PUBLIC DOMAIN SOFTWARE**

We have the very latest Fish # numbers #1 to #88 and Amicus numbers #1 to #22 disks in stock. For full details of programme content PLUS Tutorial "PD Without Tears" PLUS the JUMPDISK Magscon PLUS a collection of programmes and articles from previous issues of JUMPDISK. Please send a \$3.50 cheque/PO for the "JUMPDISK SAMPLER". We will send a copy by return.

**George Thompson Services Ltd.**  
Dippen Lodge, Dippen, Brodick, Arran,  
Scotland KA27 8RN. Tel: 077082 234 (291)

**ATARI ST**  
**PUBLIC DOMAIN**

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

**Discs from £2.50**

**MCISOFT**  
9 Abingdon Gardens, Bath,  
Avon BA2 2UY (178)

**EAST LONDON MICRO**  
**SERVICE CENTRE**

Spectrum, Commodore, Amstrad, Atari, MSX plus peripherals.  
Turnaround typical of 2-5 days.  
Three months warranty guaranteed.  
Computer ICs Eprol 74LS series.  
Linear ICs components sold.  
Diskettes Branded

10 5 1/2 ..... £8.50  
10 3 1/2 ..... £13.00  
Power supplies C64 ..... £25.00  
Spectrum ..... £9.95

Accessories sold. Mail order trade enquiries welcome.  
Open 9am-8pm Mon.-Sat

**SAN ELECTRONICS**  
63 Plashet Grove, East Ham  
London E6 1AD  
Tel: 01-472 4871  
Four minutes walk from Upton Park Tube Station,  
(358)

**COMMODORE 64**, C2M 2, joystick, over £350 of software and games, £275 o.n.o. Tel: Antony 01-908 3019.

**QL ZITASOFT WARE**

**SIDEWINDER** v0.3 Mono screen dump for Egon and compatibles. Create your own screens, draw, plot, text insertion, full or partial scr, upright /sideways. Make your own 20 foot banners or posters, mass produce mdv/address labels, letterheads etc. Proportional/squashed/stretched fonts. Save screens from within other jobs. Gives your QL abilities unique on any machine including Big Blue & the big boys with laser printer. S.A.E. for example dumps and details. See review QL World Sept 87. "Absolutely top marks for a superb program".

**TOOLCHEST** toolkit to read and write mdv sectors corrupt, file rescue etc. About 40 FNs with hex Ascii display formatting. Write your own doctor, mem or ED prog in Basic easily or use the customisable editor provided.

**LOCKSMITH** a VERY fast MDV copier with 3 copiers in one. Deals with more than just "most software", it "keys" for all, no other program can claim this. Easy to use just press a key. No more corrupt master mdvs with Locksmithie around.

**4MATTER** v0.3 (includes Locksmithie). The best all round copier with nothing nearly as successful at MDV to disc (lone running) copies. Includes file-sector editor. LEGAL USERS ONLY.

**SHRIVEL** Delux memory shrink program installs selectable 128/192/256K etc auto shrink on any basic boot file. Very easy to use.

**SIDEWINDER** = £10. **4MATTER** £18. **SHRIVEL** = £5. **TOOLCHEST** = £8. (inc. p.80. to Europe). Cheques/POs to: Steve Jones, ZITASOFT, 93 FOXBOURNE ROAD, LONDON SW17 8EN.  
Other suppliers Care Electronics/Curry Computer U.S.A. (532)

**COMPUTER REPAIRS**  
*Fixed Super Low Prices!*  
Inclusive of parts, labour and VAT

**1 week turnround**  
**Free collections/delivery available for local area**

★ **AUTUMN OFFERS** ★

SPECTRUMS	£14 inc. + Free Game
C64	£22 inc. + Free Game
C16	£18 inc.
VIC20, C+4	£22 inc.
BBC	£32 inc.
ELECTRON	£19 inc.
AMSTRAD 464	£32 inc. + Free Game
SPECTRUM 128	£16 inc.
C64 P.S.U. FOR SALE	£20 inc.

Please enclose payment with item - 3 month warranty on repair  
Please enclose advert with repair

**W.T.S. ELECTRONICS** (182)  
5-9 Portland Road, Luton, Beds LU4 8AT. Tel: 0582 458375. Telex: 265871

## FOR SALE

Central Media shop now open at address below  
**CENTRAL MEDIA**



"EVERY CHRISTMAS I HAVE TO DELIVER GOODS BY DECEMBER 24th. I AM SO HAPPY ONE COMPANY CAN DO THE SAME"

**ATARI**

1040 STF + mouse + 5 pd discs + 5 blank discs. Only £469.00.

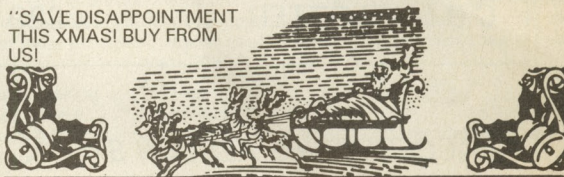
520 STFM As above £274.00.

ATARI CORP. 10Mb hard drive SH204/5 £519.00.

Coming next month the ADR 20MB hard drive only £449.00

RING US FOR INFO ON THIS BRAND NEW PRODUCT

"SAVE DISAPPOINTMENT THIS XMAS! BUY FROM US!"



ALL CHEQUES & PO's PAYABLE TO

**CENTRAL MEDIA**

101 SPRING BANK, HULL HU3 1BH  
TEL: (0482) 26581 (550)

**ALADDINK**

**FABRIC RIBBON CASSETTE RE-INKING**  
Trial offer: £1 per ribbon  
Post used cassettes with payment to:  
**ALADDINK (Dept PC)**,  
4 Hurkur Crescent, Eyemouth,  
Berwickshire TD14 5AP  
Tel: 08907 50965 (338)

**FLOPPY SHOP ST USER GROUP**  
**AND PUBLIC DOMAIN LIBRARY**

You'll be amazed at our large selection of games, utilities, languages and demos. Our new membership is only £5.00. Full user support provided through our own magazine, (FREE to members). Send large S.A.E. for further details to:

**Floppy Shop ST**  
50 Stewart Crescent, Northfield, Aberdeen AB2 5SR (513)

**BLANK CASSETTES**

WITH LIBRARY CASES

C10	C15	C20	C30	
20	7.50	7.70	7.90	8.70
50	16.00	16.20	16.90	18.50
100	29.00	30.00	31.00	35.00

Fully Inclusive (C.O.D. £1 extra)

**DISKS**

10 5 1/4 DS/DD £6.00 inc. case  
10 3 1/2" SS/DD £11 inc. case  
10 MAXELL 3" CF2 £20

**MEMOTECH COMPUTERS**  
**AND ACCESSORIES**

MTX 512 COMPUTER	£43.00
DMX 80 PRINTER	£150.00
RS232	£30.00
PASCAL ROM	£30.00
SPECULATOR ROM	£30.00
1/2 mb. DISK DRIVE & INTERFACE	£160
1 mb. DISK DRIVE & INTERFACE	£160

All the above prices are fully inclusive. We stock the entire Memotech Range. Order/Enquiries to:

**UK HOME COMPUTERS**  
82 CHURCHWARD AVE, SWINDON,  
WILTS SN2 1NH  
24-hr Phone Service 0793 695034

**CUT PRICE SOFTWARE**

BBC, Spectrum, Amstrad, Commodore 64/128, Amiga, QL etc.  
Send S.A.E. for free price list. State which machine.  
11 Gorseley Hay, Westhoughton,  
Lancs BL5 2AH  
Tel: 0942 811233 (515)

**FOR SALE ST - SOFTWARE:**  
Word Writer ST £40; Flight Simulator 2 £22; TNT, Prohibition, Silent Service, Leader Board, Knight Orc, Guild of Thieves, Tenth Frame, Goldrunner £10 each. Ring 0822 852796.

**AMSTRAD 6128**, green, £160. Rombox, Protex, Prospell, Maxam, £50. Second drive, £45. Original packing. Tel: 01-992 2281.

**ATARI ST USERS**, have access to your joystick/mouse ports for awkward software. Extension leads £3.95 each. Also the latest ST software to swap. Tel: David on 0292 541283 (nights).

**AMIGA** monitor leads, suitable for Philips and Thomson monitor £15.50 each. Psion Organiser II (XP) £124 and all accessories. Tel: 0293 553 219 (Answerphone).

**AMSTRAD CPC6128**, colour monitor, printer, digitiser, ROM board, mouse, lots of software, many discs, £500. Tel: 092 946 2872.

**SPECTRUM** + cassette recorder, joystick and interface, and 8 original games. All for just £90 o.n.o. Tel: 01-639 3872. (After 4pm and ask for Lewis). All in mint condition.

**IDEAL XMAS GIFT. CBM 64**, 1541 disc drive, C2N, numerous discs, tapes, magazines, £200 o.n.o. Tel: Mark, 0742 314053. (Evenings on weekdays please!)

**BARGAIN JOYSTICKS**, Standard plug, Commodore, Atari, Spectrum etc. £2.50 each, for for £11, 10 for £21 inclusive. Send cheque/p.o. to: Pastel Craft, 90 Wellington Road, Boston, Lincs PE21 0LE.

**SPECTRUM**  
MICRO DRIVE OWNERS

**OUTLET**

The new electronic magazine. For a copy send £1.00 and a blank cartridge.

S.A.E. for details or log onto Micronet

**Chevron Software**  
605 Loughborough Road,  
Birstall, Leics LE4 4NJ (504)



## FORM FINDER RACE RATING SYSTEM

Rates, Races in Seconds using information from the racecard appearing in your daily paper. No updating of data required, systems lasts virtually for ever. Can be used for National Hunt and Flat racing all year round.

Saturday 5th September 1987, 14 races to rate,  
**8 WINNERS CLEARLY RATED.**

Actual results: W 7/1	W 13/8
W 4/1	W 6/4
W 5/2	W 11/8
W 2/1	W 8/11
2nd 2/1	(Five unplaced)

Non BBC/Electron owners can produce the system to use independently of their micro, ratings produced are exactly the same, but if preferred the method can be converted into programme form.

BBC/Electron owners can purchase this system in ready made programme form.

**BBC/Electron Cassette..... £15.00**  
**or Rating System..... £15.00**

Also available

## FORM FINDER II Fixed Odds/Pools Forecaster

Requires no updating of data; can be used in any league; Australian, Vauxhall/Opel, British etc.

Type in details from the fixtures list appearing in your daily paper for forecasts of Homes, Away, Score and No-Score draws of any match displayed in seconds. Use the perm we suggest for guaranteed winning lines within 12 weeks or money refunded.

**BBC/Electron Cassette..... £15.00**  
(Others—S.A.E. for details)

All orders/enquiries to:

**ALLAN DATA (PC5),**  
1 Lorn Road, Dunbeg, Connel, Argyll PA37 1QG.

All orders despatched by return  
Telephone 0631 62923

(463)

# MEGA MAG DISK

The Magazine on disk for the Amiga, and coming soon for Commodore 64.

Price **£5.00** monthly.

Send cheques/POs, made payable to:  
**Mega Mag Disks** or write for info to:

**Izy Farm, Fox Hole, Saxlingham,  
Nethergate, Norwich, Norfolk NR15 1UG**

(547)

## PUBLIC DOMAIN SOFTWARE FOR IBM/AMSTRAD PCs

We have an excellent selection of software including – PC-Write, New York Word, PC File, PC File+, PC Calc, Spelling Checker, Chiwriter, PC Tutor, PC Desktteam, PC Outline, Procomm, DOS utilities, file utilities, hard disk utilities, backup utilities, graphics utilities, dozens of games and adventures, and much, much more. New US imports every month. 10 disk Starrite pack only £25.00, 5 disk compilation sets only £12.00, all others only £3.00 per disk.

SEND SAE for FREE 'Shareware News and Catalogue'.  
NO MEMBERSHIP FEES!  
Overseas enquiries welcome.

(125)

**PC-STAR**  
P.O. Box 164, Cardiff CF5 3YB



AVON COMPUTER EXCHANGE

Bristol: 42 Cannon St, Bedminster BS5 1BN. Tel: 0272 637981.  
Bristol: 126 Church Rd, Redfield BS5 9HH. Tel: 0272 542116.  
Cardiff: 87 City Rd, CF2 3BL. Tel: 0222 483069.  
Swindon: 31A Faringdon Rd, SN1 5AR. Tel: 0793 512074.

(518)

**ATARI 520 STFM – £299**  
(with 10 software discs)

**AMIGA A500 – £469**

**COMMODORE 154/C  
disc drive – £169**

**COMMODORE 64C PACK – £159**  
64C, C2N cassette recorder, 10 games and joystick.

Best printer on the market.

**PANASONIC KXP-1082 – £179**  
ALL PRICES INCLUDING VAT + FREE  
DELIVERY IN MAINLAND UK

## BUSINESS

30 MBYTE XT IBM COMPATIBLE



- ★ 4.77/8 DUAL SPEED
- ★ 640K RAM
- ★ 360K DISC DRIVE
- ★ HI-RES AMBER MONITOR
- ★ PHOENIX BIOS

**£845.00 + VAT**

net working from

**£299.00**

EPOS SYSTEM

from **£799.00**

Export and trade enquiries welcome.

AUTHORISED DEALER OF:

**ATARI**

**AMSTRAD**

**Acorn**

**Panasonic**

**commodore**

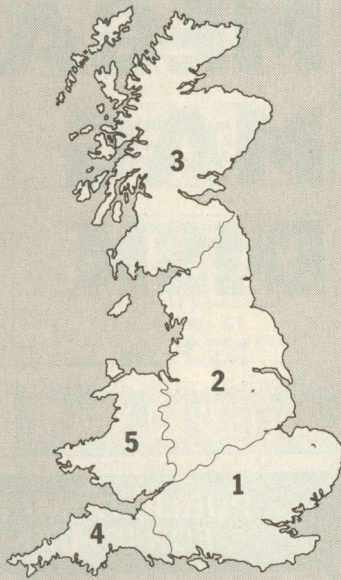
**Opus.**

**micro**

**SLOGGER**



# M



# CRO SLE

## 1 THE SOUTH EAST

### LONDON

#### DIGITAL SHADES LTD

#### ✓ Amiga 500 Special offers

- ★ A500 plus starter kit & modulator
- ☆ £499 ☆

#### ▲ Atari ST Special offers

- ★ Atari 520 STFm plus starter kit
- ☆ £260 ☆

*If you can't see the machine, peripheral, or software you want, then ring now for new low prices or send S.A.E. for mailing list.*

(378)

Mail order hotline 01-471 7969

All prices include VAT

9 Selsdon Road, Upton Park, London E13 9BY

### SOUTHEND-ON-SEA

## ESTUARY PERSONAL COMPUTERS

Commodore's Amiga A500 available NOW. Call for price.  
Buy the Atari STFm at the new price – only £299 inc. VAT.

Software at discount prices.

**Victoria Circus Shopping Centre**  
(escalator from railway station)  
Southend on Sea

**Tel: (0702) 614131**

(289)

### SOUTHEND

#### A.S. and T. Ltd.

Largest Atari St dealer in Essex

Tel: 0702 510151  
Unit 32/33  
Rutherford Close  
Eastwood Industrial Estate  
Leigh-on-Sea  
Essex

(Progress Road/A127)

(388)

## 3 SCOTLAND

### GLASGOW

#### GLASGOW COMPUTER CENTRE

Atari appointed dealer  
and Service Centre  
Specialists in Atari ST Computers

VIRGINIA GALLERIES  
(1st FLOOR)

33 VIRGINIA STREET  
GLASGOW G1 1TU

TEL: 041-552 1522

(136)

### EDINBURGH

The **AMIGA**  
**CENTRE SCOTLAND**  
Commodore Business Centre  
Amiga Specialists since 1985

Amiga A500 and A2000 now available.  
Technical and software support to our customers. Full range of AMIGA software and peripherals.

Send S.A.E. for our software catalogue

4 Hart Street Lane  
Edinburgh EH1 3RN

Tel: 031-557 4242 (24 hrs.)

(379)

### ABERDARE

#### VETA LTD

Your one stop computer shop.  
Business/home computers  
and software.

Micro repairs  
Mail order service

13 John Street, Abercwmboi, Aberdare,  
Mid Glam CF44 6BL

Tel: 0443 478777

24-hour answer service.  
Approved dealers for Amstrad  
and Epson

(514)

## DEALERS!

You can reach 40,000 readers for as little as £25 a week!  
For more details phone Susannah on 01-834 1717



## 3 SCOTLAND

Computer  
Centre

# STar U.K.

Computer  
Centre

You can come and see us at

COTTONHOUSE, 493 UNION ST, ABERDEEN, SCOTLAND AB1 2DB.  
TEL: (0224) 581 858. ALL ENQUIRIES PLEASE PHONE GARY EXT 28

**ATARI 520 STFM WITH PSU, MOUSE, MODULATOR,  
FREE P.D. SOFTWARE AND 1 YEARS SUBSCRIPTION  
TO STar U.K. - ONLY £279.95**

**MEGA ST's PHONE FOR BEST PRICES IN U.K.  
GUARANTEED!!!**

**ATARI LAZER PRINTER £999.99**

**WE STOCK MOST ST PRODUCTS - AT BEST PRICES!  
WITH ALL ST MACHINES PRO COPY ONLY £15.00**

\* **HARD DISK DRIVES** \*

\* **ATARI MONITORS** \*

\* **MEGA ST2, MEGA ST4, 1040STF.** \*

**WE SUPPLY ALL ST SOFTWARE  
PRO COPY ST Ver 1.41 NOW ONLY £27!!**

AMIGA, AMSTRAD, ACORN, Modem printers etc.  
Phone for Best Prices

**For ALL your ST needs - Look no further!**

**ALL Public Domain software only £1.**

We have over 100 disks of excellent quality

And all at only £1 each - Why pay more?

Send S.A.E. for P.D. list & Info sheet!

**REMEMBER OUR GREAT NEWSLETTER**

## AIRDRIE

# J.C.S.

☆ **Atari 520 STFM - £299**  
Including starter pack

☆ **Amiga A500 - £449**  
Including starter pack

☆ **Sega Master Systems - £94.95**

**ALL HARDWARE AND SOFTWARE  
AVAILABLE NOW!!**

**MAIL ORDER OFFER**

**4 Graham Street, Airdrie,  
Scotland ML6 6BU  
Telephone: (0236) 69874**

(546)

## 2 THE MIDLANDS AND NORTHERN ENGLAND

### ASHBY DE LA ZOUCH

#### ASHCOM

##### Atari hardware

520 STFM, keyboard/mouse/0.5 meg drive.....	£259.95
1040 STF keyboard/mouse/1 meg drive.....	£439.95
1040 STF plus colour monitor.....	£799.95
SF 314 1 meg drive.....	£169.95

##### Commodore Amiga range

A500 + Offer Pack + modulator.....	£435.00
A1010 disc-drive.....	£249.95
3.5 inch discs DD/DS guaranteed (packed in 10s).....	£12.00
50 bulk packed 3.5 inch discs DS/DD guaranteed.....	£25.00

Free public domain software on request with discs. All products fully guaranteed

Amazing prices on peripherals and all software. All prices include VAT at 15% and P&P on UK mainland. For more information call us on **(0530) 411485** or send SAE for full price list. To order send cheques/PO or Visa/Access details to the address below or phone with credit card.

#### ASHCOM

10 The Green, Ashby de la Zouch, Leicestershire LE6 5JU  
(437)

## CLEVELEYS

### ELM COMPUTING

Amiga A500 - £469 + VAT  
(Vouchers accepted)

Atari 520 STM - £269

Software for all machines at discount  
including ST Amiga, MSX, BBC etc.

	RRP	Our Price
ie: MSX Milk Race.....	£1.99	£1.79
ST Roadrunner.....	£24.99	£19.95

Send S.A.E. stating interest to:

ELM COMPUTING, 3c York Avenue,  
Cleveleys, Lancashire FY5 2UG  
Tel: 0253 852882 (443)

## BIRKENHEAD

### COMPUTER ADVENTURE WORLD

NEW SHOP NOW OPEN!

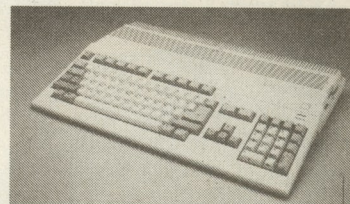
We stock: Atari 520, Apple, Commodore, Amiga, IBM, Amstrad PC.

1A Charing Cross, Birkenhead L41 6EJ.

Tel: 051-666 1132 (Mon/Sat 10am-5pm)

(516)

## GLASGOW



**£399.00 + free modulator**

### AUTUMN OFFERS FROM CITY CENTRE

AMIGA A500 (with modulator).....	£399
COMMODORE 64/Vic 20 power packs.....	£11.50

### DISCS! DISCS! DISCS! DISCS!

All discs come complete with labels

3.5" ds/dd discs 10.....	£10
3.5" ds/dd discs 25.....	£24
3.5" ds/dd discs 50.....	£47
3.5" ds/dd discs 100 (plus free lockable disc box)....	£93
3.5" ds/dd discs 200 (plus two lockable disc boxes)£	183
3.5" ds/dd discs 500 (plus five lockable disc boxes)£	447

Lockable disc box - for 80+ 3.5" discs	£9.95
Disc labels 1,000 for	£14.95
Plastic library case holds 10	£1.25

Prices include VAT and carriage in the UK

(488)

### CITY CENTRE COMPUTERS

136 Ingram Street, Glasgow G1. Tel: 041-552 4222



# No defence of the realms

**A**fter all this time the Amiga vs. ST debate still rumbles on. Sometimes someone says something new or interesting but such items are few and far between.

The arguments seem to be that the ST is cheaper and has more software in this country, while the Amiga is the better machine whose software scene is about two to six months behind the ST's, but can do things with its current software which ST owners can only dream about.

It seems to me that the most important thing about any computer is whether the owners are happy with it, and what it can do. If not, they get out of computing or buy a new machine (if they can afford to).

With all the sniping between both ST and Amiga owners there would appear to be a number of users on both sides who are having doubts about their choice of machine.

The argument will in the end hurt both machines. Someone reading through the computer press could become quite confused over which machine to buy, and may instead decide to play "safe" by buying an Amstrad or other 8-bit machine.

The future lies with both machines, and the success of both machines is important for the survival of the home computer industry and the software industry. 16/32 bits is the next level in computing and the hardware/software suppliers who don't recognise it shortly will be left behind to

fade away.

The cost is less important with such machines because as the 8-bit owners grow up, they get jobs and have more money to spend on their hobby than when they were at school. They are looking for something more from their computers which 8-bit machines just cannot give them.

Some software houses have been quick to spot the advantages in releasing a game on either machine. If they produce a brilliant game on, say the Amiga (eg *Defender of the Crown* or the *Fairy Tale Adventure*) the game tends to get a lot of publicity (lots of good colour photographs and rave reviews). Then they release versions for other machines. People already know the game and have been impressed.

If *Defender* had been released first on the C64, it would have been slated for being just a re-working of the old strategy game *Kingdom*.

Yet some companies are quite happy to port over games from 8-bit machines to the 16-bits without enhancing them. Such an attitude is very short sighted.

The 16-bit machines will be around for a long time, and their owners will not forget having been ripped off. So they will stick with the software houses they know can produce the goods for their machines.

By the way, does anyone know why the Amiga version of *Goldrunner* contains instructions on how to load it on an ST????

Andrew P. Fullen

THE SEARCH CONTINUES... since we launched our quest for new puzzle ideas last month, the response from you so far has been - well, underwhelming, to say the least.

There is still £20 waiting for the best idea submitted by a reader, and accepted as the new *Popular Computing Weekly* puzzle, and the closing date for the receipt of entries is November 7, so there's not long to go before your time's up.

Of course, having put it out to you, the readers, it may be that you'd prefer to retain the original puzzle. That is a possibility we are considering, and may well implement.

So it's up to you. You have until November 7th to tell us what you think. So either let us have your ideas for a new kind of puzzle - or let us know if you'd like to see the return of the original puzzle. Either way, we will do our best to arrange what you the readers would most want.

Please let us have your views either way. Write - by November 7th - to: Puzzle Ideas, Popular Computing Weekly, 3rd Floor, Greencoat House, Francis Street, London SW1P 1DG.

## HACKERS





# ACTION FORCE

INTERNATIONAL HEROES



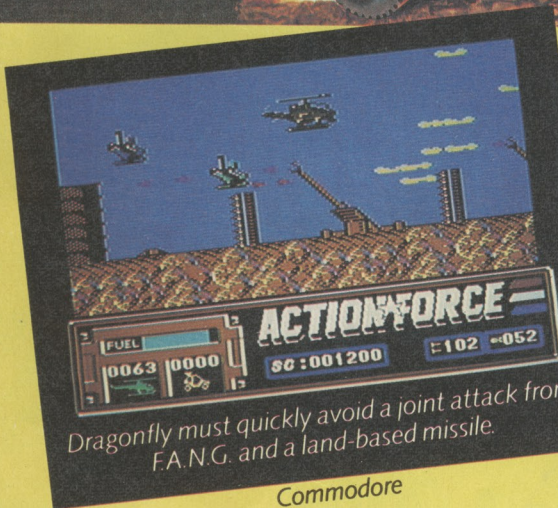
Gang of Five meet Action Force™. Virgin's Gang of Five have created the excitement of an Action Force™ adventure for your computer.

COBRA, the enemy, are attacking the military installation on the island of Botsneda. A.W.E Striker has been enlisted for the dangerous mission of rescuing classified information from the war-torn eastern sector.

Your part in the mission is to cover A.W.E Striker from the air. In the Spectrum version you are Snake Eyes, air-borne with a helipack. In the Commodore version you control Dragonfly helicopter. Both feature smooth scrolling, excellent graphics and fast arcade action that Gang of Five are famous for. You must clear a safe path for A.W.E Striker to successfully complete the mission.

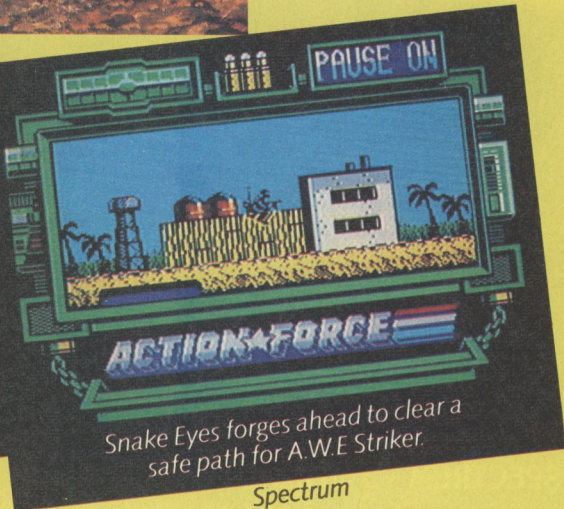
Commodore 64/128 cassette £9.95,  
Spectrum 48/128 cassette £9.95  
Spectrum + 3 disc £14.95

Action Force © 1987 Milton Bradley International Inc



Dragonfly must quickly avoid a joint attack from F.A.N.G. and a land-based missile.

Commodore



Snake Eyes forges ahead to clear a safe path for A.W.E Striker.

Spectrum

Please send me ACTION FORCE™.

Please make crossed cheques or postal orders payable to Virgin Games Ltd and send to Virgin Games Ltd, 2/4 Vernon Yard, Portobello Road, London W11 2DX.

PLEASE DO NOT POST COINS OR MONEY!

- Commodore 64/128 £9.95 cassette
- Spectrum 48/128 £9.95 cassette
- Spectrum + 3 £14.95 disc

Name \_\_\_\_\_

Address \_\_\_\_\_

Total enclosed \_\_\_\_\_



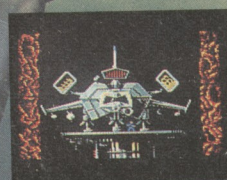
# TRANTOR

## THE LAST STORM TROOPER™

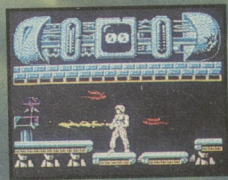
The order of the solar system as kept for thousands of years by the people of Zybor was coming apart. Growing dissatisfaction in outlying planet bodies increased as their technological achievements reached greater heights. Zybor reacted in the only way left to it whilst the technological advantage remained in its hands. From out of the ranks of the warriors forces where a brutal streak and rebellious nature made sure his talents never realised their full potential. His credentials were perfect his mission was simple, to lead a band of outlaw mercenaries and smash the growing power of the New World NEBULITHONE before its atomic threat turned into an awesome cataclysm of conflict. But the Nebithons were not unprepared and when on return from a reconnaissance scouting, Trantor found the remains of his undercover force scattered amongst the alien landscape along with the last fragments of his battle cruiser, he felt the hate and rage surge through his body and within the ice cold compartment of his mind, he recognised the burden that now lay with him, that all now depended on he

- Trantor, the Last Stormtrooper.

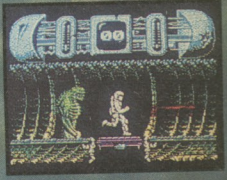
SPECTRUM +3 £12.99  
 SPECTRUM 48/128K £8.99  
 AMSTRAD TAPE £9.99 DISK £14.99  
 CBM 64/128 TAPE £9.99 DISK £11.99  
 Coming soon on Atari ST £19.99



Screen shot from Amstrad version.



Screen shots from Spectrum version.



**TOMORROW'S SOFTWARE TODAY**

Units 2/3, Holford Way, Holford, Birmingham B6 7AX Tel: 021 356 3388

