

ONLY
58p!

COMPUTER EXPRESS

Starts
this
week!

SHOPPING EXPRESS Your **weekly** source for

the best computer bargains - see pages 17-48

THIS WEEK **50 TOP PCs RATED**

POWER STATIONS



Amazing new machines offer computer, fax, phone, touch screen and printer all in one

- see page 2

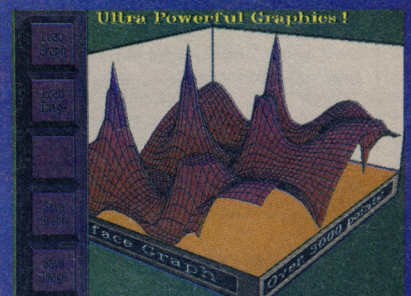
• The new wave of computing in Japan - page 7

ABSOLUTE BEGINNERS

Your no-nonsense guide to computing begins today - page 14

3D WONDER

Why business graphics needn't be dull



page 49

STAR PRINTERS

- Star's new 24 pin reviewed page 12
- Three new low cost models on the way page 3



INCREDIBLE!

Console piracy arrives - page 2

ALSO INSIDE EXPRESS

- PC expert systems
- The best in graphics
- Game pokes and cheats
- Terrific tech tips

Canon's amazing micro-cum-phone-cum-fax

ALL-IN-ONE BUSINESS SOLUTION ARRIVES

A new kind of computer is sweeping competitors away in Japan - the home of new technology.

World leading hardware manufacturers such as Canon and Hitachi are wowing the Japanese in their thousands with their integrated business solutions. The best of the machines, Canon's Navi SP, incorporates a power PC, fax machine, printer and telephone. In effect users have everything they need in one amazing package.

Top brass at Canon in the UK are eagerly waiting for the green light from Tokyo in order to bring the machine here. Until then no plans can be laid down.

The computer section of the machine runs an 80286 processor with 3Mb of ROM and 1Mb of RAM. It has a 3.5 inch disk drive and there is an option on a 20Mb hard disk. Fax messages can be sent or received without paper.

The icon-based machine incorporates touch-screen technology although it also has a mouse. The keyboard slides neatly away under the monitor.

Canon has also crammed in a database, spreadsheet, comms package and word processor to make it a truly integrated business package. And although the machine is not MS-DOS

compatible a special utility can be bought to allow text file transfer from PCs.

This whole package costs ¥398,000 (about £1,700) although the nature of insane dealer rivalry in Japan means it can be snapped up for as little as £1,200.

As such thousands have been bought by eager consumers anxious to pick up the latest technology. Japan has long been the centre of personal electronic gadgetry with the accent on personal. Many machines there have cute and cuddly names such as My Computer. They have been extremely successful in bringing business products into the home.

Amstrad will no doubt be watching these developments with great interest. Four years ago word processing machines were all the rage in the Far East. Boss Alan Sugar booked a flight to Taiwan and came back with the incredibly successful PCW machine.

Clearly, a machine such as this has massive potential in both Europe and the US.

Canon's creation isn't so much a triumph of innovative technology, more a showing of common sense applied to common problems. ■



• Business sense: Canon's brilliant machine

Longer lasting laptop

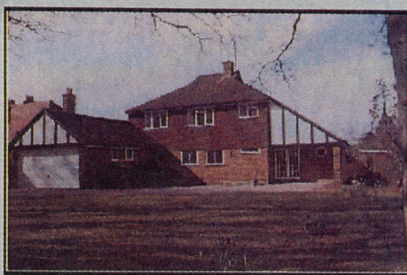
Psion's 'longer lasting laptop PC' (Express 10) is likely to be launched at the beginning of next month.

Psion is still refusing to talk about the machine although details are leaking out. The machines will be A4 sized (about the same as a Z88) with a clam shell screen. It will come in two versions - one Organiser compatible and the other MS-DOS. Prices will be £700 and £1400 respectively.

Psion will be stressing the longer battery life of the machine, and the consequent cost saving, in its advertising campaigns - thought to be up to five times longer than normal laptops.

Storage will be through special EPROMs on which data can be erased and written. ■

FOR SALE BY MICRO



County : Surrey
Town : Cranleigh
Price : £ 275,000
Bedrooms : 4
Bathrooms : 3
Reception : 3
Plot Size : 1/3rd Acre
Telephone : 279403
Owner : Mr Wright

A Fifteen year old detached house completely modernised. Paula Rosa kitchen. 1/2 mile from centre of Cranleigh. Outdoor heated swimming pool with new filter unit. Large summerhouse / changing rooms. Large loft serves as games room.

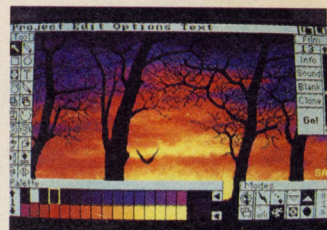
Address : "Largewood" Oaklands Lane, Cranleigh, Surrey, GU6 8SS

An enormous PC database which can store up to 50,000 high-definition images is to be released in November.

PC Album from Freehand is capable of holding a photograph and salient details (as shown above) of every house in a town the size of Derby. Users can simply port images in through a video capture camera or scanner.

The entry level price of the program is £1,250 although that can rise to an astronomical £15,000. Anyone prepared to pay that would get the complete system including optical drive, camera, printer, computer and the ability to store masses of information.

It allows users to capture 32,768 colours on screen simultaneously and provides 500 text fields per record. Freehand reckons the program will go down well with museums, recruitment agencies and the like. ■



• Arting around: Create your own animations

That's not all folks...

A cartoon animation program for the Amiga and PC is to be launched here called Fantavision.

Publisher Domark says the program takes the hard work out of animation and can be used by beginners and seasoned cartoonists alike.

For instance, if a user creates an image of an aeroplane on a runway, and then another of it in the air, the program will do the bits in between and run a sequence of the plane taking off. Fantavision costs £39.99. Domark is on 01 780 2222. ■

PIRATES TURN TO THE CONSOLES

Pirated copies of Nintendo and PC Engine cartridges are circulating in the UK - and are being sold as legitimate products.

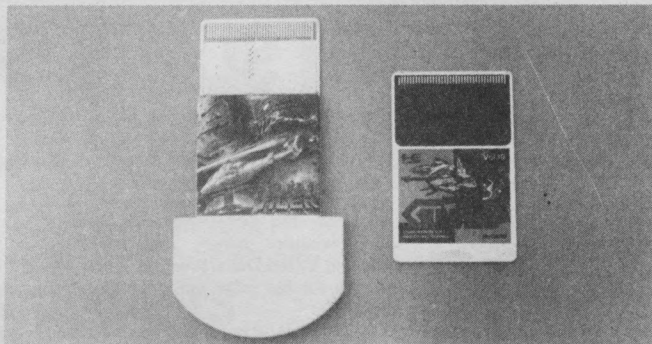
The EPROM-based cards are being manufactured in Taiwan and Hong Kong and distributed via large companies in Japan. Pirates have hitherto been unable to crack the cartridges. However, clever little companies in the Far East have succeeded in "blowing" the PC Engine and Nintendo EPROMs.

Indeed, cheap gadgets designed to aid cartridge copying are being sold in the Far East. They can be linked up to a home computer and the data can be downloaded onto disk. The crackers then copy onto an EPROM which is then placed into a plastic moulding.

The pirates can't get the data on small cards such as those used for the PC Engine. Illegitimate cartridges are larger than normal items with a fat rear.

One company known to be selling pirate cartridges here is PC Engine Services. Boss Robert Zengalli admitted that he stocks a PC Engine game called *Tiger Heli*. He also said he has access to every game for the PC Engine and Nintendo through Japanese contacts.

Zengalli claimed that he was under the impression pirated cartridges could be sold here if they have not been officially registered or launched in the UK. However, FAST's Bob Hay described this as



• Spot the difference: cartridge piracy arrives

"wholly incorrect" since copyright need not be registered in individual countries.

Zengalli then said he would cease selling *Tiger Heli* or any other pirated cartridge. Another argument he used was that original versions of *Tiger Heli* had "run out" and only pirated copies are left. He said that in the future he would simply do without the game if legal versions are not available. The game was being sold at the full price of £29.

Express obtained a copy of *Tiger Heli* and, although the title screen containing the software house's logo has been wiped, the game itself runs perfectly. The packaging for such games is clearly substandard though coming in a card-

board box rather than hard plastic.

PC Engine's manufacturer NEC has no clear policy concerning its product for the UK and legal implications aren't clear. No-one was available for comment. Nintendo's distributor Serif says it is aware of the problem and says Nintendo will use law courts to curb piracy.

Financial director Robert Wylie said: "It's not a major problem in the UK as yet because the market is relatively small. But it is happening in Japan and the US. Nintendo is a hard company and is will definitely look at the possibility of legal action. But it's difficult to track people down especially if they're small operations working out of a room."

Kidnap charge

It emerged last week that the man charged with blackmail following the kidnapping of businessman Victor Cracknell used to be the boss of the once influential company Modern House.

Keith Rose is currently being held in custody after his arrest last week. Cracknell had been held for five days as negotiations went on with his millionaire father. The kidnapers had demanded £1 million and picked up £140,000 before Cracknell escaped. He had been tied to a tree in a wood in Devon.

Rose's company stopped trading two years ago. ■

Portfolio bug bugs Atari

A bug in Atari's Portfolio has been keeping technical people busy over the past few weeks as the hardware manufacturer pumps thousands of the tiny wonders out of its factories.

Seemingly, a glitch in the operating system has been crashing some of the machines and then a message comes up saying 'Divide by 0'. Unfortunately, the only way of curing this is by a hard reset. This has the adverse effect of wiping all data on the machine.

Atari's technical department has apparently been kept busy with a number of telephone calls from disgruntled users. However, the hard reset is a relatively simple operation.

Atari says it's an "isolated incident" and isn't officially recognising the bug. A spokesman said: "There are always going to be small problems with new products. If anyone comes



• Portfolio: wee problem

across such problems they should let us or the dealer know."

Meantime, Atari was last week hinting that it would be letting "a few people" peek at the forthcoming STE (Express 33). At the time of going to press sundry journoes were winging their way to Dusseldorf hoping for a look at that machine, a higher end ST (the TTP) as well as numerous other long awaited arrivals. ■

Pin money

Low cost printer manufacturer Star has launched another version of its popular LC10 model.

The nine pin LC10 II has been designed with speed in mind - it can handle 180 characters per second in draft Elite mode (compared to 144 cps on the original LC10). It costs £229.

Star has also announced two other models for higher end users. The £499 LC24-15 can handle A3 size paper sheets and a bottom feed facility which is useful for printing label. There's also the LC15 which is a wide carriage version of the LC10. Star is on 01 840 1800. ■

German invasion

Grand Slam has tied up a deal with a German programming team which will bring seven new releases over the next nine months.

The games will be released under a specially created label called Thalion. This is something of a departure for Grand Slam which has recently concentrated on licence tie ups.

Primesoft's 18 programmers have been beaver away on the new projects for the past 18 months. The first five up are *Chambers of Shaolin*, *Dragon Flight*, *Terramis*, *Seven Gates of Jambala* and *Warp Warp*. Grand Slam is describing them as "breathtaking". ■

CONTENTS

FEATURES

50 TOP PCs 19

The first of our regular Shopping Express Buyer's Guides looks at the crowded and confusing PC compatibles market and gives some hints about which machines to consider

MADE IN JAPAN 7

Amazing new Japanese technology could revolutionise the way we work

CHART TOPPERS 49

Presentation graphics systems can display your data in a way that'll impress the boss

A STAR IS BORN 12

New printer offers amazing quality at dot-matrix price

REGULARS

COMMENT 4

LETTERS 52

The liveliest letters page in the kingdom

SHOPPING EXPRESS 17

Pick up some great bargains here every week

TECH TIPS 60,61

READERS' CLASSIFIEDS 42

Place an ad in Express for absolutely nothing! Sell your micro quick

GAMEPLAY 56,57,58

Three pages of the latest games, *Gunhed* reviewed, First Peek, Mini Reviews, your comments in PlayBack, the hard hitting Street Talk column and dozens and dozens of playing hints and tips

BACK PAGE 62

Mel Croucher's computing disasters

YOUR MACHINE

Amiga	35
ST	30
PC	28
CPC	36
Spectrum	37
Commodore 64	40
PCW	43
QL	43
BBC	40
MSX	38
Archimedes	40



COMMENT

MANY INTO ONE

It is surely only a matter of time before Amstrad brings out an all-in-one machine like those currently popular in Japan. These machines offer fax, telephone, computer and printer all in one package. With Amstrad's capacity for judicious corner-cutting, it could just about make it onto the market for under a grand, but certainly it would be under £1500.

Perhaps these multi-component machines are more an illustration of 'the shape of things to come' than faster processors or 'intelligent' neural networks. The consumer market has now got so used to the concept of the personal computer that an all-in-one package can be advertised as including a computer without further explanation. And the present state of the art seems quite adequate for the sort of uses most of us require - playing games, word processing, keeping name and address lists and so on.

No technological advancement will change that too much in the next decade or two.

So it follows that the logical next step for the manufacturers - always aiming to offer us bigger and better machines for our money - is not vertical, but horizontal expansion: more bits of existing technology in the same package, rather than more powerful versions of what we have already. The same pattern, in fact, that has produced the incredibly cheap integrated audio systems that offer record player, double cassette deck, tuner, speakers and amp for under a hundred quid.

Prepare, then, not for home versions of the NCube - the world's fastest super-computer - but for cheap all-in-one units including the equivalent of an Amstrad PC plus fax card, telephone, word processing and general utility software, touch screen, mouse, hard drive, separate infrared keyboard, built-in 24 pin dot matrix printer - maybe even a smart card based detachable pocket unit too, to use on the train or in the hotel.

These machines are a couple of years away, but they're surely coming.

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

© Future Publishing Ltd

4 QUEEN ST, BATH, BA1 1EJ

TEL: 0225 446034 • FAX: 0225 446019 Printed by

Redwood Web Offset, Trowbridge, Wilts

Distributed by Comag, West Drayton, Middx

HOME JUST MELTS AWAY

Substantial mail order outfit **Homesoft** has ceased to exist - apparently blaming the hot summer for its demise.

Details were scant at the time of going to press although debts are thought to be substantial. The bad news follows the demise of **Clik** earlier in the summer with debts of £140,000.

Homesoft is proportioning some of the blame on the hot

summer which has driven many younger computer owners away from the micro and into the sunshine. Unfortunately none of the directors were available for comment at the end of last week.

Homesoft was one of the leading mail order houses in the low cost computing sector selling everything from games to monitors. ■

Getting the fax

A neat little device for on-the-move businessmen is to be launched next month. It's a portable modem which can handle fax messages.

The **WorldPort 2496** can be used for normal data transmission or to send faxes. No need for a fax machine or a printer - all you have to do is prepare the document on the go, plug the modem in, and send the message hither and thither. It costs £699. ■



• WorldPort: comms on the move

DTI SLAMS 'SOFT ON HACKERS' POLICY

Eric Howe, the administrator of Britain's weak computer privacy laws, has been slammed by the Department of Trade and Industry for his softly softly approach to hackers.

The CBI wants all hacking to be criminalised although Howe says it should be more selective. In his report to the Law Commission he said companies should be more aware of their own computer systems and should do more to

protect them.

Replying to the DTI's criticisms he said: "You've only yourself to blame if your neighbour's cattle get into your unfenced field." He went on to say: "Mere misbehaviour by youngsters is not a matter which we normally would seek to criminalise unless it has some significant effect." He did recommend dealing with those who persistently hack into other people's systems. ■

Flight sim's near miss

You know what they say about the best laid plans. Poor **Digital Integration** has found out to its cost that things rarely go as they should - especially when it comes to programming.

After four months of solid

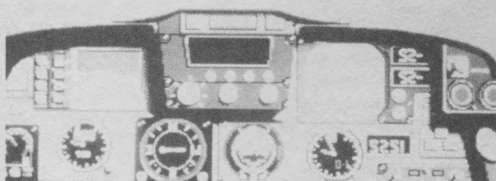
grafting the programmers had finally managed to port the bright flight sim **F-16 Combat Pilot** over from the ST to the Amiga, with all the enhanced graphics and sound thrown in to take advantage of the machine.

However, with just a day to go before copies were shipped out the firm found, to its horror, that it would not run on certain Amigas. Bosses went into temporary headless chicken mode and then spent 48 gruelling hours

attempting to track down the problem and rectify it.

In the simplest possible terms the computer was under the impression that the left hand mouse button was constantly pressed down. So as soon as the game got to the language selection (i.e. English, French or German) the game froze.

"It only delayed us for 48 hours but it was a real slog. Everything was going so smoothly and then we simply had to go into hyper mode,"



• F16: heading for a crash landing

EVERY HOME SHOULD HAVE ONE



Cripes, it's a tad hefty for a portable but this is none other than the "go anywhere" trolley.

Manufacturer **Knurr** tell us that the "distinctive" trolley can be wheeled anywhere around the office and can be used to shift all manner of computing goodies weighing up to 300kg. Anyone who fancies getting in on this technology should call 0480 496125. ■

SNIPPETS ● SNIPPETS ● SNIPPETS

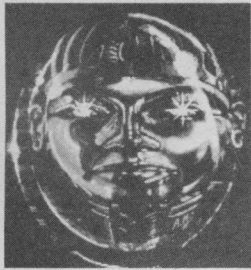
Animation freaks can tuck into a four disk line up from **Clares** launched this week. All contain impressive **Archie** animations including **Close Encounters** and **Toy**. The disk cost a tenner and can be bought from 0606 48511...

flagship stores. Expect some good bargains...

It was doubles all round at **Opus** recently. The British PC manufacturer managed to flog 3,000 of its PCs to the Post Office for a tidy £3 million...

News reaches us of one **Amstrad 2286** owner who was having his machine changed by **Dictaphone**. Everything seemed to go according to plan, the removal men left, and he sat down to some trouble free computing. However, he was interrupted by a neighbour 10 minutes later who informed him that a computer was sitting pathetically on the pavement. Apparently, **Dictaphone** had driven off without it.

Chain store **Dixons** has given the impressive **BBC A3000** a boost by taking it on in 20 of its



• Enhancements: *Deluxe Paint II*

Artting around

Electronic Arts has announced the availability of an enhanced version of its popular paint package *Deluxe Paint II* for the PC.

The firm says its up to date version features "a vast array" of new bits and bobs for the arty amongst you. The primary new additions are poster size printing which will allow creations up to nine times larger than the original. There's also a gallery offering a slideshow for presenting work and a picture preview before opening documents.

Owners of the original can pick this up for £30 although newcomers will have to fork out £99. ■

Tandy PCs move out

Tandy has launched two new portable machines into the relatively low cost sector.

The 1400HD and FD cost £1699 and £999 respectively with the former boasting a 20Mb hard disk. That also sports the latest in Super-twist LCD technology with an 80 character by 25 line resolution – equal to a full size monitor. There's also an RGB monitor output for a link up with a colour screen.

Both machines will be available from all 300 of Tandy's stores around the country. ■

Chip confusion

Confusion is reigning in the US microchip industry as conflicting reports are published about the production of the new PC wonder chip the Intel 80486.

According to some sources production of the chip, which will make PCs run many times faster than at present, is being seriously delayed. Makers Intel deny this completely and say all is on schedule. ■

MASSIVE FLOPPY DISK HOLDS 20Mb

Technical boffins at Fujitsu are currently working on an incredible new floppy disk system which could leave competitors standing, writes Simon Williams.

The large capacity drive will be able to handle a monstrous 22Mb unformatted with an access time of 65 milliseconds – that's faster than low cost hard disks. Fujitsu intends to use them for laptops and portables

which indicates a low power consumption. However, such a product clearly has wider implications.

A user could run a 22Mb disk housing a complete *dBase* environment or *Ventura DTP* with all the fonts imaginable. Bang in a different disk and you could be deep within 1 2 3 with a customised set up tuned to that application.

One would have thought this will cost a

fortune. Not so, my sources tell me. The drive is likely to cost around £150 with the disk weighing in at between £10 and £20. A whopping 120Mb costing less than £250 is a brilliant bargain – a similar hard disk would cost six times as much.

The product is currently being beta tested and shipping is likely to begin before Christmas. Fujitsu is remaining tight lipped on the subject. ■

Tax dodgers tracked down

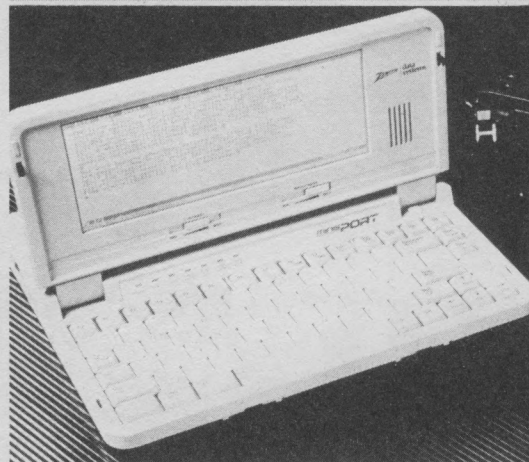
People earning more than they tell the taxman are being hunted – by a computer.

The Inland Revenue is to install a computer designed to track down those whose expenditure is above their declared income. The massive computer

holds a list of all the tax returns of everyone in the country. It also has access to land registers and shareholder lists.

It works on a random basis and picks up on people spending too much on expensive goodies such as yachts and second homes. ■

AS THIN AS THEY COME



As predicted last week Zenith will indeed be launching a slimline PC – the MiniSport (above).

It will cost £1,300 when it hits the streets this autumn running at 8MHz with two disk drives it will have 1Mb of RAM. Zenith, like the increasing number of mini PC manufacturers, will be hoping to tap into the cool and trendy business sector.

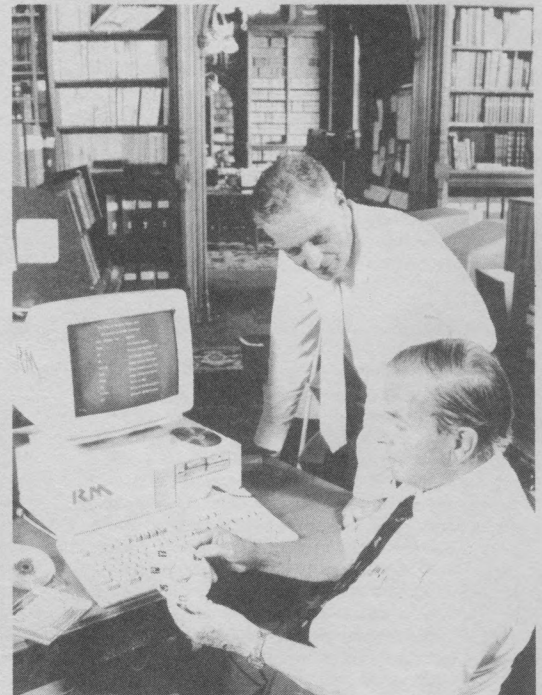
Industry watchers here and in the US are predicting the demise of the luggable. ■

Splashdown

A new games development team reckons it's going to make a big splash with its first game *Adeptus*.

It's the first product from twosome John Holmes and graphic designer Jalal Miah. Featuring full screen scrolling with multi level parallax the game is only missing two things. Sound effects and a publisher.

Big Splash Software is hoping a sound effects skillster for the ST will give them a call as well as a publisher willing to take the game under its wing. Call 01 408 6962. ■



• Good Lords. CD-ROM in the house

Their Lordships' CD-ROM

In between their usual nail-biting debates the members of our House of Lords can indulge in some sifting through a new CD-ROM system installed in the library.

UK manufacturer Research Machines has loaned the system to their Lordships for evaluation. Each CD disk carries the equivalent of a complete set of encyclopaedias.

Chief librarian Roger Morgan commented: "The time spent searching for information is reduced from hours to seconds and the disk is small enough to fit in your pocket." ■



• Adeptus: Sounding out partners

ST BEAT BOX £19.95

Is it a drum machine? Is it a Song Construction Set? Is it a new concept in digital music? The answer is yes! It's all three and so much more! It's.....Beat Box!

Beat Box brings the world of music to your fingertips. It's a full blown polyphonic song construction set that turns your ST into a drum machine and digital sequencer. Never before has your ST made this kind of music with so little effort. Now anyone can be a master composer. No musical knowledge required!

The easy to use GEM interface makes it simple. Just point and click to create fascinating drum, voice or musical patterns. Up to 30 different patterns can be combined and arranged to form a complete musical composition.

Play your songs through your ST monitor, Digisound Professional, ST-Replay or Navarone (Hippo), in 4 voice polyphonic, digitized sound.

Beat Box comes with over 35 ready to use sampled sounds, so you don't even need a digitizer to become a master digital musician. Beat Box fully supports Digisound, ST-Replay, and Navarone (Hippo) sound digitizers, so the supply of sounds is limitless!

Taking a Beat Break is more fun than any computer game. And Beat Box includes a public domain Song Player, so you can share your musical masterpieces with your friends.

WELCOME TO SUPER PROGRAMMING!

Programming languages are flexible. You have complete control over HOW you do things. But WHAT things can you do with a normal programming language? Draw a line on the screen? Print a string of characters? It takes months of development work to build something useful from these simple operations. Why can't a programming language take advantage of sophisticated functions available in existing specialised programs? Imagine a basic like language with commands like "Draw a picture with CAD-3D" or "Print a letter with First Word". Or even "Dial Micronet with Flash every day at 11pm, check E mail and save it to disk" Well you don't have to imagine it. This programming is here and it is called:

ST CONTROL £59.95

ST Control is a compiled language that can drive any program(GEM or non -GEM) in real time. Here's what you can do with it:

- * Record any sequence of operations in any program(s) and convert into a text script.
- * Paste additional pieces of scripts recorded or written earlier and saved to disk
- * Edit the script with a built in text editor, adding things that cannot be recorded-FOR NEXT loops for repetitive operations, variables and maths operations to change something with each repetition, mouse and key input for real time playback control (yes!) and even feedback input from the controlled program. Compile the script and then run it at any speed.
- * Stop playback edit your script and run again-without quitting the controlled program(ST Control is a special desk accessory that can be entered even from non GEM programs) ST Control language features FOR NEXT loops, IF..THEN statements, logical operators, subroutines, floating point arithmetic, multi dimensional arrays, arbitrary expressions, trig functions and much more. There is also a trace function for real time debugging of scripts. ST Control works on any ST colour or monochrome.

The people who brought you the Controller Card present: SWITCH BACK £69.95

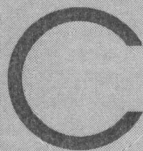
(requires 1 Meg. of ram)

- * Imagine saving almost any game at any point, then being able to return there as many times as you like.
- * Imagine the "ULTIMATE BACK-UP" Utility that actually UNPROTECTS programs as it copies them. Lets unprotected programs be stored as files, run from a hard disk, or ram disk.
- * Imagine saving three or more protected single sided disks on just one double sided disk.
- * Imagine being instantly able to switch back and forth between two independent programs, games, business applications utilities.

Now stop imagining and get SWITCH BACK !
It can do all this and more

SWITCH BACK is a revolutionary new hardware and software package that lets you get more from your ST, MUCH MORE!! GAMES 'Switch Backs' gaming features lets you instantly save most games, then continues playing. If you get into trouble you can switch back to where you were as many times as you like..... BACK UPS 'Switch Back' will function as your favourite back-up program allowing you to save whole protected disks to files for archival purposes. It can also automatically unprotect a program and save it as a standard TOS file. It is perfect for running protected programs off a hard disk. SWAP 'Switch Back' lets you load just about any two or more programs into your ST and switch instantly between them. It works with games, business programs, utilities, compilers etc. Although only one program is running at a time, the other is available instantly, right where you left off!

The 'Switch Back' hardware plugs into your printer port and has a 'pass-through' connection for your printer



COMPUTERHOUSE

SPECIAL ST PROMOTION PACKS

SYSTEM 3

MEGA 2 ST COMPUTER
SM 124 HI RES MONITOR
SLM 804 LASER PRINTER
TOTAL £1629.00

SYSTEM 1

520 ST FM COMPUTER
SM 124 HI RES MONITOR
STAR LC-10 NLQ PRINTER
TOTAL £515.00

SYSTEM 2

MEGA 1 ST COMPUTER
SM124 HI RES MONITOR
STAR LC24 10 LQ PRINTER
TOTAL £845.00

520ST-FM Explorer pack£265	LC10 9 pin Mono NLQ printer ...£154
520ST-FM Super Games Pack ..£355	LC10-C Colour NLQ printer£185
MEGA 1 ST Professional Pack ..£519	LC24-10 24 pin LQ printer£235
ATARI Megafile 30 Hard Disk£439	
ATARI Megafile 60 Hard Disk£599	

COMPUTERHOUSE UK

14 Romily Court, Landridge Road, FULHAM, London SW6 4LL Tel: 01-731 1276



CARDNET



VISA

JAPAN: THE NEXT WAVE

'Personal work tools' are the latest thing in Japan. Rob Ainsley and Andy Storer nip over to find out the slant of consumer computing to come...

一郎

The Japanese produce more powerful computers, more impressive games, and smaller and cheaper hardware than anyone else.

The reasons are simple – the Japanese are more ferociously educated and work harder than anyone else – and while the results may be no good for our balance of payments, they're impressive, and drag the rest of the world's economies along with them. And what's new in Japan comes to the West a year or two later.

According to the *Financial Times*, Japan this week overtook the US as the world's richest nation. It's probably the world's most computer-conscious society: the commuter trains are packed with schoolkids practising English on their hand-held language teachers and businessmen mulling over the day's figures on their laptops. Average time between personal computer upgrades is 18 months and the old ones just get ditched. Nintendo makes more money from selling its games consoles there than all the rest of the software houses in the world put together.

Then there's the eternal quest for miniaturisation. Maybe it's to do with Japan being the most densely populated country in the world, or the Oriental desire to make perfection and beauty small and simple rather than large and grand; whatever the reason, they're getting rather good at it. Sony designed the Walkman, pocket TV and pocket CD player in Japan, and the clear trend in their consumer market is making everything portable and 'personal'.

If you want to know where our computer market is going – in the sense of what we'll be buying and using in the next few years – look no further than Japan. Their booming consumer computer market leads the world. What Canon, Hitachi, NEC et alia bring out in Tokyo today, Alan Sugar and company bring out in Dixons, Comet, Laskys and so on tomorrow...

• Akio Morita, head of Sony, had a brainwave in 1980: it was called the Walkman. It was on sale in Japan in July 1979, came to West a year or two later, and now over 100 million have been sold worldwide...

• The 'dedicated word processor' consumer boom started in Japan in 1984. Amstrad's chairman saw the potential of this on one of his visits and brought out the PCW in England late in 1985. 1.5 million of the machine have been sold...

• 24-pin printers became popular in Japan in the early 80s to cope with the detail in the Chinese characters they use to write their ridiculously complex language. Now 24-pin printers are becoming more popular over here...

• CD ROM players are selling in droves in Tokyo. Japan's computer market – especially the booming leisure sector – is moving quickly over to the CD

• The latest Japanese trend is the 'personal work tool' – an all-in-one bundle of word processor, printer, computer, fax and telephone

Fancy a glimpse of the future? Just get on the next flight to Tokyo, take the Yamanote line to Akihabara, and follow the crowds. ▶



• Forget those woodblock print images of simple peasant farmers, geisha, samurai and ninja. Even in the smallest, most out-of-the-way hamlet, the rice paddies will be owned as a sideline by office workers for Canon, NEC or one of the other big companies in the city. And that little village store with the beer vending machines outside is as likely to sell the latest CD ROM players, pocket TVs, games consoles, faxes and portable word processors as it is vegetables and rice.



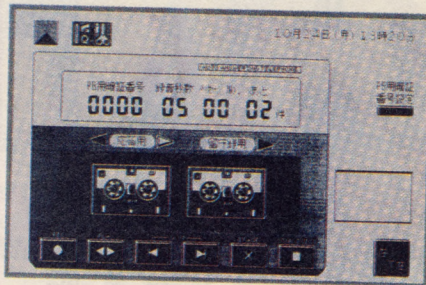
• Akihabara, in central Tokyo, is the world's biggest marketplace for new consumer technology. Here you can pick from dozens and dozens of side street stores selling the very latest technology at incredibly low prices – Sega consoles for under £100, personal computers for under £100, pocket TVs for £40, walkmans for a fiver. But Japan's distribution is so well organised that all the new gear arrives in the small town and village shops in a week or two.

STATION TO STATION: The new

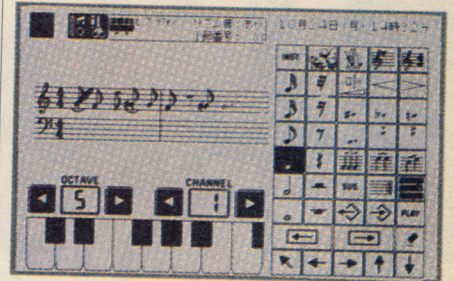
The Navi SP is the very latest thing from Canon – a 'personal station' advertised as the essential tool for business and private use. Just out this month and currently on sale only in Japan, it comprises a 3.5 inch disk, fax, telephone, computer, printer and word processor all in one box. It works by touch – to select something you just point to the appropriate box on the mono screen, though there's also a separable keyboard. The recommended price is ¥398,000 – around



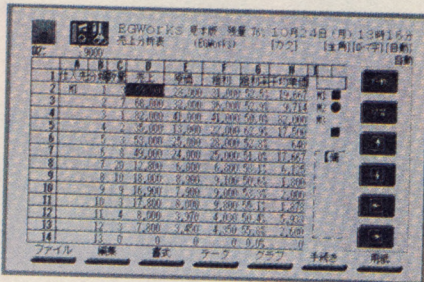
• The touch screen means you can select things by literally pointing at the icon



• There's built-in answerphone software...



• You can also buy extra software like this music package



• ...and spreadsheet, as well as a database and word processor

£1,700 – but it could be just over a grand in the shops.

As well as built-in features such as calendar, appointments diary, alarm, database, spreadsheet and comms utilities, you can buy a range of extra software. This includes MSDOS converters, network utilities, art and music packages, games

and even desktop publishing programs.

The computing and word processing side of the machine is fairly standard – 80286 processor, 3 meg of ROM, 1 meg RAM, a 3.5 inch drive, a 20 meg hard drive optional – but that's just the start. The fax doesn't have to produce paper copies – you can store pages on disk and 'print' them to screen. And you can prepare your pages on screen and send them without committing them to paper.

The dot matrix printer can be used with the fax, or to produce word processed documents and reports. It produces up to 32 dot detail at 20 characters per second, down to 16 dot detail at a faster 38 characters per second (for Japanese characters – the English letter equivalent would be 24 and 9 pin detail). The telephone and built in modem can work up to 9600 baud. The touch screen is 640x400 white.

It must only be a matter of time before this sort of machine is taken up over here by someone like Amstrad. Watch this space...

CONSOLE YOURSELF

Something of the popularity of computer gaming in Japan can be gleaned from the massive queues which form at shops selling the latest hot release. In comparison, the January sales at Harrod's pail into significance. At the launch of Dragon's Quest, fans clammered all-night outside stores and fights broke out for the last copies of a batch of three million which sold in a week. But it's not just the software which appeals.

When Sega's 16 bit Megadrive console was launched in Tokyo the initial production run completely sold out in two days whilst half a million PC Engines sold in the first week of release. And its a phenomenon spreading across the States too. Industry sources expect Nintendo to have achieved a 26% market penetration of US households by the end of this year, representing sales of \$3.4 billion total with software accounting for over 100 million units. One game, *Super Mario Brothers* has sold 9.1 million copies in less than two years.

Exactly why games and consoles are so popular in Japan is perhaps best explained by the Japanese lust for escapism. But living in a country right on the cutting edge of new technology it's hardly surprising they'll go bananas over the latest hardware – and the list of machines they have to choose from is certainly impressive:



• The PC Engine has some of the most realistic arcade conversions around

PC ENGINE

A six-channel sound, £175 super small console that delivers incredible graphics and is best described as pocket arcade machine. The recently released *GunHed* is arguably the best shoot-em-up to



• Sega's Megadrive provides raw power for console users

appear on any machine at any time.

Running off memory cards the size of bank cards, and now bundled with a CD-ROM player, the PC Engine was years ahead of its time when it first hit the streets in '87. Expect a 16-bit version early next year.

SEGA MEGADRIVE

With FM stereo output and 64 colours on screen at any time, the Megadrive beats all other 16-bit opposition hands down. At £200 it delivers the kind of power only seen in custom arcade machines.

GAMEBOY

Nintendo's cut-price portable video game system with interchangeable cartridges and stereo sound. With a 16-bit version, the Famicom, almost on the Tokyo streets, Nintendo can expect to clear up the world over.



• The GameBoy is Nintendo's main contender in a crowded marketplace

BEST OF THE WEST

At one time it was fair to say that Japanese technology owed its success to drawing heavily on Western innovation, minimising production overheads, maximising quality control and undercutting on price. But the current prominence of Japanese innovation is due to the massive investments in Research and Development in technology started in the late sixties. In short, Japan is now reaping the rewards and in the process not only setting the pace but defining the trends themselves. However, increasing integration and miniaturisation aren't solely confined to Japanese design – there's a handful of American and European companies coming up with products that take the Japanese on at their own game and beat them. In the world of computing, the best the West has had to offer recently consists of a range of machines that can truly be said to represent landmarks in technological design and functionality.

THE PORTFOLIO

Atari snapped up the rights to the little beauty as soon as they heard British company DIP had developed this ultra-compact pocket PC. With a folding lid comprising a Supertwist LCD screen, a minute QWERTY keyboard not much bigger than the size of your hand, MS-DOS compatibility and 128K smart-card style storage, Atari rightly expect the Folio to sell in droves for £230.

THE LYNX

Another innovation from Atari who, perhaps more than any other company in the history of computing, has recognised, seized upon and sold innovation at an affordable price. The Lynx is the world's first hand held, colour games machine. A 3.5 inch colour screen is able to display 16 colours from a palette of 4,096 – but if this weren't enough the chip at its hearts shifts at an

new marvels from Japan

Another all-in-one, this time touted as a 'personal work tool', the Hitachi Proset also boasts a computer-word processor-printer-telephone-fax line up.

There are two 3.5 inch disk drives holding 1.2 megs and an optional 20 meg hard disk. The printer manages 16 dot detail and the monitor has a colour screen. Optional extras include a genlock device and scanner to enable video and printed images to be put on disk and manipulated.

The built-in software is icon-based and works via an attached mouse or through the separable keyboard. A Japanese word processor, graphics package, mailing and labelling software are supplied. There's also an address database, memo pad, calendar and comms utilities. Adding appropriate interfaces can let you join it up to a network.

The Proset costs ¥593,000 (£2,500) - ¥498,000 (£2,100) for the model without a phone - though shop prices are well below this.



• A built in telephone even allows your computer to dial the number for you while you type

HOW COMPUTERS TAMED THE WORLD'S HARDEST LANGUAGE

Japanese word processors are now installed in virtually every home and office in that country because of the complex written language.

Japanese uses two alphabets, one for writing Japanese words phonetically and another for Japanese foreign words (like 'kompyutah' and 'wahdo purohsesah!'). In addition it uses several thousand Chinese characters.

Each can have from two to ten ways of pronouncing it depending on the context. They can only be learned by sheer hard slog.

This proved a problem for offices. Japanese typewriters have 2,000 keys and even the fastest operators can only produce about ten words a minute. So all business correspondence, reports and memos etc. had to be handwritten, which was

time consuming and costly - until word processors arrived.

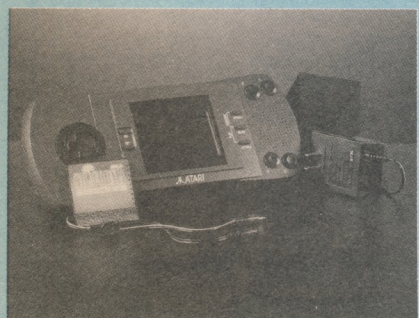
Now you just key in the word you want in the phonetic alphabet and the possible characters appear on screen for you to select. Even this can be tricky - Japanese has many words pronounced the same. 'Seiko' has twenty meanings varying from 'steel factory' to 'sexual intercourse' depending on the characters you use.



• The Folio - a design concept developed by a British company, bought by an American, and following Japanese trends towards ever increasing miniaturisation.



• The Protocol A4 - a case of the wheel turning full circle?



• The Lynx is all American technology and will sell there for as little as £95.

incredible 16 MHz. Its 4 channel stereo sound output runs through to Walkman headphones and software comes on 16 Meg smart-style cards.

THE PROTOCOL A4

The Protocol A4 is the size of an A4 pad only three inches thick and will run any PC software on 3.5 inch disk. As such it represents the world's first true PC portability. It's also something off a first in another way too. Although the machine is sold by British company API Electronics and is badged as such, the design, development and technology all came from Taiwan. It's one of the first examples of Western company drawing on Far Eastern expertise, boxing it up and selling it on. A process, one could argue, the Orientals originally masterminded.

COMPUTER REPAIRS

Fixed Super Low Prices!

Inclusive of parts, labour and VAT

1 WEEK TURNROUND



FIRST AID
FOR
TECHNOLOGY

* AMSTRAD / SINCLAIR AUTHORISED *

SPECTRUM 48K	£14 + Free Game	C64	£22 + Free Game
SPECTRUM 128	£18	VIC 20, C+4	£22
SPECTRUM + 2	£27	1541 DISK DRIVE	£36
C128	£29	C2N TDECK	£19
C16	£18	C64 PSU for sale	£20
Amiga	POA	Atari ST	POA

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

W.T.S. ELECTRONICS LTD (NCE 020989)

Studio Master House, Chaulend Lane, Luton, Beds. LU4 8EZ
Tel: 0582 491949

(4 lines)

Standard terms of business apply



WANTED FOR CASH

IBM COMPATIBLE COMPUTERS & EQUIPMENT
JOB LOT BUYER OF HARDWARE & SOFTWARE
PROMPT DECISION & COLLECTIONS
FOR YOUR BEST POSSIBLE DEAL CALL

EXPRESS COMPUTERS

(0604) 769808 OR FAX 705567

DAVID OR CHRIS (DEPT NCE 1)

SPECTRUM TAPE TO DRIVE

T.P5 - Copy from tape to drive (inc. +3, +D, M/Drive etc). Does some programs hardware devices can't do - inc. many Jerky and Count Down games - not for novice...£12.00. For the difficult programs information books 1,2 or 3 - 160 + Transfers per book with PT5...£2.50 each. Send S.A.E. for lists.

M/DRIVE OWNERS - MICROMATES

"PERFECT ADDITION TO M/DRIVE" Y.S 7/88. It pays for itself!...£11.99. Format (approx 104K), Clone, Sector Editor, Rename, Reconditions & Repairs, Multi-erase, Cat, Copies tape to drive (not games) & Reverse, Drive to drive on Cartridge.

Spectrum Cold Compressor.....£4.50
M/Drive Cartridge (Min. 4)...£1.75 each
+3 Discs (Min 4).....£2.30 each

Send S.A.E. for details.

Post Free in U.K. - Add £1.00
Europe - £2.00 rest.

State your system when ordering.
e.g. Spectrum +2 and Microdrive.
Money back guarantee on software

Prop. L. Evans

SPECTRUM TAPE TO TAPE

TUB - Copies most tapes even Jerky and many Countdown games. Converts many secured programmes to normal speed for reliable loading. Measures loading speed, copies exactly blocks even over 51K + much more...£7.50.

Plus - 3 mate for Spectrum+ 3. Plus 3 mate has 5 disk programme inc. full Cat, Disk Repair/ Verify, Unerase, Sector Editor, Multiple Erase + File Copier, Disk info, Boot Prog., etc. Includes Clone whole disk copier (inc. protected disks) On Disk...£12.99

AMSTRAD/SPECTRUM VERSION Z80 TOOL KIT 2

"BRILLIANT PACKAGE IF IT'S NOT IN TOOL KIT YOU DON'T NEED IT" YS 7/88

inc. Single Step - helps you understand/ Debug M/Code, Assembler, + Programme to do the reverse - M/ Code to Source. Disassembler, Hex to Dec, Tool Kit, Loader Mode, etc.

Spectrum...£8.99

Amstrad CPC Version... £9.99

LERM, Dept NCE 1
11 Beaconsfield Close, Whitley Bay,
Tyne and Wear, ME25 9UW
Telephone: 091 253 3615

Send S.A.E. for details

Mention Technical Services

SEGA MEGADRIVE IN PAL/SCART IN STOCK

SCART - £179.95

PLUS 1 FREE Game from Below (P&P £5.00)

PAL - £199.95

PLUS 1 FREE Game from Below (P&P £5.00)

Free Game - Altered Beast/Space Harrier/Super
Thunderblade/Alex Kid in Miracle Land.

NOTE: Mention SEGA's include:

1. UK Instructions. 2. UK Power Pack. 3. Full One Year Warranty

NEW PC ENGINE SOFTWARE IN STOCK NOW

Power League II	£29.95	Bloody Wolf	£29.95
Rock On	£29.95	Side Arms.....	£29.95
FI Dream	£29.95	Ninja Warriors	£29.95
Final Lap Twin.....	£29.95	Cyber Cross.....	£29.95
Yaksa	£29.95	Fantasm Soldier (CD).....	£31.95
Ghouls & Ghosts	£38.95	World Cup Soccer	£31.95
Black Belt.....	£29.95	Super League	£29.95

ENQUIRIES: For Full List of
Hardware/Software, Send a Large S.A.E. to:

MENTION

P.O. Box 18

Helensburgh, Dunbartonshire

Trade PC Engines from Active
Sales & Marketing

Telephone: 01 384 2701

Fax: 01 371 0839



16/32 P.D.

PUBLIC DOMAIN FOR THE ST

Large Selection

Prices start from £1.00

Send A4 SAE with 25p stamp for
catalogue or £1.25 for
catalogue DISK with extra
goodies to:

35 Northcote Road, Strood
Kent ME2 2DH
Tel. 0634 710 788

GET SMART

With hypertext, knowledge bases and expert systems computers are beginning to show signs of intelligence. Andy Storer gets to grips with a group of PC desktop experts...

Expert and knowledge-based systems are ideal for use in any fields that require regular consultation with a set of hard facts. Thus engineering, education, law, management, banking, insurance and manufacturing are all areas where machine-based consultancy is a valuable and cost-saving reference system. But the list is endless, for any field that calls for intelligent tutorials, smart manuals, procedure guides and complex diagnostics will benefit from the interactive training and education such systems can supply.

But truly intelligent systems are the stuff of sci-fi dreams. Interactive computers, able to display human qualities of understanding and learning, are still years off despite advances in areas like neural network theory. While many would argue that significant change will only come about with the advent of fundamentally different hardware architectures, in the meantime the quest for artificial intelligence centres on the software of expert systems and hypertexts.

Rules rule

Expert systems are knowledge bases in which facts are stored according to specific rules. These data arrays can be thought of in terms of tree structures; a specific input following a path through a series of multiple choice questions towards a particular conclusion. At any branch in the system the actual processing is dealing with simple IF...THEN constructions, which are flagged when passed and weighted with certainty factors. In this way, sketchy areas of knowledge, where precise detail is incomplete or unknown, can be accorded a probability factor and a 'reasoned' guess or inference supplied.

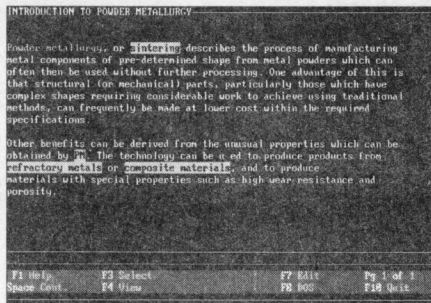
This is at least the theory. In practice, off the shelf expert systems - empty shells which you fill yourself - require a great deal of time and trouble to set up. It's not so much the actual compilation of facts constituting the body of knowledge in question that's crucial as the experience needed to organise that data into meaningful relationships. So the essential factor in deciding which system to purchase is the degree to which it offers an easy way of structuring and controlling a maze of information.

Part of the problem with expert systems is their rigorous nature. Of necessity they need to be formally structured with little room for manoeuvre. Hypertext is a way of adding flexibility to their management since, in essence, it allows a way of flipping into avenues of interest without losing the thread of the original query. Hypertext allows you to link concepts, logic and procedures in a non-linear fashion and thereby follow a train of thought or delve into deeper levels of detail. At its simplest level it works through highlighting key-words or 'topics' in text displays which can be given attributes or values and logically connected to similar occurrences in other areas of a knowledge base. Used in conjunction with expert systems, hypertext provides a means of navigating complex databases with the ease and interest of a browse through an encyclopaedia.

KNOWLEDGE PRO

- PC • £329
- Knowledge Garden • 0743 231172

Approximately 1.2 megabytes of program squeezed onto two 5.25-inch disks, *Knowledge Pro* is a comprehensive hypertext package which allows you to link images, text, calculation and expert system data. Points on .PCX format pictures can be designated as 'hot-spots' which, when clicked, will take you to other areas comprising the system. Lotus 1 2 3 and dBase files can also be incorporated into the environment. With some 120 commands at your disposal, you can use an easy to learn command language to program information windows, menus and lists and control file input/output access to external programs.



• *Knowledge Pro* uses hypertext in a clear and straightforward manner - any text may be highlighted and used to take you into related areas.

THINKSHEET

- PC & Archimedes • £115
- Fisher-Marriot Software • 0203 616235

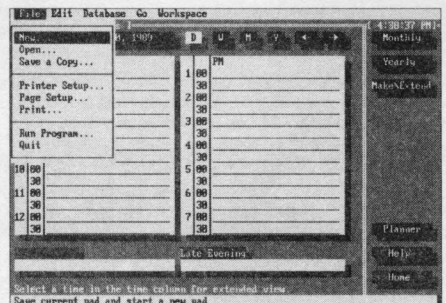
ThinkSheet is described by its authors as a three-dimensional thought organiser, a tool for developing projects based on information bases. The package is card based - each card deemed to reside on a large 'board' of thoughts which can then be spread out, arranged, related, connected and classified. It can thus be used as a freeform database allowing a user the facility to pass through 'doors' to other boards of facts. As such it's ideal for planning work or organising applications where no precise relationship exists between disparate facts.

HYPERPAD

- PC • £114
- Software Paradise • 0222 882334

Hyperpad is an easy to use browsing, typing, painting, authoring and scripting application designed to alleviate the complexities of database programming. 'Pads' are used, like the 'cards' of *Hypercard*, to store information onto which 'buttons' may be attached which are allocated functions.

Clicking on a button can flip you to a related pad - say taking you from a telephone notepad to an automatic dialler or from a calculator to an expense form. The built-in scripting language, containing over 300 commands, allows you automate pad and button instructions to perform a range of functions from MS-DOS utilities to custom database sorting.



• *Hyperpad* combines pull-down menus with clickable buttons to enable you to navigate a range of database information

The baby of them all

Hypercard's release on the Macintosh back in 1987 caused something of a stir since it represented a radical advance in database organisation and navigation. Given away free, the card-based system is structured around the concept of 'stacks' - each stack being able to contain innumerable linked cards of related information. Flipping between stacks of cards and sorting the data they contain is made possible through icon buttons which can be configured to perform func-

tions ranging from simple diary and note creation to ingenious animation. In effect the only limit is your own imagination.

Although *Hyperpad* on the PC shares many of the same

attributes as *Hypercard*, to the point where you might assume it's almost a clone, its not as flexible. But then the Mac's interface is far more advanced than the PCs.



• *Hypercard* on the Mac: possibly the most innovative piece of software to appear on the personal computer. This is a customised 'Home Card' - the centre of operations. Each of these icons buttons take you to different 'stacks' of interconnected cards.

THE STAR CHOICE

Can't afford a laser printer, but require quality print? The new Star XB-24 is the printer for you. Jerry Glenwright joins the dots...

Star XB24-15 ● £789 ● Star Micronics 01 840 1800

A printer is a vital addition to any computer system. There's not much point in writing the definitive novel if you can't print out a manuscript and send it to a publisher. And what about programmers? Wouldn't your endeavours be much easier if instead of squinting at the screen in attempt to find bugs in your program, you could peruse a printed copy of the routine on paper at your leisure?

Star's latest baby the XB24-15, is the Mercedes of the printer world. For little more than £800, you can have a 24 pin machine which has the wonderful ability to emulate 48 in printing. The greater the pin count in the dot matrix head, the better the quality of the resultant text and graphics the printer can produce. 48-pin machines have a quality of text production which rivals a laser printer. 24-pin machines are next in the quality hierarchy. Unfortunately, quality of print costs megabucks, and this is where the XB24-15 fills a gap. Quality printing at a price far below that of a 48-pin machine.

FEATURES. ● As well as the draft and letter quality printing modes offered by most printers currently on the market, the XB24-15 provides a 'super letter quality' mode which, in effect, allows the machine to behave as if it were a 48-pin printer. This feature is very easy to access with a simple press of the quality select button on the front panel and this is indicative of the general organisation of the machine - everything designed to be easy to use. DTP and graphics packages, word processing, spreadsheets, all will benefit greatly with the increase in print-out quality provided by 48-pin emulation mode.

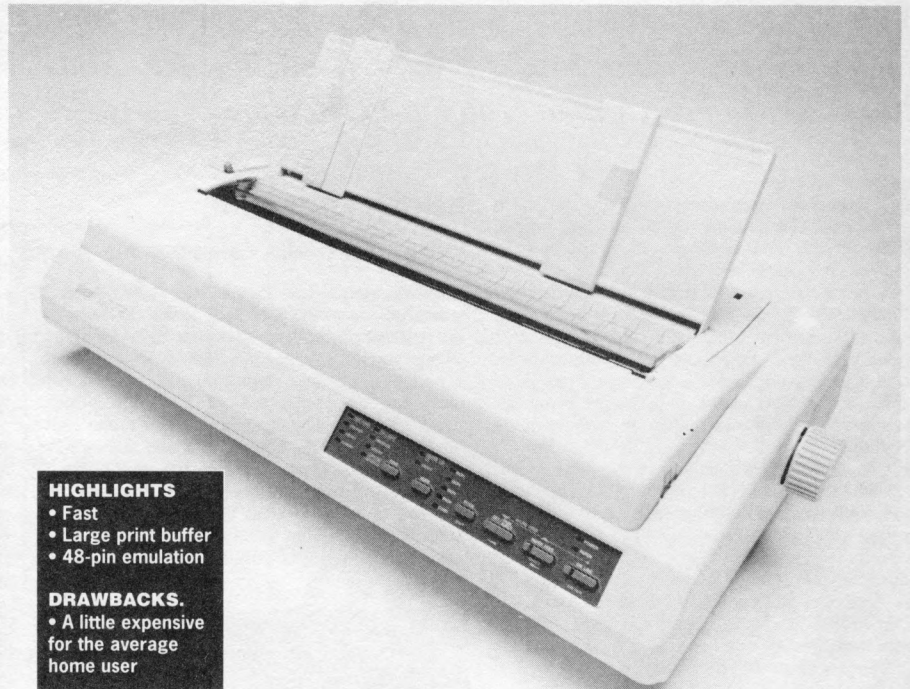
To exploit the high resolution offered by the machine, there's a large selection of built-in typefaces; Courier, Prestige, Helvetica, Times Roman etc., all of which will help considerably with the finished appearance of your documents. As with the print mode selection, the typefaces can all be selected from the front panel via a font button.

There's friction and tractor paper feeding, as well as a cut sheet feeder as standard (essential for letters and other A4 documents) and an optional automatic sheet feeder.

Worried by the large amount of noise produced by a dot matrix printer? The XB24-15 has a 'quiet' button which, when pressed, considerably reduces the din level with only a slight reduction in print speed.

A 41K buffer is provided to free your computer whilst the printer is operation by storing a large quantity (if not all) if any text you send to the printer. If you tend to print large graphics or DTP files and 41K is enough, then you can buy add-on IC cards which increase the RAM in the buffer to 73K.

And for those of you who require colour to enhance presentation graphics, charts, DTP etc., there's an add-on colour device in the form of a



- HIGHLIGHTS**
- Fast
 - Large print buffer
 - 48-pin emulation
- DRAWBACKS.**
- A little expensive for the average home user

• At £789, the Star XB24-15 has to be the first choice for computer users such as freelance designers, journalists, newsletter producers etc., who need quality print but have limited budget...

<p>• The same letter in draft. Text is still clear but obviously emanating from a dot matrix printer...</p>	<p>• Standard 24-pin mode. Text is clearly legible but of significantly poorer quality than 48-pin mode</p>	<p>• In 48-pin emulation mode, the XB24-15 produces print quality which rivals a laser</p>
---	---	--

Jerry Glenwright, New Computer Express, 4 Queen Street, Bath, Avon BA1 1EJ. August 29th 1989.

Dear Mr Dea

Than planr

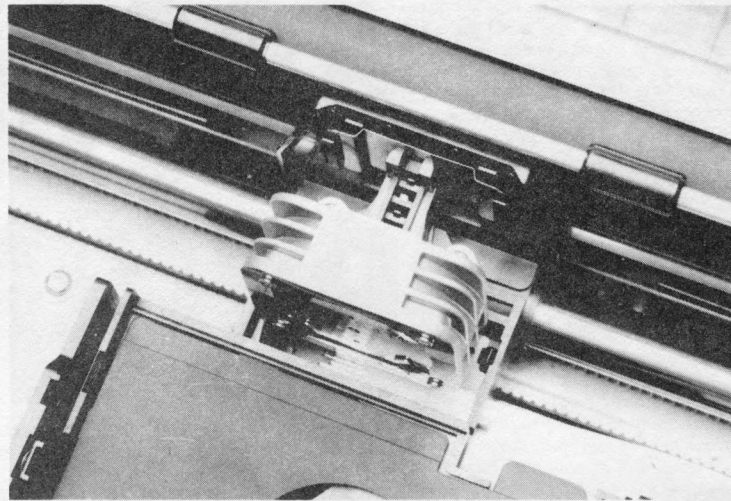
• The coveted laser printer produces high quality text and graphics - at a price!

cartridge which fits into the print head which allows the machine to print in 7 colours black, red, blue, violet, yellow, orange and green. The cartridge is easily fitted by even the technically incompetent, costs £39.50 and is readily available from Star dealers. To complete the colour upgrade, you'll need to buy a colour ribbon for £12.50.

USER INTERFACE. ● Connecting the printer to your computer couldn't be more simple. Take it out of the box, plug in the mains cable, a Centronics printer lead between the printer and your machine, and switch on. The XB24-15 has a Centronics parallel interface as standard and an RS-232 interface as an optional addition, so it will connect to STs, Amigas, PCWs etc., with ease. Almost all the printer's functions can be selected from the bank of switches located on the front panel of the machine. Obviously, your software must be able to take advantage of the power of 48-pin and 24-pin printing by providing drivers but if not, then you should be able to obtain suitable drivers from the public domain for the majority of computers.

DOCUMENTATION. ● The manual is clear, lucid, and concise. The first thing to note is that it's spiral bound - you can have it lying open on your lap whilst tinkering with the printer. It begins with an overview of each chapter allowing you to locate specific information quickly. Descriptions of the control code sequences should be easily understood by all but the most hardened computer illiterates.

VERDICT ★★★★★
An excellent printer. For those of you who need high quality reproduction but can't afford a laser or 48-pin printer, the XB24-15 is the perfect solution. It's fast, quiet, full-featured and simple to use. Highly recommended. ●



• The business end of the XB24-15. The print head contains 24 tiny pins which, when fired in sequence produce text and graphics. 48 pin printing is achieved by a method known as overprinting i.e. printing text once, moving the head slightly, then printing again. In this way, characters are emphasised and emboldened. The hopper for standard ribbon cartridges can be clearly seen behind the head

THE OPPOSITION

The Star XB24-15 is a quality printer, but what's available from Star's rivals Citizen, Panasonic et al?

• **Citizen Swift 24.** A very reasonable £389 will buy you the Swift 24 featuring printing speeds of 192cps draft and 62cps letter quality, a large amount of built-in fonts and innovative paper handling. There's a parallel Centronics interface as standard but only

8K of RAM in the print buffer. Still, at this price, the printer is worth a second look for those working to a budget. Call Citizen on 01 388 9871.

• **Panasonic 1540.** A 24-pin printer from Panasonic which offers draft printing at 240cps, letter quality at 80cps, rear, bottom and front paper loading and an optional cut sheet feeder for A4 paper. Print buffer has 13.5K of RAM as standard

and you can increase the size of this with a 32K ram card. The 1540 costs £665. Call Panasonic on 0344 853915.

• **Epson LQ1050.** The Epson printer is very expensive at £849. The printer offers a draft printing speed of 266cps, 88cps letter quality, has friction paper feed and a print buffer of only 6K - which can't be upgraded. Contact Epson on 0442 61144.

POOLSWINNER II

THE ULTIMATE POOLS PREDICTION PROGRAM

- **MASSIVE DATABASE** Poolswinner is a sophisticated Pools prediction aid. It comes complete with the largest database available - 22000 matches over 10 years.
- **PREDICTS** Not just SCOREDRAWS, but AWAYS, HOMES and NO SCORES.
- **SUCCESSFUL** SELEC guarantee that Poolswinner performs significantly better than chance.
- **ADAPTABLE** Probabilities are given on every fixture - choose as many selections as you need for your bet. The precise prediction formula can be set by the user - you can develop and test your own unique method.
- **SIMPLE DATA ENTRY** All team names are in the program. Simply type in the reference numbers from the screen. Or use FIXGEN to produce fixture list automatically (see below).
- **LEAGUE AND NON-LEAGUE** All English and Scottish League teams are supported, and also the non-league sides often used on pools coupons.
- **PRINTER SUPPORT** Full hard copy printout of data if you have a printer.

PRICE £24.00 (all inclusive)

FIXGEN 89/90 AT LAST! No more struggling for hours to get the fixture list into the computer. FIXGEN has been programmed with all English and Scottish League fixtures for 1989/90. Simply type in the date, and the full fixture list is generated in seconds. Fully compatible with Poolswinner. Yearly updates available.
POOLSWINNER with FIXGEN £26.50 (for both)

COURSEWINNER V3 NOT JUST A TIPSTER PROGRAM. Coursewinner V3 can be used by experts and occasional punters alike. You can develop and test your own unique winning system by adjusting the analysis formula, or use the program in simple mode. Coursewinner V3 uses statistical analysis of major factors including past form, speed ratings, course statistics, prize money, weight, going, trainer and jockey form etc, etc. It outputs most likely winners, good long odds bets, forecasts, tricast etc. The database includes vital course statistics for all British courses. You can update the database - never goes out of date. **FULL PRINTER SUPPORT.**

PRICE £24.00 (all inclusive) includes Flat AND National Hunt versions.

AVAILABLE FOR AMSTRAD CPCs, BBCs, COMMODORE 64/128, SPECTRUM, AMSTRAD PCW, IBM Format, COMMODORE AMIGA (add £2.00 for disc), ATARI ST

Please state tape or disc

Send Cheques/POs for return of post service to...
62 ALTRINCHAM RD, GATLEY, CHEADLE, CHESHIRE SK8 4DP. ☎ 061-428 7425
(Send for full list of our software)

WESTONING LTD

3 1/2 DS/DD
10 INC PLASTIC STORAGE BOX
£8

5 1/4" DS/DD

25	50	100
£7	£12	£22

Including Sleeves & Labels

Disks certified 100% Error Free

3 1/2" DS/DD

	25	50	100	200	400	600
720k	£17	£31	£60	£115	£225	£334
880k	£18	£33	£63	£120	£235	£345

Including Labels

DISK BOXES

Hinged Lid, Lockable

Capacity 3 1/2 or 5 1/4

50 100

£3.25 £5.75

Add £2 P&P if not ordered with disks.

Prices Include VAT & Carriage

VISA Access

3 1/2" Disk Labels

100 1000

£2.50 £10

State either coloured or white tractor feed

**SAME DAY DESPATCH
NO QUIBBLE GUARANTEE!**

P.S. New low prices on Amigas - Phone

WESTONING LTD Dept NCE
12, Sanderson Road, Westoning,
Bedford MK45 5JY
Tel: (0836) 775060 (0525) 718668

Who actually needs computers? What can they do? How much do they cost? How long does it take to learn to use one? Will I be "left behind" without one? Will they take over the world?

Those are just a few of the questions uppermost in the minds of those teetering on the brink of buying a computer.

Well, few people actually need computers, but they can make office routine and everyday chores easier than you might ever have imagined possible. They can also educate you, entertain you, and introduce you to a whole new – and fascinating – area of technology.

There was a time when you could expect to have to spend weeks or even months pouring over a computer and open manual before you could get the blessed machine to perform the simplest task. These days though, computers have advanced to the point where – paradoxically – you need to know next to nothing. If you can follow a set of instructions displayed on a screen, you can use a computer.

A good quality, versatile home computer set-up will cost you as little as £500. With that you can play games, write novels, and even launch a small business.

When home computers first hit the market, all the pundits predicted that unless you could write your own programs and – almost – build your own computers out of transistors, printed circuit boards and silicon chips, you would become a kind of technologically illiterate social dropout. Fears like that seem ridiculous now. The only way you can get "left behind" now is if you refuse to go near a computer because you still think they're malevolent superior intelligences that you need a degree in electrical engineering to understand. They're not, and you don't.

As for computers taking over the world, you're a bit late – they already have.

A blank page

Computers are actually completely devoid of any intelligence whatsoever. Unless they're specifically told to do something, they are completely inert, senseless objects. To actually carry out even the simplest task, a computer needs a detailed, explicit list of instructions – in other words, a "program". The programs are the "intel-

SPOILT FOR CHOICE

Why are there so many different computers on the market? Which is the best one? What should I look out for?

Well there are so many different computers on the market simply because different manufacturers hit upon different solutions. Hi-fi buffs have a choice of CDs, conventional records and cassette tapes, photographers can choose between disc cameras, Instamatics and Hasselblads, car buyers can go for a Skoda or a Rolls – and so on. While most computers can do most jobs, some are better at specific ones. We'll be looking at the best computer for you in another installment of Absolute Beginners.

ME NO SAVVY

One by-product of the increasing sophistication of computer technology is that computers are actually getting easier to use. "User interface" is a fancy term to describe that part of a computer program where you go about telling the computer what you want it to do, and then makes sense of the answers it gives you. The way we like to provide information is actually very inefficient as far as a computer is concerned, and it takes it that much longer to translate our information into a form it can use. In the early days you really did have to be able to "talk the machine's language", since computers then were crude and limited. Now, computers are powerful enough to understand us, and to talk our language.

ABSOLUTE BEGINNERS

In part 1 of a new weekly beginner's guide to computing, Rod Lawton looks at what computers are, what they do, and whether we really need them at all...

ligent" part of the equation, and they're produced by entirely human operators. There's no more chance of computers seizing power of their own accord than there is of your car deciding to start itself up one morning and go off to work without you.

Soft sell

Computer programs are also known as "software" (as opposed to the computer, which is "hardware"), and most computers can carry out a wide variety of functions according to the software that has been produced for them. When you talk about a "word processor" you are discussing a program – or software – rather than the computer it runs on. It's the software you can get for it that actually governs what your computer can do and how useful it's going to be.

What's it do then guv?

- **THE WRITTEN WORD.** One of the most popular uses for home computers these days is for word processing. This might conjure up images solely of nimble-fingered secretaries bashing out company reports at 120 words per minute, but in fact word processors are useful for anyone who ever has to write a letter to the gas board, an essay for a school project or an article for *The Times*. Imagine a typewriter where you can go back and put right your mistakes, where you can move whole paragraphs to a new position in the text if you change your mind later, where the finished sheets aren't actually rattled out until you've got everything just how you want it. Many word processors these days will even check your spelling for you!

- **ALL ACCOUNTED FOR.** Owners of small businesses can find their lives made a great deal easier with a computer. Programs known as "spreadsheets" can perform very complicated calculations in an instant to let you know how even subtle changes in things like interest rates, foreign exchange rates and price fluctuations can affect your firm's profitability for months to come.

- **INFORMATION AT YOUR FINGERTIPS.** Programs called "databases" can store large numbers of records for just about any purpose. They work like huge card indexes, but whereas it might take you half an hour to find the card your looking for, the computer can locate the information in fractions of a second. Cross-referencing might take your secretary 10 minutes; a computer could do it at the press of a key.

- **THE GAMES PEOPLE PLAY.** Home computers are perhaps most famous (or is that infamous) for computer games, where one's beloved offspring sneak upstairs for hours on end to indulge in

orgies of noisy alien-blasting instead of doing their homework. Your only consolation is that it's cheaper than going down to the amusement arcades.

And there's no denying the fact that computer games are fun. There is an enormous range to choose from these days, from the aforementioned space-borne bloodbaths to much more intellectual pursuits such as chess, backgammon and bridge. Wargame fanatics will find computers perfectly suited to the complex troop movements, rules of engagement and scoring systems involved, too, while a whole new genre of puzzle-solving "adventure" games has sprung up to use the computer's unique talents. Budding airline pilots, too, can place themselves at the controls of their favourite aircraft, thanks to flight-simulator programs that offer ever-increasing realism and involvement.●

KEY FACTOR

One thing that most people will find a help if using a computer for the first time is some degree of keyboard skill. Those who've used typewriters have a head start, since computer keyboards are laid out in exactly the same fashion – no seconds wasted hunting for keys.

One use for computers is in fact to learn to type properly. You can buy typing tutors which train you in 'head up' typing by flashing words on the screen which you then have to duplicate on the keyboard. If you make a mistake the computer logs it and concentrates on the parts you find difficult.

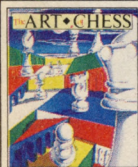
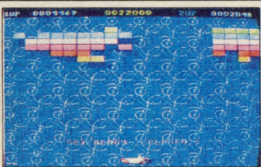
IN BRIEF

- Computers are easy to use – and getting easier
- For the price of a 26-inch TV you can buy a complete home computer system
- Computers can help you write letters, plan your business, organise your payroll – and even relax you with a game or two (or two dozen) at the end of the day
- Computers are far from intelligent. In fact they're extremely stupid – they're just good at following instructions (i.e. programs)
- Different computers have different strengths – price, sound quality, graphics resolution, amount of software available. All computers are not the same by any means.
- Like any machine, you can spend as much or as little as you like. Beware of hidden extras you need before the computer will work properly, like monitors or second drives.

FREE! TENSTAR PACK WORTH OVER £229!



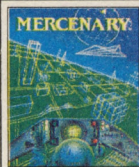
FREE! - AMEGAS - by Players



FREE! - ART OF CHESS - by SPA



FREE! - INSANITY FIGHT - by Microdeal



FREE! - MERCENARY COMP - by Novagen



FREE! - BARBARIAN, ULT WARRIOR - by Palace



FREE! - TERRORPODS - by Psygnosis



FREE! - BUGGY BOY - by Elite



FREE! - THUNDERCATS - by Elite



FREE! - IKARI WARRIORS - by Elite



FREE! - WIZBALL - by Ocean



Commodore AMIGA



ONLY £3.34 PER WEEK
RETURN COUPON FOR DETAILS

£346.95 +VAT = £399

INCLUDES FREE UK DELIVERY

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

WHY SILICA SHOP?

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

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

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

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

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

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

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

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

PHOTON PAINT PACK

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

1084S MONITOR PACK

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

FREE FROM SILICA

When you buy the Amiga 500 from Silica Shop, you will not only get a high power, value for money computer, we will also give you some spectacular free gifts. First of all, we are now including a TV modulator with every A500 stand alone keyboard, so you can plug your Amiga straight into your TV at home (the modulator is not included with the A500+A1084S pack as it is not required for use with monitors). Secondly, we have added a free copy of Photon Paint, an advanced graphics package with an RRP of £69.95. Last (and by no means least!), so that you can be up and running straight away, we are giving away the sensational TENSTAR GAMES PACK with every A500 purchased at Silica Shop. This pack features ten top Amiga titles which have a combined RRP of nearly £230! Return the coupon for details.

FREE TENSTAR PACK

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

DO YOU OWN AN AMIGA?

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

SILICA SHOP:

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

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

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

To: Silica Shop Ltd, Dept NCE 0889, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX

PLEASE SEND ME FREE LITERATURE ON THE AMIGA

Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode: Dept NCE 0889

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

NO COMPUTER IS COMPLETE WITHOUT A DUST COVER

Protect your Computer with a dust cover from the BBD Professional Range.

Made from best quality proofed nylon that has been treated with a flame retardant and an anti-static inhibitor. BBD Dust Covers are tastefully finished with contrasting piping. They never crack, discolour, tear or fade. They can be washed and ironed. So confident are BBD of the quality that they give a no-quibble guarantee with every cover.

BBD dust covers are not expensive and all our prices include VAT and P&P

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

★ ACORN A.3000 ★	£5.00	ATARI ST COLOUR	£11.00
AMIGA 500	£5.00	ATARI ST MONO	£10.00
AMIGA 2000	£11.00	BBC B or MASTER	£5.00
AMSTRAD 6128/464	£8.00	EPSON PC RANGE	£10.50
AMSTRAD 1512/1640	£10.00	IBM PC XT	£10.50
AMSTRAD 2086	£10.00	IBM PC AT	£11.00
AMSTRAD 2286/2386	£10.00	IBM PS2 MODEL 30	£10.50
AMSTRAD PCW 8256	£11.95	OLIVETTI PC 1	£10.50
AMSTRAD PCW 9512	£13.95	SINCLAIR PC 200	£10.50
ARCHIMEDES	£10.50	ATARI ST 520	£5.00

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

GOLDSTAR BRANDED DISCS

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

PRINTER CABLES

25 pin to 36 pin.
Suitable for IBM, IBM Compatible, Atari and Amiga
ONLY £5.95

BBD DUST COVERS

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

Sheer Perfection in Computer Protection



Telephone: 0257 425839 ext. 41
Fax: 0257 423909



Callers and Dealers Enquiries Welcome



MASSIVE DISCOUNTS



- Latest releases at unbelievably low prices
- Massive product list in our catalogue
- Leisure & Serious software
- Computers, Printers, Disks, Boxes
- Joysticks, Mice & other hardware
- Win £££'s in our prize draw

Write now for a catalogue (stating computer) to:

CJC Marketing (Dept NCE4) • Unit 9 • The Maltings
High Street • Burwell • Cambridge • CB5 0HB
Tel: (0638) 742494



C ODA SOFTWARE

World of Soccer

Sports Strategy

International management is the ultimate challenge in soccer.

Many have succeeded at club level only to melt under the floodlights of the international arena. Build a squad of players balanced enough to beat the best in both the European Championship and World Cup and you'll be in with a chance.

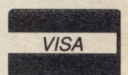
Choose to manage any one of 33 European squads. The U.K. countries come with 16-man squads already defined and can be increased to 36 with players of your own choice. Guide your squad through a 4-year-period culminating in the World Cup itself. Have you got what it takes to go all the way in the **WORLD OF SOCCER**?

World of Soccer is available for the Atari ST, price £14.95 and Amstrad PCW, price £17.95 inc.



Telephone:

061-330-0184



Coda Software, 437 Kings Road, Ashton-under-Lyne, Lancs OL6 9AT

MICRO - TYNE

**FOR THE SERIOUS COMPUTER USER
SEPTEMBER SPECIAL OFFERS**

STAR LC10	£179.00
STAR LC24-10	£299.00



**ATARI PORTFOLIO
PC compatible
hand held
computer
£249.00**

PCW 9512 Sheet Feeder	£95.00
25 3 1/2" Bulk Discs in 40 capacity box	£25.00
25 5 1/4" Bulk Discs in 50 Capacity box	£13.00

Dealers for Amstrad, Commodore, Star Printers, Schneider and Atari

**MICRO-TYNE
LEAZES ARCADE,
LEAZES PARK ROAD
NEWCASTLE ON TYNE
TEL: 091 261 4088**

FREE SHOPPING

every week
inside New
Computer
Express

EXPRESS

The weekly computer market place for people serious about buying

SAVE

- by taking advantage of the very latest offers from Britain's leading mail order advertisers. Ads in these pages are updated *every week!*
- by checking out our invaluable buyers guides. No padding, no waffle, just the facts.
- by using the *Express Vouchers*. They allow you to claim significant savings on top of the superb discounts already offered by our advertisers!

JOB SHOPPING?

Checking out our recruitment section, page 44

ALSO INSIDE

A column for your machine

PC Update	28
Club ST	30
Amiga Blitz.....	35
CPC Centre.....	36
Spex	37
Archimedes Lore	40
Sector 64.....	38
PCW Patch	43
Beeb Box	40
QL Corner	43
MSXtra	38

THIS WEEKS BUYERS' GUIDE

50 TOP PCs

Use these
vouchers to
save more
from the
ads inside

Full details inside

EXPRESS
VOUCHER

50p

EXPRESS
VOUCHER

£1

EXPRESS
VOUCHER

£3

EXPRESS
VOUCHER

£4

£399!

10MHz XT

- ★ 640 Kb RAM
- ★ 10MHz CPU switchable to 4.77
- ★ 102 Key Keyboard
- ★ 360 Kb 5¹/₄" Floppy Drive
- ★ 2 Parallel Ports
- ★ 2 Serial Ports
- ★ Real Time Clock/Calendar
- ★ 5/6 Free Expansion Slots
- ★ Hercules Graphics Card & High Res Mono Monitor
- ★ MS-DOS vers. 3.3 & GW-Basic
- ★ Microsoft Windows
- ★ Full Set Of Manuals & Documentation

40 Mb 30Ms Complete System MONO£599
 14" EGA Colour Monitor add£226
 720Kb 3¹/₂" Floppy Drive add.....£60

DOLAN ELECTRONICS LIMITED
 DANFFORDDGAR HOUSE, CARMARTHEN,
 DYFED SA32 7DU

£749!

16MHz AT

- ★ 1Mb RAM
- ★ 16MHz CPU switchable to 6
- ★ 102 Key Keyboard
- ★ 1.2Mb 5¹/₄" FLOPPY DRIVE
- ★ 1 Parallel Port
- ★ 2 Serial Ports
- ★ Real Time Clock/Calendar
- ★ 5 Free Expansion Slots
- ★ Mono/CGA/EGA Card Included
- ★ High Res Mono Monitor
- ★ MS-DOS vers. 4.01 & GW-BASIC
- ★ Genuine Microsoft Mouse & Microsoft Window
- ★ Full Set Of Manuals & Documentation
- ★ 1 YEAR ON SITE MAINTENANCE (Base Unit)

45 Mb 25Ms Complete System MONO ...£1025
 14" EGA Colour Monitor add£200
 1.44Mb 3¹/₂" Floppy Drive add.....£85

SALES : 0267 84538
FAX : 0267 84617
 ALL PRICES ex. VAT & delivery
CWO,COD AVAILABLE
 (SPECIFICATION SUBJECT TO CHANGE)



EXPRESS VOUCHERS - How the scheme works

● The Express voucher scheme is a unique way of enabling you to save money when you buy goods mail order.

● It offers you a discount of up to 5% off the prices printed in many advertisements in this magazine - and remember, many of these

prices are already much lower than in the shops.

● The vouchers are not limited to specific items - you can save on any purchase from one of the participating advertisers.

● Most of our advertisers are tak-

ing part in this scheme - just look for this sign.

● Remember. By using this scheme you will almost *always* be able to buy goods cheaper from New Computer Express than anywhere else.

£1 voucher. Valid for orders above £20

This voucher may be used as £1.00 part payment on any order totalling over £20 from a participating advertiser in New Computer Express. You simply fill in the details below and send it off with your order.

NAME _____
 ADDRESS _____
 TEL. _____

ITEM PURCHASED _____

One voucher per order only. Voucher and order must reach the advertiser before **9am Monday Sept 18th**

50p voucher. Valid for orders over £10

This voucher may be used as 50p part payment on any order totalling over £10 from a participating advertiser in New Computer Express. You simply fill in the details below and send it off with your order.

NAME _____
 ADDRESS _____
 TEL. _____

ITEM PURCHASED _____

One voucher per order only. Voucher and order must reach the advertiser before **9am Monday Sept 18th**

£6 voucher. Valid for orders over £120

This voucher may be used as £6.00 part payment on any order totalling over £120 from a participating advertiser in New Computer Express. You simply fill in the details below and send it off with your order.

NAME _____
 ADDRESS _____
 TEL. _____

ITEM PURCHASED _____

One voucher per order only. Voucher and order must reach advertiser before **9am Monday Sept 18th**

£3 voucher. Valid for orders over £60

This voucher may be used as £3.00 part payment on any order totalling over £60 from a participating advertiser in New Computer Express. You simply fill in the details below and send it off with your order.

NAME _____
 ADDRESS _____
 TEL. _____

ITEM PURCHASED _____

One voucher per order only. Voucher and order must reach the advertiser before **9am Monday Sept 18th**

THE FIVE SIMPLE RULES

1. Express vouchers can be used to obtain discounts on purchases of goods advertised in this issue of *New Computer Express*, provided that they are bought directly from an advertiser taking part in the scheme. The vouchers are valid only for those advertisements which say "We accept Express vouchers".
2. Each voucher entitles you to a discount at the voucher's face value, provided that your overall order level is **higher** than the figure indicated on the back of the voucher.
3. To use a voucher, simply enclose it with your discounted payment when you order. You may use **only one** voucher in any one order.
4. The order including the voucher must be received by the advertiser before the closing date printed on the voucher.
5. You must fill in the details on the voucher.

SHOPPING EXPRESS SHOPPING

50 TOP PCs

When it comes to choosing a computer to run serious software – databases, wordprocessors and the rest – you can't go far wrong with a PC compatible. The problem is, which one? There are literally hundreds of IBM clones around with incomprehensible specs and hugely ranging prices. To help make your choice easier, Shopping Express presents its guide to 50 of the top options...

Looking for a PC? Let Express help you make the right choice. Here's a definitive list of the top 50 PCs on the market with the vital details on each.

Each PC is listed alphabetically, with the manufacturer's phone number and the recommended retail price. It is often possible to get a better deal than this, especially by mail order – check out the advertisements in this issue.

Below the price is the technical specification of that computer; which microprocessor it has, how much memory, what kind of graphics display it uses, which disk drive, what input and output ports it's supplied with and any extras the manufacturer throws in.

POWER RATING

We've worked out a power rating for each machine. Does it pack the punch you need? Anything under 50 is fine for most uses – word processing, running a club or small business, playing the odd game – while if you're after power computing you'll need a machine round the 100 mark. It's only a rough guide, of course, and only has a meaning relative to the other ratings. Check the tech specs to see if it'll do the specific things you need.

For the curious, here's how we worked out the power ratings: 386: 30 points, 286: 20 points, V20/40: 15 points, 86: 10 points, 88: 5 points, serial ports 2 points each, parallel ports 2 points each, expansion slots 2 points each, 2.5Mb: 25 points, 2Mb: 20 points, 1Mb: 10 points, 640: 8 points, 512: 5 points, hard drive: 15 points, 3.5: 10 points, 5.25: 5 points, VGA: 20 points, EGA: 10 points, CGA: 5 points.

DESIRABILITY RATING

There's also a desirability rating out of 100 – although the power rating is the most important, this indicates essentially 'how good' the machine is. This takes into account intangibles such as build quality and appearance as well as the perceived 'slickness' of the machine. Anything with single figures you'd be happy to get for Christmas but wouldn't walk down the road to buy. 30s and 40s

would be worth a trip out of town to get. Anything over 90 and you'd sell your house and all its contents to buy one.

VALUE FOR MONEY

Finally there is the value for money rating. Measured out of five, the star rating indicates just how much computer you get for your pound.

● AMSTRAD PC1640

£499 • 0277 228888 • 8086 CPU (4.77/8MHz) • 640K RAM • CGA • 1 parallel port • 1 serial port • 3 expansion slots • 5.25 floppy • GEM, mouse and bundled software

Bottom of the - usable - range Amstrad PC. Plastic case of flimsy construction containing only three expansion slots and supporting a poor quality monitor which also houses the power supply (making it next to impossible to upgrade a mono system to colour). The package includes the GEM graphic operating system as well as MS-DOS and a mouse. Enjoys the somewhat ambiguous distinction of being cheap.

Power: 38
Desirability: 15

VALUE FOR MONEY: ★★★

● AMSTRAD PC2286

£999 • 0277 228888 • 80286 CPU • 1Mb RAM • VGA • 1 parallel port • 1 serial port • 5 expansion slots • 40 Mb hard drive • mouse and bundled software

The Amstrad stab at high tech. Good quality VGA display let down by plastic machine with enormous footprint and slow hard drive. The machine is at least supplied with a reasonable - if not generous - supply of expansion slots.

Power: 79
Desirability: 50

VALUE FOR MONEY: ★★★

● APRICOT XEN-S PC

£1495 • 021 456 1234 • 386SX CPU • 1Mb RAM • VGA • 1 parallel port • 2 serial ports • 3 expansion slots • 30Mb hard drive

Well-known for attempts at providing powerful computers, the XEN-S PC is Apricot's mid-range 386 machine. Reasonable construction, moderate keyboard but expensive.

sonable construction, moderate keyboard but expensive.

Power: 87
Desirability: 60

VALUE FOR MONEY: ★★

● ARC PT88-1

£ 810 • 01 684 1948 • 8088 CPU • 640K RAM • CGA • 1 parallel port • 2 serial ports • 4 expansion slots • 5.25 floppy • paper white monitor

Arc's bottom of range computer. A well made machine which, although expensive, comes with 4 expansion slots and a paper white monitor.

Power: 37
Desirability: 20

VALUE FOR MONEY: ★★

● ARC PT 88-2

£ 1,140 • 01 684 1948 • 8088 CPU • 640K RAM • CGA • 1 parallel port • 2 serial ports • 4 expansion slots • 20Mb hard drive • paper white monitor

One of a large range of PC compatibles from ARC, the PT88-2 is a well made computer which suffers from being a little expensive.

Power: 47
Desirability: 30

VALUE FOR MONEY: ★★

● ARC T304

£ 3,650 • 01 684 1948 • 80386 CPU • 2Mb RAM • VGA • 1 parallel port • 2 serial ports • 8 expansion slots • 40Mb hard drive (and twin floppies) • paper white monitor

Starter computer for Arc's top the range machines, the T304 with 386 central processor, 40Mb hard drive and paper white monitor is an excellent machine.

Power: 107
Desirability: 85

VALUE FOR MONEY: ★★★★★

● ATARI PC3

£949.99 • 01 309 7770 • 8088 CPU • 640K RAM • EGA • 1 parallel port • 1 serial port • 4 expansion slots • 30Mb hard drive • mouse

Atari's foray into the PC compatible market opens with the PC3. Cheap, well made useable machine which commands consideration from anyone searching for a first PC with hard drive on a limited budget.

Power: 50
Desirability: 45

Power: 50
Desirability: 45

VALUE FOR MONEY: ★★★★★

● ATARI PC5

£2,799.99 • 01 309 7770 • 80386 CPU • 2Mb RAM • VGA • 1 parallel port • 1 serial port • 5 expansion slots • 60Mb hard drive (with high performance controller card) • 1.2Mb floppy

The last word in PC power from Atari, the PC5 is aimed fairly and squarely at the 'power user'. Superior specifications and a very reasonable price ensures its success in the high-end market place.

Power: 99
Desirability: 75

VALUE FOR MONEY: ★★★★★

● BROTHER BC10

£780 • 061 330 6531 • 8088 CPU • 640K RAM • CGA • 1 parallel port • 1 serial port • 4 expansion slots • 20Mb hard drive

Better known for quality printers, Brother's BC10 PC is an attempt to conquer the compatible market. Reasonable specifications and quality construction coupled with aggressive pricing gives the machine a head start in the market place.

Power: 45
Desirability: 38

VALUE FOR MONEY: ★★★★★

● COMMODORE PC10

£ 549 • 0628 770088 • 8088 CPU • 640K RAM • CGA • 1 parallel port • 1 serial port • 3 expansion slots • 5.25 floppy

Entry level PC compatible from home computer manufacturer Commodore. Well made, good keyboard but a little expensive.

Power: 33
Desirability: 20

VALUE FOR MONEY: ★★★★★

DATA-X The Reliable Source for "State-of-Art" Computer Products.

THIS MONTH'S STAR SPECIAL OFFER

STAR LC24-10 WITH TIMEWORKS DTP £300 (excl. VAT)

Watch this space for each month's special offer.

COMPUTERS

AMSTRAD	MONO	COLOUR	ECD
PC1640 SD	475	579	659
PC1640 DD	549	649	735
PC1640 HD	739	839	919
PC2086 SD	565	710	805
PC2086 DD	710	849	939
PC2086 HD	939	1090	1185
PC2286 DD	915	1055	1149
PC2286 HD	1235	1375	1469
PC2386 HD	2430	2550	2669
APRICOT	DISK	RAM	MHZ
XEN-SPC	30MB	1MB	16
XEN-S250	47MB	1MB	16
XEN-1286/30	30MB	1MB	16
XEN-1386/50	47MB	2MB	16
Qi330	47MB	1MB	20
Qi650	47MB	1MB	20
Qi660	65MB	1MB	25

AST

PLEASE CALL FOR PRICE/CONFIGURATION

COMPAQ

DESKPRO 286 MODEL 40			
DESKPRO 386S MODEL 40			
DESKPRO 386S MODEL 84			
DESKPRO 386/20E MODEL 40			
DESKPRO 386/20E MODEL 110			
DESKPRO 386/25 MODEL 60			
DESKPRO 386/25 MODEL 110			
DESKPRO 386/25 MODEL 300			

OPUS

	DISK	RAM	MHZ
PC3 DD		1MB	10
PC3 HD	30MB	1MB	10
PC4 286	20MB	1MB	12
PC5 286	30MB	1MB	10
PC5 286	40MB	1MB	10
PC5 386	40MB	1MB	20
PC6 286	40MB	1MB	12
PC6 286	60MB	1MB	12
PC7 386	70MB	4MB	20

TANDON

	RAM	MHZ
PCA20 PLUS	1MB	10
PCA40 PLUS	1MB	10
PCA12 PLUS	1MB	10
PCA/12 SL20	640K	12
PCA/12SL40	640K	12
386/16 40	1MB	16
386/20 40	1MB	20
386/20 70	1MB	20
386/33 110	1MB	33

ZENITH

	DISK	RAM	MHZ
Z-159 PC	DD	640	8
Z-159 PC	20MB	640	8
Z-286	20MB	512	8
Z-286	20MB	640	8
Z-286 LP	20MB	1MB	8
Z-286 LP	40MB	1MB	8
Z-248/12	40MB	1MB	12
Z-248/12	72MB	1MB	12
Z-248/12	120MB	1MB	12
Z-386	40MB	2MB	16
Z-386	72MB	2MB	16
Z-386	120MB	2MB	16
Z-386	150MB	2MB	25

LAPTOPS & PORTABLES

COMPAQ

PORTABLES II, III, 386
SLT 286 MODEL 20
SLT 286 MODEL 40

SHARP

PC4602
PC4641
PC5541 286

TOSHIBA

T1000
T1200 FB
T1200 HB
T1600
T3100E
T3200
T5100
T5200/40
T5200/100

ZENITH

SUPERSPORT
SUPERSPORT
SUPERSPORT 286
SUPERSPORT 286
TURBOSPORT 386

	DISK	RAM	MHZ
DD	640K	640K	959
40MB	640K	640K	1639
40MB	640K	12MHZ VGA	2578
CPU			
8086	720K	512K	555
8086	720K	1MB	1115
8086	20MB	1MB	1790
80286	20MB	1MB	PLEASE CALL
80286	20MB	640K	1995
80286	40MB	1MB	PLEASE CALL
80386	40MB	2MB	3290
80386	40MB	2MB	4795
80386	100MB	2MB	4795
DISK			
DD	640	8MHZ	919
20MB	640	8MHZ	1630
20MB	1MB	12MHZ	1999
40MB	1MB	12MHZ	2380
40MB	2MB	12MHZ	3099

PRINTERS

CITIZEN

120-D	9 PIN	80 COL	144 CPS	25 NLO	115
MSP-15E	9 PIN	136 COL	160 CPS	40 NLO	198
MSP 40	9 PIN	80 COL	240 CPS	50 NLO	228
MSP 45	9 PIN	136 COL	240 CPS	50 NLO	259
MSP 50	9 PIN	80 COL	300 CPS	60 NLO	292
MSP 55	9 PIN	136 COL	300 CPS	60 NLO	292
HOP 40	24 PIN	80 COL	200 CPS	66 NLO	297
HOP 45	24 PIN	136 COL	200 CPS	66 NLO	297

HEWLETT PACKARD

DESKJET LASER QUALITY
PAINTJET MULTI-COLOUR PRINTING 80
COL 167 CPS

RUGGED WRITER 480 CPS 240 NLO

MANNESMANN TALLY

MT81 9 PIN 80 COL 130 CPS 26 NLO

NEC

P2200	24 PIN	80 COL	168 CPS	56 LO	277
SHEET FEEDER					48
P6-	24 PIN	80 COL	265 CPS	90 LO	439
SHEET FEEDER					88
P7-	24 PIN	136 COL	285 CPS	90 LO	563
SHEET FEEDER					110
P960XL PARALLEL PRINTER					707

OKI

PLEASE CALL FOR FULL RANGE AT BEST PRICES

PANASONIC

1081					126
1124					254

STAR

LC10					159
LC10 COLOUR					205
NX15					263
LC24-10	24 PIN				265
NEW FR-10	9 PIN	80 COL			313
NEW FR-15	9 PIN	136 COL			408
NEW XR24-10	24 PIN	80 COL			408
NEW XR24-15	24 PIN	136 COL			538

MONITORS & TERMINALS

NEC

MULTISYNC GS 14" PAPER WHITE					132
MULTISYNC PLUS 15" COLOUR					623
MULTISYNC XL 20" COLOUR FLAT SCREEN					1325
MULTISYNC 2A NEW 14" SUPER VGA					479
MULTISYNC 3D NEW 14" VGA					639

PHILIPS

PHILIPS 1071					PLEASE CALL
PHILIPS 8833					196
PHILIPS 5040					339

WYSE TERMINALS

WY30					224
WY50					294
WY60					357
WY85					338
WY99GT					415
WY120					316
WY350					597

MODEMS

DOWTY QUATTRO
PLEASE CALL FOR FURTHER PRICES ON DOWTY RANGE.
ALSO AVAILABLE AT REALISTIC PRICES TRICOM, MIRACOM,
HAYES, RACAL, GANDOLF

HARD DISK/CARDS

SEAGATE - (CONTROLLERS & CABLES EXTRA)					155
ST225	20MB	61MS			165
ST238	30MB	61MS RLL			282
ST251-1	40MB	28MS			232
ST277R	60MB	40MS RLL			495
ST4096	80MB	28MS			

MEGALINK - EXTERNAL DRIVES

5.25	12MB FOR TOSHIBA LAPTOPS	PLEASE CALL
5.25	12MB FOR ZENITH S. SPORT	PLEASE CALL
5.25	12MB FOR COMPAQ SLT	PLEASE CALL
5.25	360K FOR EPSON & TOSHIBA	PLEASE CALL

TAPE STREAMERS

JUMBO	INTERNAL	EXTERNAL
DJ10 40/60MB	269	379

MEGASAFE

40 MB FOR ALL TOSHIBA LAPTOPS
40 MB FOR ALL ZENITH SUPERSPORT

PROCESSORS

INTEL		
8087	5MHZ	95
8087-2	8MHZ	99
8087-1	10MHZ	169
80287-6	6MHZ	133
80287-8	8MHZ	168
80287-10	10MHZ	188
8038716SX10	16MHZ	305
8038720SX10	20MHZ	325
8038725SX10	25MHZ	489
80387SX16	16MHZ	270

LASER PRINTERS

CANON LBP8II		1319
CANON LBP8IIT		PLEASE CALL
HP LASERJET II		1299
HP LASERJET IIT		1999
MANNESMANN TALLY MT905		989
PANASONIC KX - P4450		PLEASE CALL
QUIME CRYSTAL PRINT II		PLEASE CALL

SOFTWARE

DBASE IV		355
MSWORD V5		259
LOTUS 1-2-3 V3		255
WORDSTAR PROFESSIONAL 5		213
WORDPERFECT V5		213
PAGEMAKER V3		479
VENTURA V2		479
VENTURA PRO EXT		349
SMARTWARE II		346
SPRINT		139
SUPERCALC 5		194
PC TOOLS DELUXE V5.5 (NEW)		79
NORTON ADV UTILITIES		69
CARBON COPY PLUS		109
CLIPPER		299
TIMEWORKS		99

- 1000'S OF OTHER TITLES AVAILABLE PLEASE CALL
- ALL ADVERTISED SOFTWARE GENUINE U.K. PRODUCTS

NETWORKING SOFTWARE

NOVELL Networking Software available.

COMPUTING BOOKS

A full range of Computing books can be supplied.

- CREDIT CARDS NOT DEBITED UNTIL DESPATCH • EXPORT & TRADE ENQUIRIES WELCOME
- FULL SERVICE & ON SITE MAINTENANCE IF REQUIRED • GOVT, EDU, PLC'S ALL WELCOME
- LARGER ORDERS SUBJECT TO FURTHER DISCOUNTS.



DATA-X LTD

COMPUTER PRODUCTS DIVISION

Richmond House, Avonmouth Way,

Avonmouth, Bristol BS11 8DE

Telephone: 0272 820033 Fax: 0272 820039

All prices are C.W.O. or credit card and subject to our terms and conditions. Accepted at our discretion and bound by our terms and conditions. All returns must be authorised by technical department. Non valid returns subject to 10% restocking charge. All software is manufacturers warranty only. All prices exclude VAT and Carriage where applicable. Prices correct at time of going to press.

We are pleased to accept the following credit cards.



ORDER
HOTLINE

0272 820033

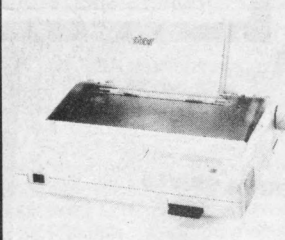


LOW LOW PRICES

star LC 24-10 £259.90

£226 + VAT

Including VAT and FREE lead
(PC Compatibles/Amstrad PC/ST/Amiga)
UK Version - Brand New - 1 Year Parts/Labour Warranty



Speed:	170 cps draft elite	CHARACTER SET:
Slewwrite:	57 cps LQ Elite	
LQ Matrix:	21 Lines per second (3.4" PS)	ASCII, International, italic and IBM in both draft and LQ.
Graphics Resolution:	24 x 35 360 DPI	1 x draft font: 8 x LQ fonts: Courier, Courier italic, Prestige, Prestige italic, Orator, Orator italic, Script, Script italic.
Printing:	Bi-directional logic (short line seeking)	3 x print variations: Outline, shadow, shadowed outline.
Number of Pins:	24	50 downloadable characters (expandable to 221 with 32K RAM)
Interface:	Parallel, IBM Proprinter X24, Pro II, Proprinter, Epson LQ800, LQ1500.	
Buffer:	7K	
Dimensions:	410mm (w) 328mm (d) by 120mm (h)	

Original STAR Accessories - LOW PRICES -
Only if purchased with Printer (includes VAT)

Black Ribbon (LC24 -10).....£4.99	Cut Sheet Feeder.....£59.95
Font Cartridges (LC24 -10).....£44.95	32KB RAM Card (LC24-10).....£54.95
Black Ribbon (LC10).....£3.99	

Printer Star LC10.....£164.95
LC10 Colour.....£214.95



HURRY LIMITED STOCK

EALING COMPUTER CENTRE

19, Queen's Parade, London. W5 3HU
Tel: 01 991 0928
For Next Day Courier add £7.99
Access and Visa - all offers subject to availability - E. & O.E.

AURORA BUSINESS ACCOUNTING

"THE POWER OF PEGASUS WITHOUT THE PRICE"

NEW SINGLE USER MODULES
£99 + VAT inc delivery
OR BUY
SALE, PURCHASE &
NOMINAL LEDGERS
FOR ONLY **£250 + VAT**

Why not evaluate our shareware demo version Fully working package but limited to 10 accounts **£5 + VAT including delivery** Upgradable to unlimited accounts on registration

AURORA BUSINESS COMPUTERS LTD.
33, STURDEE ROAD, MILEHOUSE,
PLYMOUTH. PL2 3AT

Telephone: **0752 550005**

Dealer Enquires Welcome.
Bundle Deals available.

All registered trade marks acknowledged.

● EPSON AX80 HD

£2,499 (excl. monitor) • 0442 61144 • 80286 CPU • 640K • CGA • 1 parallel port • 1 serial port • 6 expansion slots • 80Mb hard drive
Ridiculously overpriced top of range computer from Epson. Price does not include a monitor (!).

Power: 64
Desirability: 0

VALUE FOR MONEY: ★

● IBM PS/2 30

£1,298 • 01 747 0747 • 8086 CPU • 640K RAM • EGA • 1 parallel port • 1 serial port • 3 expansion slots • 3.5 floppy
IBM's starter machine. Very well made, reliable and with the backing of Big Blue. Not cheap, but then the best always costs a little more, right?

Power: 48
Desirability: 75

VALUE FOR MONEY: ★★

● IBM PS/2 50

£2,389 • 01 747 0747 • 80286 CPU • 1MB RAM • VGA • 1 parallel port • 1 serial port • 3 expansion slots • 20Mb hard drive

From the company that started it all, the mid-range computer. All the superlatives associated with the model 30 and 10 times the desirability.

Power: 65
Desirability: 95

VALUE FOR MONEY: ★★

● IBM PS/2 80

£4,407 (from) • 01 747 0747 • 80386 CPU • 2MB RAM • VGA • 1 parallel port • 1 serial port • 7 expansion slots • 44-314Mb hard drive • 1.2 Mb floppy • floor standing

The computer from the computer company.

Power: 103
Desirability: 100

VALUE FOR MONEY: ★★

● NEC POWERMATE 1

£1,395 • 01 993 8111 • 80286 CPU • 640K RAM • VGA • 1 serial • 1 parallel • 6 expansion slots • 20Mb hard drive

NEC's entry level computer. Fast but expensive.

Power: 59
Desirability: 50

VALUE FOR MONEY: ★★★

● NEC POWERMATE 386 20

£5,895 (excl. monitor) • 01 993 8111 • 80386 CPU • 2Mb RAM • VGA 2 serial ports • 1 parallel port • 8 expansion slots • 300Mb hard drive

Top of range NEC 386-based machine. Vast power but an expensive buy.

Power: 95
Desirability: 65

VALUE FOR MONEY: ★★

● NESS AT-286 S

£1,195 • 01 806 1072 • 80286 CPU • 512K RAM • CGA • 2 parallel ports • 1 serial port • 5 expansion slots • 20Mb hard drive
Mid-range PC compatible notable only for its non-conformist specifications!

Power: 61
Desirability: 30

VALUE FOR MONEY: ★★

● OPUS PCIII SF TURBO

£549 • 0733 765080 • 8088 CPU • 256K RAM • CGA • 1 parallel port • 1 serial port • 7 expansion slots • 5.25 floppy

The UK's second largest PC compatible manufacturer (Amstrad being the first) Opus have a fine reputation for quality machines. The PCIII is ideal for use as a LAN terminal.

Power: 34
Desirability: 30

VALUE FOR MONEY: ★

● OPUS PCIV TURBO

£995 • 0733 765080 • 80C88 CPU • 768K RAM • CGA • 1 parallel port • 1 serial port • 2 expansion slots • 20Mb hard drive

Mid-range Opus machine which is reasonably priced but lacking in expansion options.

Power: 41
Desirability: 40

VALUE FOR MONEY: ★★

● OPUS PCVI TURBO

£1,295 (from) • 0733 765080 • 80286 CPU • 1Mb RAM • VGA • 1 parallel port • 1 serial port • 5 expansion slots • 60Mb hard drive • mouse port

Top of range computer from Opus featuring good specifications and a reasonable price.

Power: 79
Desirability: 65

VALUE FOR MONEY: ★★

● PHILIPS NMS 9115

£799 • 01 689 2166 • 8088 CPU • 640K RAM • EGA • 1 parallel port • 1 serial port • 4 expansion slots • 20Mb hard drive

Philips is a company with a deservedly good reputation in the consumer electronics market place for good quality, reliable and well made equipment. The NMS 9115 is the mid-range PC compatible from the company, offering decent specifications and a moderate price, the machine is worth more than a cursory glance.

Power: 50
Desirability: 45

VALUE FOR MONEY: ●●●

● PHILIPS PC FAX 2

£1,049 • 01 689 2166 • 8088 CPU • 640K RAM • CGA • 1 parallel port • 1 serial port • 4 expansion slots • 20Mb hard drive • internal FAX card
The Philips PC Fax-2 offers the unusual add-on of a FAX card included in the

ATARI ST and AMIGA

Sixteen Bit Superdeals from the Sixteen Bit Specialists !

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

NEW !!

520 STFM Power Pack £359.00

Inc. VAT and Next Day Delivery

Power Pack includes:

- ★ 520 STFM 512K Keyboard with Built-in 1 Megabyte disk drive and TV Modulator
 - ★ Over £550 worth of games software, including OutRun, Gauntlet 2, R-Type, Space Harrier, Super HangOn and 16 more Top Games
 - ★ Organiser Business Software including WORDPROCESSOR, SPREADSHEET and DATABASE.
 - ★ First BASIC and First Music Utility Software
 - ★ FREE JOYSTICK AND FREE MOUSE MAT WORTH £4.95
 - ★ All leads, manuals PLUS MOUSE and free mains plug!
- REMEMBER!** Many ST's do not come with BASIC - ours come with ST BASIC REV D by Metacomco.

520STFM Explorer Pack £279.00

- ★ Explorer Pack Includes 520STFM 512K Keyboard with built-in 1 Megabyte Disk Drive and TV Modulator
- ★ 1 FREE Game, ST Tutorial and METACOMCO Basic worth £25.00
- ★ All Leads, Manuals PLUS MOUSE and FREE Mains Plug! ★ Free mouse mat worth £4.95

1040STFM Midi Music Pack £439.00

- ★ Includes 1 megabyte keyboard plus Pro 12 Midi Music Software

1040STFM Business Pack £439.00

Business Pack includes:

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

MEGA 1 BUSINESS PACK £529.00

Features:

- ★ Separate Keyboard and System Unit
 - ★ All the Software included with 1040 STFM Business Pack.
 - ★ Blitter chip installed for faster graphics
- Inc SM124 Mono Monitor..... £628.00

ACCESSORIES

Quickshot II Turbo Joystick.....£9.95	Branded Memorex 3.5" DS DD Disks
Competition Pro 5000 Joystick.....£13.95	Box of 10.....£13.95
Competition Pro with Autofire.....£14.95	Memorex Disk Box
Konix Speedking Joystick.....£11.95	For 40 3.5" Disks.....£8.95
Red Mouse Mat with Amiga logo...£5.95	Amiga 1/2 Meg Expansion.....£119.95
Plain blue Mouse Mat.....£4.95	Control Centre Atari or Amiga.....£39.95
Contriver Amiga and ST Mouse with FREE Holder and Mouse Pad £20.95	

PRINTERS

Star LC24-10 24 pin incl. lead ST/Amiga.....£279.00	
Star LC10 including interface lead for ST/Amiga.....£169.00	
Star LC10 colour including interface lead for ST/Amiga.....£219.00	
Citizen 120D including interface lead for ST/Amiga.....£159.00	
SEIKOSHA 80 COLUMN PRINTERS - AMAZING PRICES	
Seikosha 9 pin NLQ including interface lead for ST/Amiga.....£139.00	
Seikosha 24 pin LQ including interface lead for ST/Amiga.....£259.00	

Amiga A500 Games Pack £379.00

Inc VAT and Next Day Delivery

NEW LOW PRICES!

Game Pack includes:

- ★ Amiga A500 512K Keyboard with Built-in 1 Megabyte disk drive.
- ★ Free TV modulator worth £24.99 allowing you to use the Amiga with a normal TV.
- ★ £230 worth of Games Software, including BUGGY BOY, MERCENARY, BARBARIAN, WIZBALL & six more games.
- ★ PHOTON PAINT or SPRITZ GRAPHICS PACKAGE worth over £50.00.
- ★ FREE MOUSE MAT worth £4.95
- ★ Amiga BASIC, Amiga EXTRAS 1.3, Workbench 1.3 PLUS the Amiga Step by Step Tutorial.
- ★ All leads, manuals PLUS MOUSE and mains plug!

Amiga A500 StandAlone £359.00

- ★ Amiga A500 as above but without the £230.00 worth of Games Software

Amiga A500 Business & Games Pack £449.00

NEW !

includes everything in our Amiga Games Pack PLUS a Comprehensive Suite of Business Programs including, Scribble II WORDPROCESSOR, Analyze II Spreadsheet and Organise Database.

AMIGA 1 MEG! £489.00

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

AMIGA 1 MEG + £509.00

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

EXTERNAL DISK DRIVES

Atari SF314 1 Megabyte.....	£139.00
Amiga A1010 1 Megabyte.....	£139.00
Cumana 1 Megabyte Atari or Amiga.....	£99.95
NEC 1 Megabyte Atari or Amiga.....	£89.95
Atari Megafile 30 Hard Disk.....	£449.00
New! Commodore A590 20 meg hard disk.....	£369.00

MONITORS

Commodore Amiga A1084 Stereo colour Monitor inc lead.....	£239.00
Atari SC1224 Colour Monitor inc lead.....	£249.00
Atari SM124 Mono Monitor including lead.....	£104.00
Philips CM8833 stereo colour monitor inc. lead for ST or Amiga.....	£229.00

CREDIT CARD ORDERLINE ☎ 0908 78008 (Mon - Sat 9am - 6pm)

To order either call the orderline above with your Credit Card details OR make a cheque or P.O. payable to Digicom Computer Services and send it with your order to the address below. Callers are also most welcome at the address below

DIGICOM

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



We Accept EXPRESS VOUCHERS

ACCESS

DATAPLEX
10 Petersfield Avenue, Slough,
Berkshire SL2 5DN
Tel 0753 35557

All prices excluding VAT and delivery

We Accept EXPRESS VOUCHERS

VISA

AMIGA HARDWARE	
A500 complete	279.00
A500 + TV Modulator	295.00
A500 + £200 worth games + TV Modulator + Joystick	305.00
Photon Paint Pack335.00	
Includes: A500 + TV Modulator, Photon Paint, Tenstar Pack (Games worth over £230)	
1084S Monitor Pack£552.00	
Includes: A500 + TV Modulator, 1084S Colour Monitor, Photon Paint, Tenstar Pack.	
AMIGA ACCESSORIES	
A501 - 512K Ram	113.00
FREE Fitting if bought with Amiga 500!	
Amiga Joystick	8.00
TV Modulator	19.00
Mouse Mat	4.00
Amiga to Philips Lead	5.00
Amiga to Printer Lead	10.00
DATAPLEX DRIVES	
1MB 3.5" External Drive	68.00
1MB 3.5" Internal Drive	63.00
1MB 5.25" Floppy Drive	106.00
DATAPLEX HARD DRIVES	
20MB drive A500/1000	478.00
30MB drive A500/1000	529.00
60MB drive A500/1000	910.00
<i>Please ring for other capacity drives.</i>	
PHILIPS MONITORS	
CM8833 14" RGB/CVBS mon	189.00
BM7723 14" Amber Monitor	89.00
CM8852 hi res col.mon	249.00
PRINTERS	
Amstrad LQ3500 DI	195.00
Amstrad DMP4000	207.00
Amstrad LQ5000 DI	310.00
DOT MATRIX RANGE	
Citizen 120D	110.00
Citizen 180E	127.00
New 24pin swift 24	255.00
Colour upgrade for swift	42.00
<i>All Citizen printers come with 2 year warranty</i>	
Epson LX400	145.00
Epson FX850	299.00
Epson FX1050	399.00
Epson EX800	425.00
Epson EX1000	581.00
Epson LQ500	249.00
Epson LQ1050542.00	
Epson LQ850404.00	
HEWLETT PACKARD	
Thinkjet	265.00
Quietjet	343.00
Quietjet+	412.00
Deskjet	443.00
Deskjet +	535.00
Painjet	685.00
Rugged Writer	865.00
<i>All Hewlett Packard printers come with 12 months on site warranty</i>	
Star LC10 mono	135.00
Star LC10 Colour	175.00
Star LC24-10	225.00
Seikosha SP180	105.00
9 pin 80 colmn, 100cps:F/T	
Seikosha SP1200	119.00
9 pin 80 colmn, 120cps: F/T	
Seikosha SL80 A1	224.00
80 colmn 24 pin	
NEC P2200	265.00
NEC P565XL	814.99
NEC P6 + 80 character	414.00
NEC P7 136 character	534.00
Colour upgrade kit	80.00
Panasonic KXP 1081	128.00
Panasonic KXP1124	249.00
Sheetfeeder	89.00
Panasonic KXP1180	165.00
Panasonic KXP 1582	253.00
Panasonic KXP1595	344.00
Panasonic KXP1540	428.00
NEW MANNESMANN TALLY LAUNCH OFFER	
MT81 (dot matrix)	110.00
Sheetfeeder	62.00
Serial I/F	62.00
Professional Repairs Carried Out On Our Premises.	
RIBBONS	
KXP1081/1090/112	4.00
DMP 2000/3000/3160	2.80
DMP 4000	4.40
PCW 8256/LQ3500	4.50
Panasonic 3131/MP26	4.40
FX800/RX/MX/FX80	3.15
FX1000/FX/RX100	4.40
NL 10	4.40
LQ500/800/850	4.40
LC10	4.40
NEC	5.00

price. An ideal computer for those concerned with communication as well as computing.

Power: 50
Desirability: 60

VALUE FOR MONEY: ★

● **RSC 386T 20**
£2,229 (from) • 0923 243301 • 80386 CPU • 2Mb RAM • EGA • 1 parallel port • 2 serial port • 8 expansion slots • 40-122Mb hard drive

Top of range 386 computer from relative newcomer RSC. Thoughtful design and quality construction guarantee the machine a share of the market.

Power: 97
Desirability: 75

VALUE FOR MONEY: ★★★

● **SAMSUNG SPC 3000/2**
£699 • 01 391 0168 • 8088 CPU • 640K RAM • CGA • 1 parallel port • 1 serial port • 7 expansion slots • 5.25 floppy

Entry-level PC compatible from Korean computer manufacturer Samsung. The SPC3000 offers a good range of expansion options, quality construction and reliability.

Power: 41
Desirability: 50

VALUE FOR MONEY: ★★

● **SAMSUNG MFC 6000/2**
£1,499 • 01 391 0168 • 80286 CPU • 1MB RAM • EGA • 1 parallel port • 1 serial port • 6 expansion slots • 20Mb hard drive • 1.2Mb floppy

Samsung's attempt at attracting the power user, the MFC6000 computer is powerful and like all Samsung computers, well made and reliable.

Power: 45
Desirability: 47

VALUE FOR MONEY: ★★★

● **SCHNEIDER EURO PC**
£458.85 • 0604 766572 • 8088 CPU • 512K RAM • CGA • 1 parallel port • 1 serial port • 1 expansion slot • 3.5 floppy • bundled software

Entry-level PC compatible which breaks with the traditional '3 box' style of PC design and instead, includes motherboard and drive in the keyboard (similar to Atari ST and Commodore Amiga) - fine but where do you put expansion cards? There is one expansion port at the rear of the computer the use of which entails having your add-on hanging free at the exposed rear. Definitely for those with severely limited budgets (for another £50 you can have the Amstrad PC1640).

Power: 31
Desirability: 5

VALUE FOR MONEY: no stars

● **SCHNEIDER TOWER AT**
£799 (from) • 0604 766572 • 80286 CPU • 512K • EGA • 1 serial port • 1 parallel port • 5 expansion slots • 20Mb hard drive • bundled software

The exact opposite of Schneider's other computer the Euro PC, the Tower AT is aimed at the power user with money to burn. However the machine offers reasonable specifications at a very moderate price and as such deserves your attention.

Power: 50
Desirability: 60

VALUE FOR MONEY: ★

slots • 20Mb hard drive • bundled software

Power: 50
Desirability: 45

VALUE FOR MONEY: ★★★

● **TANDON PCX20**
£1045 • 0572 46800 • 80C88 CPU • 640K RAM • CGA • 1 parallel port • 1 serial port • 5 expansion slots • 20Mb hard drive

Tandon is a computer manufacturer responsible for a large range of PC and AT compatibles. The PCX 20 is an entry level computer which is robust and fully featured - worthy of close examination for those looking for a first PC.

Power: 47
Desirability: 50

VALUE FOR MONEY: ★★★

● **TANDON PAC286 1.2 PLUS**
£1,688 • 0572 46800 • 80286 CPU • 1Mb RAM • DISPLAY • 1 parallel port • 1 serial port • 3 expansion slots • 20Mb hard drive • 1.2Mb floppy

Mid-range 286-based AT compatible from Tandon featuring a high density floppy drive as standard. A little expensive.

Power: 65
Desirability: 55

VALUE FOR MONEY: ★★

● **TANDON 382/20 110**
£3,399 • 0572 46800 • 80386 CPU • 1Mb RAM • VGA • 1 parallel port • 1 serial port • 5 expansion slots • 110Mb hard drive • Microsoft windows

Top of range Tandon 386 featuring large capacity 110 megabyte hard drive, robust construction and reliability. This machine has everything you could ask of a PC compatible machine and has a price to match.

Power: 79
Desirability: 65

VALUE FOR MONEY: ★★★

● **TANDY 1000SL**
£695 (from) • 0922 710000 • 8086 CPU • 384K RAM • CGA • 1 parallel port • 1 serial port • 5 expansion slots • 20Mb hard drive

Tandy (AKA Radio Shack in the States) is a company with a large amount of experience in the electronics industry. Tandy has numerous outlets around the country and the person-power to cope with warranty repairs etc., consequently Tandy PC compatibles are a surprisingly good buy if a little expensive. The 1000SL is an unusual looking entry level computer which suffers from a small RAM to large price ratio.

Power: 44
Desirability: 20

VALUE FOR MONEY: ★★★

Gilroy Consultants Ltd

20 Fairways, Isleworth, Middlesex. TW7 4LB

Tel: 01 568 9183; 01 560 7366 Fax: 01 568 8357

PROFESSIONAL SOFTWARE

Hospitality - HOTEL ADMINISTRATION AND RESERVATION SYSTEM
Bookings, Reservations, Sales etc.

£650

ChiWriter - Scientific and Linguistic Word Processor
Standard Version, European Languages and Maths Symbols

£150

Deluxe Version, as above plus Russian and Chemistry Symbols

£230

The New Olivetti Colour Printer DM105S
ONLY £200.00

Video 1 - Video Club Administration System

Daily Transactions, Reservations, Stock and Customer Control, Screen Enquiries, Print Reports

£100

Esti2 - Invoicing and Estimating System for the Printing Trade
Customer File, Calculations based on Stock and Action Codes held on disk

£120

QFile Utility - Selective Copying and deletion of files held in various directories

£45

Prices are exclusive of VAT, but include P&P. User Guides supplied with software and training given if required at moderate charges.

For All IBM PC and Compatibles
Terms: Postal Order/Cheque with order



SUMMER SALE

A500 Kickstart 1.3 + 8 Games + Joystick.....	£379
1 Meg Amiga Pack (as above plus Ram expansion).....	£459
1 Meg Amiga Pack (Ram expansion with Clock).....	£469

These are new machines with full Commodore UK warranty mouse/modulator etc. and FREE courier delivery.

NEXT DAY COURIER DELIVERY TO UK MAINLAND ONLY £5

A500 Second Drive - Quiet NEC Mechanism	£79.95
Able/Disable Switch - Through Port.....	£129.95
Commodore A501 Ram Expansion.....	£99.95
1/2 Meg Ram Expansion (With Clock).....	£89.95
1/2 Meg Ram Expansion (Without Clock).....	£89.95

Commodore A590 20MEG HARD DRIVE.....	£399
A590 Drive Fitted with 1 meg memory.....	£529
A590 Drive Fitted with 2 meg memory.....	£629
1 Meg of Memory for A590.....	£159
2 Meg of Memory for A590.....	£299
256x4 CMOS DRAM 120ns.....	£25

Best Quality Guaranteed Disks New LOWER prices

3 1/2" DSDD with 1 for 1 guarantee (each).....	£0.75
3 1/2" DSDD with 1 for 1 guarantee (50).....	£37.00
3 1/2" DSDD with 1 for 1 guarantee (100).....	£72.00
3 1/2" DSDD Branded with 2 for 1 Guarantee (10).....	£12.95
Disc Box Holds 40 3 1/2" Discs.....	£4.99
Disc Box (Lockable) Holds 80 3 1/2" Discs.....	£7.99
Disc Box (Lockable) Holds 100 3 1/2" Discs.....	£8.99

Caspell's Ribbon Refresh

Re-Ink your Fabric Printer Ribbon. 160ml Can£7.95
This will Re-Ink around 30 Ribbons Save Pounds

The Computer Store

Unit 82 In Shops, 2-8 Greenwood Way,
Chelmsley Wood Shopping Centre, Birmingham B37 5TL

Callers Welcome



Post Free

021 770 0468

PROCON COMPUTERS IRELAND

DTP for under
£3000.00

Schneider 80 260/286 PC.
65 MB HD + 720k 3 1/2"
Drive
EGA Colour Monitor Mouse
MS-DOS, GW BASIC.
Sprinter Lazer Printer

FREE

Timeworks DTP
Microsoft Works
Onsight Maintenance Contract
Briefcase

I.R. £299.00

Procon

18 Parnell Street
Clonmel
Co. Tipp
Eire

Tel: Eire 052 25537

SPECIAL OFFER:

★ Star L8 HP II Compatible 8PPM

+

★ FREE Timeworks DTP

★ I.R. £2295.00

★ Schneider Sprinter Lazer
Printer

★ I.R. £1499.00

★ Full range of:
Opus, Lazer, Schneider,
Amstrad, Sinclair, Star, Qume,
QMS etc.

★ Computers, Printers, Software
and Shareware for Business &
Hobbies alike.

★ Programming
★ Advice, Training,
★ DTP, Typing,
★ Sales, Supplies
★ and Upgrades.

● TANDY 5000MC

£4,995 • 0922 710000 • 80386
CPU • 2MB RAM • EGA • 1 parallel
port • 1 serial port • 10 expansion
slots • 40Mb hard drive • bundled
software

Fully-featured 386 computer from Tandy.
High constructional quality and plenty of
expansion possibilities ensure the
50000MC a rosy future.

Power: 99

Desirability: 75

VALUE FOR MONEY: ★★

● VICTOR VPC11C

£1,099 (from) • 0494 461600 •
8086 CPU • 640K RAM • CGA • 1
parallel port • 1 serial port • 3
expansion slots • 30-60Mb hard
drive

No-frills PC compatible from relative new-
comer Victor. The machine is well made,
has a super keyboard and crisp display.
A little expensive at £1100.

Power: 48

Desirability: 35

VALUE FOR MONEY: ★★★

● VICTOR V286S

£2,499 • 0494 461600 • 80286
CPU • 1Mb hard drive • CGA • 1 par-
allel port • 1 serial port • 8 expan-
sion slots • 40-130Mb hard drive

The V286S is the mid-range machine of
the six machines currently marketed by
Victor. Rather expensive, but of stout
construction and reliable.

Power: 70

Desirability: 60

VALUE FOR MONEY: ★★

● VICTOR V386S

£3,999 • 0494 461600 • 80386
CPU • 2Mb RAM • VGA • 1 parallel
port • 1 serial port • 8 expansion

slots • 130Mb hard drive

Top of range 386-based computer from
Victor. Expensive.

Power: 95

Desirability: 70

VALUE FOR MONEY: ★★★★★

● VIGLEN VIG1

£789 • 01 843 9903 • V20 CPU •
640K RAM • CGA • 1 parallel port •
1 serial port • 5 expansion slots •
30Mb hard drive

The VIG 1 is an imaginatively titled entry-
level computer from Viglen. Fully-featured
and cheap, the machine deserves a sec-
ond look.

Power: 57

Desirability: 50

VALUE FOR MONEY: ★★

● VIGLEN VIG1 PLUS

£1,189 • 01 843 9903 • 80286 CPU
• 640K RAM • VGA • 1 parallel port •
1 serial port • 5 expansion slots •
30Mb hard drive

Mid-range 286 machine from Viglen
labouring under the unfortunate name of
the VIG 1 (sounds rather like a Gerry and
Sylvia Anderson creation) which nonethe-
less an excellent and cheap computer
worthy of your attention.

Power: 77

Desirability: 70

VALUE FOR MONEY: ★★

● ZENITH EASY PC

£499 • 06286 68588 • V40 CPU •
512K RAM • CGA • 1 parallel port •
1 serial port • no expansion slots •
3.5 floppy

Appalling trash computer from Zenith.

Power: 29

Desirability: 0

VALUE FOR MONEY: no stars

In next week's
**SHOPPING
EXPRESS
BUYER'S GUIDE
THE TOP 50
WORD PROCESSORS
DATABASES &
SPREADSHEETS**

GOLDMASTERDISKS GOLDMASTERDISKS GOLDMASTERDISKS GOLDMASTERDISKS

TEL: **ANDRON SOFTWARE** FAX: 0604 831427
 0604 831427 6 MOORS CLOSE 0604 831427
 (24 hours) BUGBROOKE
 NORTHAMPTON NN7 3PN

Full range of quality shareware at extra low prices
 only £1.25 per disc + VAT + Postage

Just a few examples

Galaxy.....WP (1)	Automenu.....MN (1)	Spoker.....AGame
NY. Word....WP (2)	PC-Keydraw...DP (4)	PCFile+.....DB (3)
Aseasyas....SS (1)	Altimira.....DP (1)	Wampum.....DB (2)
EZ-FormsLite.... (2)	Treeview.....UT (1)	LQ2.....PE (2)
EZ-Forms.EXE. (1)	Spell Check....SP (2)	Black Magic..WP

Catalogue £1.00 or FREE with first order.

Unbranded blank discs at special prices with lifetime guarantee.

	each	10+	20+	50+	100
5.25	48 tpi.....360k	25p	2.50	5.00	12.50
	96 tpi.....720k	40p	3.90	7.88	19.00
3.5	135 tpi.....5 meg	75p	7.50	14.50	36.50
	135 tpi.....1 meg	95p	9.50	18.50	45.00

Branded discs at low low prices with 2 for 1 lifetime guarantee
 with FREE storage box.

5.25	48 tpi.....360K	50p	5.00	10.00	24.00	46.00
	96 tpi.....720K	84p	8.00	16.00	37.00	72.00
	HD.....1.6 meg	1.30	12.50	24.50	58.00	114.00
3.5	135 tpi......5 meg	1.20	12.00	23.00	45.00	88.00
	135 tpi.....1 meg	1.75	17.50	35.00	75.00	150.00
	135 tpi.....2 meg	3.50	35.00	75.00	150.00	300.00

Disc boxes at **KNOCKDOWN PRICES**

	100 cap	50 cap	25 cap
5.25	6.00	3.50	3.00
3.5	4.50	3.00	3.00

SOFTWARE, HARDWARE, DISCS

WHY NOT TAKE OUT CLUB MEMBERSHIP AT ONLY £10 PER YEAR, SPECIAL PRICES ON SOFTWARE, HARDWARE, DISCS

We Accept EXPRESS VOUCHERS

THE AFFORDABLE SOLUTION

Amstrad PPC 640S with integral modem
 +
20MB Internal Hard Disk

HARD DISK FEATURES

- Totally Internal
- Fast access time
- Lightweight
- Rugged
- Autopark
- Very quiet

ONLY £948 (ex. VAT)
 Price includes delivery UK Mainland

Amstrad is the trademark of Amstrad Plc.

WE ALSO UPGRADE PPC'S

EXPANSION BOX FOR PPC (SLOT BOX)

NEW FEATURES:

- *FOUR FULL SIZE SLOTS
- *ADDITIONAL SPACE FOR:
 - 2 X 5 1/4" devices
 - 2 X 3 1/2" devices

A stand alone unit incorporating a unique temperature-controlled cooling fan. Unit also powers PPC. Output : 75W

ONLY £199.00 (inc. VAT & P+P)

For Further Information
RING: 01-390-2588
 Fax: 01-390-7144

ALFA
ELECTRONICS LTD
 MAPLE HOUSE
 97 EWELL ROAD
 SURBITON
 SURREY KT6 6AH

OR
 Contact your local Amstrad Business Dealer

MICROTECH BUSINESS SYSTEMS

APRICOT XEN-S PC SPECIAL OFFERS

80286 at 12.5 mhz 1 MB ram, VGA, 30MB hard disk, 3.5 inch 1.44MB disk drive VGA paper white monitor	£1399	80386SX at 16mhz 1MB ram, VGA, 30MB hard disk, 3.5 inch 1.44MB disk drive VGA paper white monitor	£1499
--	--------------	--	--------------

For VGA colour add £200

FULLY 'AT' COMPATIBLE

APRICOT XENTEL

pulse dial telephones
with software

£25

HCF1-SX

1000 page automatic document feeder
for all Canon II laser printers and
compatibles

£599

USED COMPUTERS AND PERIPHERALS BOUGHT AND SOLD

STAR PRINTER SUPERDEALS

LC10 130CPS draft...30 NLQ
Friction and Tractor feed

LC24-10 170CPS draft...57 CPS LQ
7K buffer - Friction and Tractor feed.

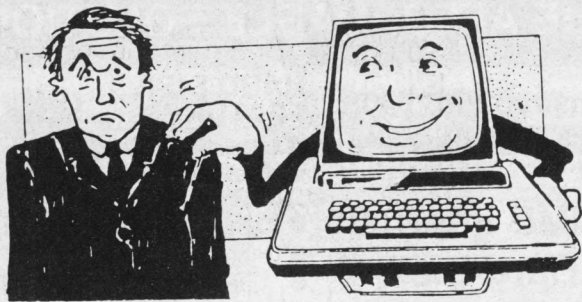
MONO £139
Colour £199
£219

GRAPHICS DEALS

VGA graphics card	£169
VGA 14" col monitor	£299
VGA P/White monitor	£79
EGA graphics card	£129
EGA 14" col monitor	£279

TEL (0934) 633875 FAX (0934) 612011

All prices exclude VAT and delivery



COMPUTERS + THE SMALL BUSINESS = SUCCESS

IF YOU CHOOSE THE RIGHT SYSTEM

In the busy and ever more complicated world of the small business you've got to run if you are going to retain or expand your position in the market. Nowadays this means the correct use of user-friendly computer technology - in other words, getting a business package that actually DOES what you bought it to do. Yet, in many firms this is not the case and expensive equipment lies idle, gathering dust, while better informed competitors steal a march on them ... but it doesn't have to be this way.

Our **ABM System** could be just what you're looking for. A complete accounts and business management system that's tailor-made for the busy self-employed small business person.

ABM GIVES YOU: ▽ Printout of end of year figures - accepted by Inland Revenue. ▽ Will you still need an accountant? ▽ Overdraft alert ▽ Complete cash analysis ▽ Automatic invoicing ▽ Automatic V.A.T. accounting ▽ Quarterly accounts + printout

EXCLUSIVELY WRITTEN FOR THE AMSTRAD PCW 8256/8512/9512.

THE PRICE IS RIGHT TOO JUST **£149.95** inc. VAT

Complete Systems can also be supplied.

For more details contact:-

John Seymour Street, EMBLEFORD HI-TECH, 22 EMBLEFORD CRESCENT, MORETONHAMPSTEAD, DEVON. TQ13 8LW. Telephone: (0647) 40876. FAX (0647) 40735

Dunning
COMPUTER SERVICES
Help Line
(0202) 431762

All prices INCLUDE VAT & CARRIAGE - no 'extras' to pay. Enquiries Welcome on our Help Line. Cheques/PO's with order please. All orders despatched same day subject to availability

Dept NCE, 32 Granville Rd, Bournemouth, Dorset BH5 2AH

DISKS	
3" CF2 per 5.....	11.75
3" CF2 per 10.....	22.45
3 1/2" DS/130 TPI per 10.....	12.95
3 1/2" DS/130 TPI per 25.....	26.95
5 1/4" DS/96 TPI per 10.....	6.45
5 1/4" DS/96 TPI per 25.....	£14.45

CONTINUOUS STATIONERY	
Full Range Available Forms Price	
11x 9.5 Per Box Per Box	
1 Part 60GSM (M) P1 or MRuled.....	2000 15.95
1 Part 70GSM (M) Plain.....	2000 17.95
1 Part 80GSM (M) Plain.....	2000 19.95
1 Part 85GSM (M) Plain.....	1000 13.52
2 Part NCR Plain.....	1000 21.39
3 Part NCR Plain.....	700 25.06
2 Part NCR TINT (white/pink).....	1000 26.27
3 Part NCR TINT (white/yellow/pink).....	750 £29.56
11x 6x 9.25 (A4 Size)	
1 Part 60GSM (M) Plain.....	2000 19.92
1 Part 70GSM (M) Plain.....	2000 20.61
1 Part 80GSM (M) Plain.....	2000 23.55
1 Part 85GSM (M) Plain.....	1000 14.67
2 Part NCR 80/57.....	1000 33.58
11 x 14.5	
1 Part 60GSM Plain or MRuled.....	2000 20.42
2 Part NCR Plain or MRuled.....	1000 27.14
3 Part NCR Plain or MRuled.....	700 33.61
(M) = Micro perfs on all edges	

LOOSE LEAF BOND PAPER	
A4 80GSM White Per ream (500 Sheets).....	7.95

COMPUTER LABELS - Top quality Avery labels								
2000		10000		2000		10000		
£		£		£		£		
1 ACROSS								
2 3/4 x 15/16.....	8.00	29.35	2 3/4 x 15/16.....	9.75	36.95	3 1/2 x 15/16.....	8.50	31.55
3 1/2 x 15/16.....	8.50	31.55	3 1/2 x 15/16.....	10.95	42.35	3 1/2 x 1 1/16.....	14.90	59.45
4 x 15/16.....	8.95	33.95	4 x 15/16.....	9.25	34.75	4 x 17/16.....	11.45	44.30
4 x 17/16.....	11.45	44.30	4 x 17/16.....	11.45	44.30	4 x 1 15/16.....	15.05	59.95
4 x 1 15/16.....	15.05	59.95						
2 ACROSS								
2 3/4 x 15/16.....	7.35	26.50	3 1/2 x 15/16.....	8.20	30.10	3 1/2 x 1 1/16.....	14.90	59.45
3 1/2 x 15/16.....	8.75	32.55	3 1/2 x 1 1/16.....	10.95	42.35	4 x 15/16.....	9.25	34.75
3 1/2 x 1 1/16.....	10.95	42.35	4 x 15/16.....	9.25	34.75	4 x 17/16.....	11.45	44.30
4 x 15/16.....	9.25	34.75	4 x 17/16.....	11.45	44.30	4 x 1 15/16.....	14.70	58.95
4 x 17/16.....	11.45	44.30	4 x 1 15/16.....	14.70	58.95			
4 x 1 15/16.....	14.70	58.95						
3 ACROSS								
2 3/4 x 15/16.....	7.16	25.67	3 1/2 x 15/16.....	7.31	25.32	3 1/2 x 1 1/16.....	13.18	51.20
3 1/2 x 15/16.....	8.64	31.97	3 1/2 x 1 1/16.....	9.75	36.95	4 x 15/16.....	8.20	30.10
3 1/2 x 1 1/16.....	9.75	36.95	4 x 15/16.....	8.20	30.10	4 x 17/16.....	11.11	43.15
4 x 15/16.....	8.20	30.10	4 x 17/16.....	11.11	43.15	4 x 1 15/16.....	14.58	58.37
4 x 17/16.....	11.11	43.15	4 x 1 15/16.....	14.58	58.37			
4 x 1 15/16.....	14.58	58.37						

FREE TAPE DISPENSER/CUTTER (worth £5.75) with every 10000 labels!

PC UPDATE

Agent Animateur

Those awfully nice people at Autodesk have sent me a press pack on their *Animator* package, their first venture into 'the burgeoning desktop video market'. As the name suggests, the product is intended for making computer-based animations, though from the content of the press release I think it is intended more for the business presentation market than as a rival to Disney.

I hope to report further on the product. Autodesk were kind enough to enclose an hour long video and a disk-based VGA demonstration. I haven't the heart to tell them I only have EGA on my PC, and that I live in one of the half dozen houses in the country which doesn't contain a video player!

Timeworks extra time

Timeworks DTP is, in my view, the best mid-price DTP package for the PC. This doesn't mean it's faultless, of course, but it certainly has fewer faults than any of the other programs I've used. While it's not as all-embracing as *Ventura*, it contains the important elements of typography and layout that a desktop publisher needs.

Now there's version 1.2, or at least there should be by the time you read this. It's main advantages are extensions to existing features, rather than radical rewrites of the main code. Things like extra printer support, additional text file import (from *WordStar 5* among others) and further paper formats, including A3, A4 and A5. It will also allow the full range of *Typographica* fonts to be displayed in the font selector box and handle HP downloadable fonts for laser printers.

These are all very laudable extensions to the system, but what I want to know is whether the new version will have sorted out the problems I've recently had. Will it be able to print an A5 page in the centre of an A4 sheet, positioning crop marks at the A5 corners? It's possible to mark these out by hand, of course, but all X,Y measurements are still taken from the top left-hand corner of the A4 sheet. This type of page make-up is ideal for preparing print masters of any A5 publication

which is going to be photo-lithographed.

A more minor problem is *Timeworks'* determination to change the spaces between words in unjustified lines of text. If you are producing a piece of flush-left text it's very disconcerting to have words split by unnecessarily large spaces. The only way currently to get around this problem is to tie the offending words together with a hard space (by pressing [Ctrl][Space]).

The upgrade to version 1.2 will cost £39.95, and you can claim a fiver back if you're a member of Softline. As an introductory offer, GST is also offering a free *Typographica* font of your choice. That really is a good deal - ring GST on (0480) 496660 for details of availability.

Protection racket

I recently had a graphics program called *Cameo Paint* through for review. It promised to be one of the first to take advantage of the 256 colours available in VGA mode, and was said to have been ported down from the Pluto graphics card. This was an add-on for the PC which was well received at its launch a few years back.

The program may well be very good, but at this stage I'm more interested in one of the other 'features' of the package. It installs as any other serious application does on the PC, by copying the appropriate files into a sub-directory of your hard disk. I did this, had spent some time playing around with the package, and was about to wipe it off my hard disk while having a 'clear-out'. I reasoned that as I had the masters there would be no problem.

Not a bit of it. If I'd wiped the *CAMEO* directory clean, I would have lost the program for good. It incorporates a protection scheme which requires the program to be deinstalled back to the master floppy before it can be moved to another hard disk, or reinstalled on the same one. There's no mention of a protection scheme on the packaging, and the only indication is a paragraph in the manual headed 'Uninstalling the software'.

This kind of thing makes me angry. With my user hat on I don't like copy-protection at the best of times, though in my supplier's hat it seems a necessary evil, given the state of piracy in the country. What I think is unforgivable is not making it completely clear to the user that the protection exists and that you need to take care to keep your investment intact! This should be printed in large letters, preferably on a seal across the disks.

Simon Williams

BASIC out of the nursery

There are a lot of people who poo-poo BASIC, more out of habit than logic. I've more recently written in Pascal, which imposes a structure that suits the way I write. I'd rather be told about my mistakes than have to find them out the hard way. For all that, modern BASICs have many of the structured features of Pascal and Modula 2, but with the flexibility of an interpreter. Most also include a compiler, of course.

A further feather in BASIC's cap is the recent adoption of *QuickBASIC* by Microsoft (its author) as the recommended language for applications programming under OS/2. Systems programming is still the province of C, but for the programs that give you all the fun benefits of the largest single user operating system on the market, *QuickBASIC*'s the one - and that's official.

Microsoft QuickBASIC 4.0

includes version 4.00

with hypertext QB Advisor

Debug Run

Micro

• Microsoft QuickBASIC: BASIC comes of age

ADVANTAGE PC SHAREWARE



WE ACCEPT EXPRESS VOUCHERS

- POPULAR TRIED & TESTED PROGRAMS
- FAST DESPATCH - FIRST CLASS
- EASY TO RUN AND USE



OUR PRICES INCLUDE VAT AND POSTAGE

5 DISCS	£13.25
4 DISCS	£11.25
3 DISCS	£9.45
2 DISCS	£6.95
1 DISC	£3.95

Over 5 Discs £2.50 each for 3.5" Please Add £1 per Disc

CALL 0242 224340 NOW!

WORDPROCESSING

- PC-WRITE The well-established multi-function WP
- PC TYPE+ Popular WP, Spell Checker, Undo, Help, 4 DISCS
- PC TYPE II Great new WP from Buttonware, 4 DISCS
- GALAXY Like WordStar with pull-down menus, 2 DISCS
- MINDREADER Clever WP anticipates what you're typing
- PC-OUTLINE Popular brain-storming ideas processor
- SPELLING CHECKER For most WP's. Can update dictionary
- THESAURUS Great when searching for alternative words
- TYPEWRITER EMULATOR For quick messages, envelopes etc

SPREADSHEETS

- PC-CALC+ Well-known Buttonware spreadsheet, 3 DISCS
- AS-EASY-AS Popular and easy to use, 123 Compatible
- GOALSEEKER Time-saving program helps create spreadsheets
- PIVOT! Prints spreadsheet in landscape or portrait mode

DATABASES

- PC-FILE+ Very popular database with mailmerge, 3 DISCS
- PC FILE-dB Base power at shareware prices, 3 DISCS
- WAMPUM Implements dBase III language-hard disc, 2 DISCS
- RECORD COLLECTOR Catalogue and sort your LP's & CDs
- HOME VIDEO Catalogue and sort your videos, 2 DISCS
- GENE GENIE Outstanding, new genealogy program, UK author
- FAMILY HISTORY Comprehensive genealogy program, 2 DISCS

HOME & BUSINESS

- FREEWAY CASHBOOK UK home account and budget, 3 DISCS
- FAST BUCKS Full feature account and budget, 2 DISCS
- HOME INVENTORY/HOME INSURANCE Log your assets
- FREEWAY ACCOUNTS PLUS Popular UK Package with Sales, Purchase & Nominal Ledgers, 3 DISCS
- FREEWAY PAYROLL designed for UK businesses, 3 DISCS
- 100 STANDARD BUSINESS LETTERS to use and adapt
- EZ-FORMS standard business forms to use and adapt
- LABEL MAKER Simple mailing label database and printing
- PROJECT MANAGEMENT Critical Path Analysis, Gantt Charts
- PRO-COMM Definitive communications program, 2 DISCS
- EAZI-LINK Supports Prestel and ViewData comms, 2 DISCS
- PC-DESKTEAM Handy calculator, notepad, diary, Mem-res
- HOMEBASE The shareware answer to Sidekick, 3 DISCS
- POWER MENU Recommended hard disc menu from Brown Bag
- PACKDISC Economise space and speed up your hard disc
- FLEXIBAK A fast easy to use hard disc backup program

EARLY LEARNING (AGE 3-8)

- AMANDA'S LETTER LOTTO Keyboard and letter skills
- ABC FUNKEYS Entertaining way to learn the alphabet
- AMY'S FIRST PRIMER Basic arithmetic and letters
- CHILDREN'S EDUCATION Teaching while at play:- Alphabet, Animals, Clockgame, Hangman and Mosaic
- NUMBER PRIMER A good way to learn basic numeracy
- WORD PRIMER A good way to learn words and spelling
- ANDY'S WORD GAMES 7 UK programs on using words

EDUCATION (AGE 5-ADULT)

- EXPLORING WORDS Hangman, Spelling, WP, Letterfall
- EXPLORING MATHS Funnels & Buckets, Algebra, Prime
- EXPLORING TIME Telling, Speaking, World Timezones
- EXPLORING SCIENCES Physicalc, Equator, Planets
- EXPLORING YOUR IQ Brain-boggling tests and puzzles
- EXPLORING ELECTRONICS From Ohm's Law to Amplifiers
- EXPLORING GEOGRAPHY Gazetteer, 3D-World, Weather
- EXPLORING HISTORY Quiz on early American History
- EXPLORING MUSIC Player Piano, Composer, Polyphony
- EXPLORING GRAPHICS Animator, Etch-A-Sketch, 3DStar
- EXPLORING COMPUTERS Beginners guide to computers
- WIZ QUIZ Teaches maths in an entertaining way
- MATHS TUTOR Arithmetic through to higher maths
- STATISTICS Data manipulation & analysis, 3 DISCS
- PROBABILITY & STATISTICS curve-fit & simulation
- X-Y SEE Teach & test maths using graphics, 2 DISCS
- ELECTRONICS Multi-tool package for engineers
- PHYSICS GCSE REVISION A novel aid to study, UK
- COMPUTER SCIENCE GCSE REVISION Study aid, UK
- Learning a foreign language? Then try this selection of tutorials - each title on its own disc:-
 - ★ FRENCH ★ SPANISH ★ ITALIAN ★ GERMAN ★ HEBREW
 - ★ CANTONESE ★ SPANISH FOR TRAVELLERS
 - ★ FRENCH VERBS ★ SPANISH VERBS ★ JAPANESE
 - ★ FRENCH HANGMAN

PROGRAMMING

- SMALL C COMPILER C for yourself how to program in C
- PD PROLOG for Artificial Intelligence, 2 DISCS
- PASCAL COMPILER Good introduction to popular language
- MODULA-2 COMPILER with editor and linker, 2 DISCS
- LADYBUG LOGO Graphic educational language & examples
- CHASM Assembler with tutor for learning 8086 code
- A86/D86 Best shareware assembler & debugger, 2 DISCS
- BASIC TUTOR Useful introduction to standard PC BASIC
- GETTING STARTED IN C Introductory lessons and examples
- GETTING STARTED IN C INTRODUCTORY Useful introduction
- C & TURBO C TUTOR with source code examples, 2 DISCS
- PASCAL & TURBO PASCAL TUTOR with examples, 2 DISCS
- MODULA-2 TUTOR with source code examples, 2 DISCS
- WINDOW BOSS Produce professional windows in C, 3 DISCS
- C TOOLS Source code for many programs in C, 2 DISCS
- TURBO PASCAL TOOLS Packed with source code, 4 DISCS

UTILITIES UNLIMITED

- ESSENTIAL UTILITIES Over 50 of the best utilities
- ADVANCED UTILITIES A more specialised collection
- TEXT PROCESSING UTILITIES Printer Control, Spooler, Sideways, Tally, Word Counter, Fog Finder, Lister
- LASER PRINTER FONTS & UTILITIES, 3 DISCS
- DISK COMMANDO Similar to Norton Utilities, 2 DISCS
- PROFESSIONAL MASTERKEY Powerful disc/file editor
- FLU-SHOT+ Helps you deal with and avoid PC viruses
- LQ Set of printer fonts to enhance your text output
- SIGNSMITH Create posters, leaflets and letter heads
- BRADFORM Typesetting quality on a dot matrix printer
- EZ-FORMAT Fast disc formatter - about 33% faster
- EZ-COPY LITE Fast multicopy from one read of master
- PC TESTER Test your PC's performance, 2 DISCS

GRAPHIC DESIGN

- DANCAD Accurate 3D frame drawing & animation, 2 DISCS
- IMAGE-3D create effective 3D drawings on CGA or EGA
- PC-KEY-DRAW The very popular Desk Top Publisher and scaled drawing package, 3 DISCS
- PC-KEY-DRAW LIBRARY Picture & Font Library Utilities
- FINGERPAINT Painting program runs on MSDOS not GEM
- FONT EDITOR Create your own on-screen character set
- EGA FONT EDITOR with several new fonts supplied
- FLO-DRAW Flow diagram text & graphics editor, 2 DISCS
- GRAPHIC ANIMATOR Create animated picture sequences.

Join the Advantage Independent Computer User Group and choose any Shareware discs for just £2 each (3.5" £3)

★ PLUS ★ Monthly Newsletters
★ PLUS ★ Discounts on Software
★ PLUS ★ Technical Support & Advice
Annual Membership is:
£15 (EC Countries) £18 (Non-EC Countries)

Order by post or telephone. We accept Sterling Cheques, Postal Orders, Eurocheques, Access and Visa

INFORMATION SYSTEMS

- MOVIE DATABASE Over 3000 films & videos, 2 DISCS
- GIFT IDEAS GENERATOR For birthdays & Christmas
- WORLD ATLAS Display map of any part of the world
- MICRO COOK Get your recipes organised
- NIGHTSKY Definitive computer planetarium UK, 2 DISCS
- HOROSCOPE Prints horoscope and astrological data
- ASTROL-95 Astrological charts & horoscopes, 2 DISCS
- BIORHYTHM MONTHLY Plot your biorhythms and compare
- GARDENER'S ASSISTANT Plan and plant your vegetables
- BARTENDER Learn how to mix those exotic cocktails
- WEIGHTWATCHER Control calories and lose weight
- FOOD & SMOKING ANALYST Info for calorie conscious

SPECIAL INTEREST

- PC-SPORT Useful PC-based league table generator
- PUNTER'S PAL Aims to improve your betting odds
- COMPOSER Create, edit and play your own tunes
- PIANOMAN Turns your PC into a musical keyboard
- CROSSWORD SOLVER and Anagram Generator
- CROSSWORD CREATOR Make your own puzzles, 2 DISCS
- KING JAMES OLD TESTAMENT Complete text, 5 DISCS
- KING JAMES NEW TESTAMENT Complete text, 4 DISCS
- BIBLE READER with index and text reader, 5 DISCS
- GOSPEL CONCORDANCE For studying/comparing, 3 DISCS

BOARD & CARD GAMES

- PC-OPOLY PC version of the well-known board game
- SCRABBLE Good implementation - updateable dictionary
- WORLD DOMINATION The classic game of Risk and strategy
- SLEUTH Exciting murder mystery solving game
- CHESS & CHECKERS Quality graphics versions of games
- GAMBLER'S DEN Craps, 21, Poker and Pontoon
- CARD SCHOOL Canasta, Gin Rummy, Heart and Lowball
- PUB GAMES features Dominoes and Cribbage

SIMULATIONS & ARCADE GAMES

- BASEBALL You act as manager, with choice of teams
- INSTANT REPLAY American Football simulation
- RAILROAD SIMULATION Novel set of animated layouts
- WAR GAME Strategy game based on war games rules
- FORD SIMULATOR Test drive a selection of Ford cars
- SOCCER GAME Manage your own soccer team to Div. 1
- MEGALOPOLY Speculate and be a big business tycoon
- STAR TREK puts you in command of the Enterprise
- STAR TREK II The next generation - with new gameplay
- PINBALL WIZARD Five different pinball machines
- CAPTAIN COMIC High quality animated graphics
- SNARF multi-level treasure-hunt game for EGA
- DRACULA IN LONDON role-playing game based on novel

PROJECTS & PASTIMES

- PC JOKES Hotboot, Insults, Drain, Locust, Hotlot
- Alien Name Generator, BackTalk, Buzzword Generator
- PC JOKES II April Fool, Deceive, Busy, Soap Opera Plot Generator, Headline Generator, Jive Talk, Madlib
- PAPER AEROPLANES Loads of designs ready to print out
- ORIGAMI Study the oriental art of paper folding
- POET'S CORNER Produce computer-created poems, 2 DISCS
- GET LUCKY Rather naughty Adult Trivia & Strip Poker
- PIN-UPS Selection of pin-up pictures to view or print
- ADULT HUMOUR Large collection of rather rude jokes
- ADULT ADVENTURES Bad-Bad, Drive-In and Fifi
- ADULT GAMES features rude Space Invaders & Sexware

GAME COMPENDIUMS

- CLASSIC GAMES Space Invaders, Pacman, Pacgrid, Ribit, Bricks, Donkey Kong, Q-Bert, Jumping Joe
- FUN AND GAMES Pango, Bouncing Babies, Elevator, Centipede, Pyramid, Dragons, Pac, Osbit
- MAZING GAMES Treasure Hunt, Amaze, Polymaze, Castle, 3-Demon, Fire, Chase
- LOST VEGAS One Arm Bandit, Roulette, Backgammon, Biorhythm, Keno and Casino featuring 4 more games
- SKILL & STRATEGY Frigate (Ships) Big Rig (Trucking simulation), Stock Exchange Game, Air Traffic Control
- COME IN PEACE Striker, Paratrooper, Round 42, Sopwith, Dragonfly, Landmine
- STAR WARRIORS Emergency Mission, Quantoid, Kamakaze, Rescue, Rockets, Spacewar
- PC CHALLENGE Chess, Othello, Entrap, Hexplode, Kalah
- JUNIOR CHALLENGE 3D TicTacTo, Dotto, Draughts, Mastermind, Brainstorm, Gomoku and Four-In-A-Row
- MONOGAMES 18 games for Mono/Hercules PC's, 2 DISCS
- KEEP THEM AMUSED Burger Blaster, Grime, Racer, Ninja, Cavens, Galaxy
- WIT YOUR PITTS Battleships, Five-In-A-Line, Stock Game, Sales Game, Rogue (Artificial Intelligence), Eliza
- FACE THE ACTION Batatia (can player) Tank (1/2 Player), Moonbase, Blort II, Gemini (can play 2-computer game)
- BLOCK & TACKLE Nemon, Qix, Xenix, Blockade, Ski-ing, Mummies, Lazer, Beast, Tron
- BASIC AMUSEMENTS Over 60 games to amuse and teach
- BASIC programming techniques (2 DISCS)
- SPY CATCHER Master Spy, Raid Over Auschwitz, Hostages, Brimstone, Mad Scientist (Mad Scientist is for BASIC2)
- GOOD SPORTS PC Tennis, Teed Off (Golf) Sailing (in the Bermuda Triangle), Armchair Quarterback (Football)
- SEEK & DESTROY Galactic Conquest, Daleks, Depthcharge, Lazy Monday, Intercept, Berzerk
- SPACED OUT Saucer, Crisis, Encounter, Xo and Space
- UP AND AT 'EM Flightmare, BitBat, Droids, Robotron, Spyder, Eggs, Stun
- PLAYTIME Lotto, Bingo, The Story of Eli, Motoman, Slug
- SPORTING LIFE PC-Golf, PC-Pool, PC-Bowl, Basketball
- ARCADIA Killer Bees, Mario Brothers, Snake, Snakepit, Pearl, Wimps, RLogic
- WILLY AND HIS FRIENDS Willy the Worm, Willy II, Willy Designer, Doctor Sleep, Disk Crash, Labbits & Voldrons

ADVANTAGE (NCE) 56 BATH ROAD, CHELTENHAM, GL53 7HJ. TEL: 0242 224340



C & M MICROS

HOME & BUSINESS COMPUTER SUPPLIES



★ NEW LOWER PRICES ★ ALL PRICES INCLUDE VAT.
P&P FREE (UK ONLY).

Don't buy disks offering anything less!

Lifetime guarantee. Certified 100% error free. Complete with labels and tabs (5.25"). Our 3.5" unbranded disks are manufactured by KAO in Canada to the highest specifications and are suitable for all 3.5" drives including Amiga's & ST's.

Bulk Discs	10	25	50	100	150	200	300	500
3.5" DS DD (135)	£7.50	£18	£34	£66	£96	£124	£180	£290
5.25" DS OD (96)	£3.50	£8	£15	£28	£41	£52	£76	£125
3.5" DS (Amsoft)	£23	£57	£112	£219	£327	phone for prices		

Branded disks manufactured by the Sony Corporation of America.

Sony Brand	Boxes of 10	1+	3+	5+	10+
3.5" DS DD (135)		£12.00	£11.50	£11.00	£10.50
5.25" DS OD (96)		£12.00	£11.50	£11.00	£10.50

★ Special Offer ★ Latest COLOURS disk packs. 10 Coloured disks (2 of red, orange, yellow, green, fog, white) in a clear fronted flip-top case. Only £9.50

Strong disk boxes. Lockable with 2 keys, dividers & recessed handle.
Add £1.50 P&P if not ordered with disks.

3.5" 3"	40 Capacity	£3.95	80 Capacity	£5.95
5.25"	60 Capacity	£3.95	100 Capacity	£5.95

Amiga 512K memory expansions. Just plug-in to upgrade your Amiga A500 to a full 1 megabyte. Both expansions are Commodore compatible and guaranteed for 12 months.
MX1 — 512K memory expansion £82.95
MX2 — 512K memory expansion with battery backed time & date £94.95

Disk drive head cleaners (3.5" or 5.25") £1.95 3" £2.95
Boxed anti-static mouse mats £3.50

Also Available: Large selection of books for Amiga's, ST's, PC's and general computer subjects, all below RRP. Printer & monitor stands, mouse houses?, etc.

Phone or write for a FREE price list detailing 100's of amazing offers for all computer users.

C & M Micros, 25 Middlefield Road, Bessacarr, Doncaster, S. Yorkshire, DN4 7EB.
Telephone: (0302) 539955

Sensitive Data Systems Ltd.
Tel. (0843) 602822 Fax. (0843) 602122

MEGA ST



MEGA ST 1 £559.00
MEGA ST 2 £850.00
MEGA ST 4 £1165.00

For SM124 Monitor Add £95.00

ATARI
SPECIAL PACKS

WORD PROCESSING PACK

MEGA ST2 + SLM804 + SM124 + SOFTWARE
£1675.00

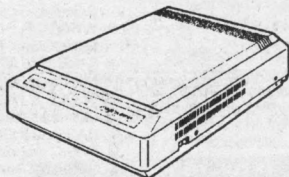
D.T.P. PACK

MEGA ST4 + SLM804 + SM124 + MAGAFILE 30 + SOFTWARE
£2825.00

520STFM
1040STFM



520STFM £275.00
520STFM POWERPACK £365.00
1040STFM £455.00



IIAWK 432 SCANNER £1667.50
IIAWK CP14 SCANNER £1250.00
COLIBRI SCANNER £454.25
SLM804 LASER PRINTER £1249.00

D.T.P. / W.P. SOFTWARE

CALAMUS D.T.P. £458.85
TIMWORKS D.T.P. £99.95
WORDPERFECT 4.1 £228.85

All prices include VAT

Anson Close, Pysons Road Industrial Estate, Broadstairs, Kent, CT10 2YB

CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI
CLUBCLUBCLUBCLUBCLUBCLUBCLUI

ST into warp speed

Third Coast have been very active on the ST scene of late. Their latest product to hit the hardware add-on enthusiast is Hypercache — a speed-up board which can be fitted into any ST and claims to offer 70-100% speed increases.

Third Coast are importing the product from Germany where it's already a success. Hypercache uses a 16MHz 68000 processor which alone can deliver around a 20% speed increase. But it's the fast RAM cache which really makes it bomb along.

The Hypercache board has an 8K instruction cache running at 70ns. With several commands read into here, execution speeds of 16MHz are allowed for much longer periods than would be possible without the cache. As with an ordinary RAM disk, all the data being written to the main RAM is also sent to the cache where it can be processed quickly.

Sections of code can be executed within the cache at twice the speed but it's rare for programs to optimise on this. Internal calculations and short program loops can thus benefit best from the cache but for the majority of applications, a 50% speed increase is more realistic.

The board requires a couple of wires to be soldered onto several chips so it's best to refer fitting to your dealer. The RAM cache can be turned on and off by software control — either a desktop accessory provided or an XBIOS call. A hardware switch may also be added to disable the cache. Like this, only the 16MHz chip is used so you get a 20% increase.

A lot of games software will not run properly with Hypercache fitted but there are enormous benefits when using CAD or DTP packages where the extra speed is really noticed and for just £150 it's not out of reach for most people.

Third Coast Technologies can be contacted on 0257 426464.

Scan the man

The Kempston DAATAscan Handyscanner has been on the market for some time but although the scanner works perfectly, there have been a lot of complaints aimed at the

Old Neochrome

What's the oldest ST art package around? Neochrome of course. It's one of those packages which every ST owner owns but few know where it came from, least of all how it works properly. It's been hanging around on the public domain since 1986 when Atari bundled it with early STs. Since then it's got everywhere but very few people have got the manual so using it can be a headache. I recently found an ASCII disk-based version supplied by The South West Software Library on PD disk 150 along with two copies of the program and several utilities. This manual only covers the early version so using the limited animation commands of the latest one is still a case of trial and error.

If you still haven't found out how to access animation then you must click the right mouse button over the 'R' in Grabber. Instantly an old camera appears.

software. In answer to the criticism, Kempston have just released DAATAscan Plus. The whole package retails for £250 which includes scanner and new software. This offers two display windows — one provides a look at the whole page while the other is a work area normally displaying the scanned image at 100%.

To scan your image you first draw a box in the page window, indicating the area of



• DAATAscan's improved image grabbing software

the page that you wish the image to go into. This allows you to have several scans scattered all over the page. As the image is scanned the box in the page window is filled up with a reduced view of the image whilst a full-sized one fills the work window.

The software then allows you to manipulate the image so that it may be edited pixel by pixel, areas can be cleared and the image may be saved to disk in a multitude of formats.

Extras to the original software include options usually only found in advanced paint packages. You can zoom into specific areas, increase or decrease the brightness of the image, rescale, rotate or print it. Cut and Paste options and a new fill feature are particularly useful.

Upgrades are available for £25. Kempston can be contacted on 0234 841224.

DAATAscan Plus has some powerful features so it no longer needs to be bundled with Hyperpaint.

East West conflict

On the games front this week, Mirrorsoft's new Conflict Europe has made a big impression on me. It's the 16-bit version of Theatre Europe which was released back in '85 and won the strategy game of the year award.

Conflict Europe is set in a not-too-distant future where East-West relations have disintegrated to such a degree that the NATO forces are at war with the Warsaw Pact. It's up to you to fight the war without resorting to nuclear attack but the battles invariably degenerate into a bout of nuking.

The war is fought on a large map where you can see your own and opposing armies. Friendly units can be moved around the map and can engage in battle if they come up against the opposition.

If things start getting tough and your units are obliterated with alarming regularity then you can move to the nuclear control panel and launch all sorts of different attacks. When these hit their target you switch to a different display in which you see cities go up in a mushroom cloud.

The trouble with launching a nuclear attack is that it can spark off retaliatory measures and in no time at all you've started a global nuclear war.

It doesn't have all the intricacies of Mirrorsoft's earlier release, Waterloo, and thus appeals to people who aren't necessarily wargame fanatics. It's great fun to play and very addictive. Catch the full review in issue 3 of our sister mag, ST Format.

Kim Harmargh

Ladbroke Computing



International

"The Country's Leading 16 Bit Specialist"



AMIGA

33 Ormskirk Road, Preston, PR1 2QP.
Open Mon. - Sat. 9.30 am to 5.00 pm
Dealer enquiries welcome.

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

This company has given years of full support to Atari users from their premises at 33 Ormskirk Road Preston. Now from their Mail Order premises they can offer this "second to none" service to users countrywide. All Software/Hardware is ex-stock and fully tested prior to purchase to ensure that returned goods are now a thing of the past. All hardware is supported by our on site engineers so that quick turn around on all repairs is guaranteed. There are no hidden extras WYSIWYG. ALL PRICES INCLUDE VAT AND DELIVERY on orders over £100 (Mainland UK) next day delivery +£5. All prices are correct at time of going to press and are subject to change without prior notice. Phone for latest prices, information advice we are always happy to help.

Midistudio £99.99

"will give Steinberg's Pro 24 a run for it's money"
ST WORLD March 89

Midistudio is an attractively priced 20 track Midi Sequencing package. It can record up to 682 bars per phrase(pattern) on up to 100 phrases. Any phrase can be placed on any track. Tracks can be soloed and muted and tracks and phrases can be named. Program numbers can be displayed in a variety of ways including 0-127, 1-128, in banks from a11-b88 or a01-b64. The desk features sliders to set relative volumes on each track and you can even do a mix on the fly. Midistudio also has a clock to display the length of the last playback. Midistudio has step time note edit functions including copy, split, merge, append, and transpose, velocity editing(including a humanize function), full controller editing, quantizing and a buffer which will store a copy of a phrase for recall after destructive editing. **Demo disk £3.99**

Software

At Least 20% discount off all 16 bit games software.

Minimum Discount		
E.G.	RRP	Our Price
	£19.99	£15.99
	£24.99	£19.99
	£29.99	£23.99
Maximum Discount		
	£19.99	£6.99
	£24.99	£9.99

Send SAE for full software catalogue.

Educational software Add with Oscar £7.99. Spell with Oscar £7.99, AB Animator £5.99 and Trilogy £5.99 still available also data disks for Spell with Oscar £4.99.

Phone for best prices

Free delivery (Mainland UK only) on orders over £40, for orders under £40 add £2.50.

A4 Flat bed Scanner £499.99

Ladbroke Computing's A4 Flat bed scanner is a great value Scanner which scans at 200 dpi. Bring high quality scanning to your home for Desktop Publishing etc.

Quality Scanning

SCAN AT UP TO 1000 DPI FOR ONLY ~~£69.99~~
Demonstration disk (low res) £3.99 (£2.00 redeemable)

The Image Scanner can provide high quality graphics digitising for a tenth of the cost of other digitisers. This simple unit plugs into the cartridge port of the ST and accepts scanned information via optical cables which fix easily to the head of any printer. Scanned images can be saved in raw data, Degas and Neochrome formats. The Software supports scanning resolutions of 75,150,216,300,360 and 1000 dots per inch horizontally. An example disk is available which contains a slide show of images scanned with this product. The cost of this disk is £3.99, £2.00 of which is redeemable on purchase of a scanner.

New Low Price Printers

Star LC 10	£169.99
Star LC 10 Colour	£219.99
Star LC 24/10	£299.99
Epson LQ500	£319.99
Citizen 120D	£139.99
SLM 804 Laser	£1099.99

See special offers for Star Professional series printers.
Phone for others. All printers come complete with Parallel cable.

Hard drives

Vortex 40MB(ST & Amiga)	£499.99
Megafile 30 (ST)	£474.99
Megafile 60 (ST)	£599.99
Supra 30MB (ST)	£474.99
Third Coast 65 MB (ST)	£599.99
(Amiga)	£659.99

Ladbroke Computing 20Mb drive (ST) £259.99

Disk drives

Cumana 1Mg Drive(ST)	£89.99
Cumana internal 1Mg Drive(ST) (kit or fitted)	£74.99
Please note ST's case may need cutting for above internal drives.	
Amiga 1 Mg Drive, disable switch & through port	£79.99
A/B boot switch (fitted)(ST)	£24.99

Peripherals & Dust Covers

3.5" disk care	£5.99	Computers	£3.99
CRP Tablets A4	£414	Monitors	£4.99
A3	£818	Disk Drives	£2.99
Hawk scanner	£1250	Hard Disks	£4.99
Traker ball(ST-Amiga)	£24.99	Printers	£7.99
80 / 100 disk box	£9.99	Others	phone

Phone for prices on all SIGNA products such as Colibri hand scanner with or without OCR, Signum 2, Augur OCR.

Monitors

SM 124 Monochrome Monitor.	£99.99
SC 1224 Colour Monitor.	£299.99
Phillips 8833 Colour Monitor.	£249.99
Multisync colour Monitors.	£Phone
Phillips 15" Remote, Scart, Tv with 40 tuner presets.	£229.99

Monitors, deduct £10 if bought with Computer phone for TV's.
All monitors come with scart to ST/Amiga etc.

Special Offers

Star Laser printer 8, 1 Megabyte RAM as standard upgradeable to 2 Mb, 8 resident fonts, HP, IBM, Diablo, Epson emulation, 8 pages per minute, 300 dpi.

Star FR-10 9 pin	£399.99
Star FR-15 15" 9 pin	£514.99
Star XB-24/10 24 pin	£514.99
Star XB-24/15 15" 24 pin	£699.99

These Star printers have 12 months on site warranty(UK Mainland)

Repair Centre

Our Atari trained engineers can repair all hardware, including Amigas, in minimum time at competitive prices. We can arrange Pickup for prompt delivery to ourselves for £11.50. Next day courier return £8.00.

UPGRADES EX-STOCK

1 Mg STM (fitted)	£119.99	Board + 1 Mg upgrade(fitted)(ST)	£149.99
1 Mg STFM (kit)	£89.99	Board + 2.5 Mg upgrade(fitted)(ST)	£299.99
STFM upgrade fitting service	£25	Board + 4 Mg upgrade(fitted)(ST)	£499.99

Please check machine configuration before ordering. All fitting prices quoted for machines not previously tampered with. Due to the complexity of the installation we must install and upgrade the board for you. All upgrades and repairs carry our 3 months parts and labour guarantee. Pre 1988 ST's can only be upgraded to 2 MB. Phone now for our Blitter chip upgrades which work with V1.09 OS.
Phone for our Amiga 512K RAM Extension board with or without clock, populated or unpopulated.

New Low Price Quality Disks

All our disks are top quality Sony, Maxcell or Kao products, not cheap imports. All disks carry an unconditional lifetime guarantee.

Quantity	3.5" D/S	5.25" D/S Q/D 96 TPI
10	£8.99	£6.50
10+box	£9.99	£7.50
100	£79.99	£60
100+box	£82.99	£65

Sony Branded 3.5" D/S Boxed x 10 £10.99
Sony Branded 3.5" D/S Boxed x 100 £99

** New Low Prices ** Computer Systems and Packs ** New Low Prices **

<h4>520 STFM Explorer Pack £269.99</h4> <p>Includes Atari 520 STFM with 1/2 Mg Memory, 1 Mg drive and mouse. Includes tutorial disk.</p>	<h4>Amiga A500 Pack £369.99</h4> <p>Includes best selling Amiga A500 computer with 1/2 Mg memory 1 Mg drive, mouse and Tenstar software pack worth £200.</p>	<h4>DTP Packs £phone</h4> <p>This pack consists of Mega 2/ or 4, external 3.5" drive / or 30 Mb hard drive, SLM804 Laser printer, Mono monitor, software, 90 days on site maintenance.</p>
<h4>520 STFM Super Pack £329.99</h4> <p>Includes Atari 520 STFM with 1/2 Mg Memory, 1 Mg drive, mouse, joystick and a software pack including organiser software and 21 top quality games.</p>	<h4>Atari Mega ST 1+Mono Mon £599.99</h4> <p>The new Mega ST 1 includes separate keyboard and cpu, Blitter chip, clock, 1 MB RAM, mouse and a business software pack including database, word processor, spreadsheet and BASIC software.</p>	<h4>Atari Portfolio(pocket pc)£249.99</h4> <p>This amazing hand held computer is fully MS-DOS compatible and has built in software including address book, text editor, diary and a Lotus 123 file compatible spreadsheet. 128K free RAM, 256k ROM</p>
<h4>520 STFM Power Pack £359.99</h4> <p>Includes Atari 520 STFM with 1/2 Mg Memory, 1 Mg drive, mouse, joystick and software pack consisting of organiser software First BASIC, First Music and a selection of 20 top quality games.</p>	<h4>Atari Mega ST 2+Mono Mon £931</h4> <p>The Mega ST 2 includes separate keyboard and cpu, Blitter chip, 2 MB RAM and mouse. The Mega ST 2 also includes a battery backed clock and business software.</p>	<h4>Atari PC 4 (80286) £1499</h4> <p>The PC 4 has an 80286 processor running at 8 or 1. MHz, 1 MB of RAM, 60 Mb hard drive, 5 AT and 1 XT expansion slots. For Mono monitor add £100. Phone for others.</p>
<h4>1040 STFM Super Pack £449.99</h4> <p>Includes Atari 1040 STFM with 1 Mg Memory and drive and a choice of software packs which include a business pack with database, word processing, spreadsheet and BASIC software, a pack with Pro 12, and a games pack with 21 top quality games.</p>	<h4>Atari Mega ST 4+Mono Mon £1241</h4> <p>The Mega ST 4 includes separate keyboard and cpu, Blitter chip, 4 MB RAM and mouse. The Mega ST 4 also includes a battery backed clock and business software.</p>	<h4>Atari PC 5 (80386) £2599</h4> <p>The PC 5 has an 80386 processor running at 16 MHz, math coprocessor socket, 64K cache memory, 2 MB RAM, 60 MB hard disk with high performance controller, 4 AT and 1 XT slots. For Mono monitor add £100.</p>

**TEL.
0270
666616**

MEDIA

MEDIAWARE

HARD CARDS



WESTERN DIGITAL 20MB	169.00
WESTERN DIGITAL 30MB	189.00
WESTERN DIGITAL 40MB	249.00
<i>(Including XTREE Software)</i>	
SEAGATE 40MS 20MB	189.00
SEAGATE 40MS 32MB	205.00
SEAGATE CARD 38% FASTER THAN THE AVERAGE 65MS CARDS	

HARD DRIVE KIT

SEAGATE DRIVES INCLUDING CONTROLLER AND CABLE	
ST-225 - 20MB 65ms	164.50
ST-251 - 40MB 40ms	269.00
ST-4096 - 80MB 28ms	419.00
ST-138 - 30MB 40ms	245.00
ST-138R - 30MB 45ms	210.00

WANGTEK TAPE STREAMERS

FOR FULL RANGE CALL FOR PRICES	
40MB 1/2 Hight. Wt. PCXT/AT/386	280.00
60MB 1/2 Hight. Wt. PCXT/AT/386	525.00
40MB External. PCXT/AT/386	359.00
60MB External. PCXT/AT/386	575.00

3M DATA CARTRIDGES

DC1000	13.50
DC2000	16.00
DC600A	19.00
DC600XTD	18.00

CALL FOR ANY OTHERS
PLEASE

MICE



GENIUS 2 BUTTON	39.00
PC OPTICAL MOUSE 3	99.00
PC OPTICAL II, INC PC PAINT	105.00
MOUSE MATS	2.99

MANUAL DATA SWITCHES

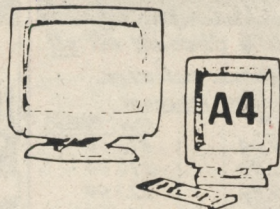


SERIAL/RS232 2 WAY	12.50
SERIAL/RS232 4 WAY	18.50
SERIAL/RS232 X-OVER	19.95
PARALLEL/CENT 2 WAY	14.00
PARALLEL/CENT 4 WAY	19.50
PARALLEL/CENT X-OVER	20.95

CABLES

2m IBM Printer Cable	6.00
3m IBM Printer Cable	6.95
2m BBC Printer Cable	5.50
2m RS232 M/F	5.00
2m RS232 M/M	5.00
2m Cent/Cent M/M 36C	6.50

MONITORS



HITACHI 14" MULTISCAN	495.00
HITACHI 14" VGA COLOUR	299.00
HITACHI 20" MULTISCAN	1999.00
NEC 14" M.SYNC GS	149.00
NEC 14" M.SYNC 2A	499.00
NEC 15" M.SYNC 3D	485.00
NEC 20" M.SYNC XI	1320.00
SAMSUNG A4 PAPER WHITE INC GRAPHIC CARD	699.00
SAMSUNG 12" EST TTL GREEN	69.00
SAMSUNG 12" EST TTL AMBER	75.00
SAMSUNG 12" EST TTL WHITE	75.00
SAMSUNG 14" EST TTL GREEN	79.00
SAMSUNG 14" EST TTL AMBER	85.00
SAMSUNG 14" EST TTL WHITE	89.00
SAMSUNG 14" EGA/CGA	269.00
SAMSUNG 14" VGA COMP	299.00
SAMSUNG 14" MULTISYNCH	399.00
PHILIPS/AHKTER 12" 7513 MONO	71.00
PHILIPS 14" 8833 CGA	195.00

PRINTERS

Panasonic



KX-P1081	125.00
KX-P1180	150.00
KX-P1124	254.00
KX-P1592	268.00
KX-P1595	315.00
KX-P1540	410.00

NEC

P2200	259.00
P6+	420.00
P7+	539.00
P9XL	780.00

EPSON

LX-400	152.00
LX 800	145.00
FX 1050	390.00
EX 800	420.00
EX 1000	565.00
SQ 850	599.00
LQ 850	399.00
LQ 1050	539.00
LQ 2250	844.00

MANNESMAN TALLY

MT81	100.00
MT91	529.00

CALL FOR FULL RANGE

DISPLAY CARDS

ORCHID DESIGNER 800	190.00
ORCHID PRO DESIGNER	290.00
ORCHID PRO DESIGNER +	389.00
DIGI EGA	99.00
DIGI VGA	129.00
VIDEO 7 VGA	189.00

PRINTERS

STAR

LC-10	148.00
LC-10 COLOUR	190.00
LC 2410 24 Pin	254.50
NX-15	260.00
FR10	305.00
FR15	400.50
XB24-10	408.00
XB24-15	535.00

HEWLETT PACKARD

DESK SET	499.00
DESK SET PLUS	549.00
PAINT SET	699.00

CITIZEN

120D	108.00
180E	126.00
MSPICE	185.00
SWIFT 24 24 PIN	259.00
HOP40 24 PIN	299.00

SPECIAL OFFER

**FREE PRINTER CABLE
WITH ALL PRINTERS**

SCANNERS

CANON DX12 IMAGE SCAN	730.00
CANON DX12F FLATBED	995.00
INTERFACE + CABLE	150.00
PANASONIC FLATBED	1150.00
INC INTERFACE + CABLE	
LOGITECH HANDY SCAN	199.00

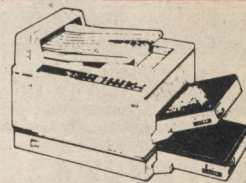
GRAPHIC SOFTWARE

FANTASY V2	29.00
AUTOSKETCH	49.00
GENERIC CADD LII	75.00
BYLINE	125.00
FREELANCE +	259.00
GRAPHIC WRITER II	260.00
HARVARD GRAPHICS	249.00
TURBO CAD	69.00

CO-PROCESSORS

8087 5MHZ	70.00
8087 8MHZ	99.00
8087 10MHZ	145.00
80287 6MHZ	119.00
80C287 12HZ	299.00
80287 8MHZ	162.00
80287 10MHZ	172.00
80387 16MHZ	299.00
80387 20MHZ	349.00
80387 25MHZ	449.00
80387 33MHZ	539.00

LASER PRINTERS



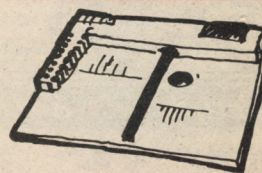
PANASONIC LXP-4450	1329.00
HP LASER SET II	1269.00
HP LASER SET IID	2029.00
STAR LASER PRINTER 8	1249.00
MANNESMAN TALLY MT905	999.00
KYOCERA F1100	1499.00
QUME CRYSTAL PRINT	1100.00
QUME SCRIPT TEN POSTSCRIPT	3100.00

**FULL RANGE OF UPGRADE,
FONT CARD AND TONERS
AVAILABLE**

TONER CARTRIDGES

HP LASER JET I	57.50
HP LASER JET MK II	58.50
PANASONIC KXP BOT	28.00
KYOCERA 2 PACK	68.00
CANON A1/A2	59.95
EPSON G03500	16.50
QUME 2 PACK	89.00

PLOTTERS



HITACHI

672 XD A4/A3	449.00
673 BM A4/A3	649.00
674 A4/A3/A2/A1	2229.00

ROLAND

ROLAND DXY-880, A4	529.00
ROLAND DXY-1100, A4, A3	579.00
ROLAND DXY-1200, A4, A3	784.00
ROLAND DXY-1300, A4, A3	1059.00
ROLAND GRX-3300 A1	2990.00
ROLAND GRX-400 A0	4220.00

MAINS STRIP



SURG PROTECTED MAINS STRIP
4 OUTLETS

ALSO AVAILABLE: FONTS,
CUT SHEET FEEDERS,
RIBBON PAPER, CLEANING
KIT, INTERFACE CARDS,
MONITORS - CALL NOW

VISA

MEDIAWARE

WARE

**FAX
0270
665556**

BRANDED DISKS

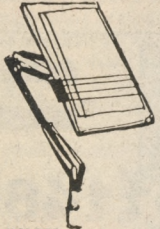
SONY 3M DYSAN Verbatim.

3M					SONY				
BOXES OF 10					BOXES OF 10				
5 1/4" 744 SS-DD 48tpi	1-2	3-9	10+	25+	5 1/4" SS-DD 48 tpi	1-2	3-9	10+	25+
5 1/4" 745 DS-DD 48 tpi	5.80	5.40	4.80	4.40	5 1/4" DS-DD 48tpi	6.10	5.60	4.90	4.60
5 1/4" 747 DS-QD 96 tpi	6.20	5.70	5.00	4.25	5 1/4" DS-QD 96 tpi	6.20	5.70	5.00	4.60
5 1/4" 799 DS-HD 1.6 Mb	9.50	9.20	8.60	8.25	5 1/4" DS-HD 1.6 Mb	10.00	9.60	9.40	9.00
	9.90	9.60	8.90	8.50		10.50	10.00	9.50	9.00
3 1/2" SS-DD 135 tpi	10.90	10.00	9.70	9.20	3 1/2" SS-DD 135 tpi	11.00	10.00	9.00	8.30
3 1/2" DS-DD 135 tpi	12.50	11.60	10.70	10.00	3 1/2" DS-DD 135 tpi	12.00	11.50	10.50	8.00
3 1/2" DS-HD 2.0 Mb	27.50	26.75	24.00	22.00	3 1/2" DS-HD 2.0 Mb	27.50	26.50	24.00	22.00

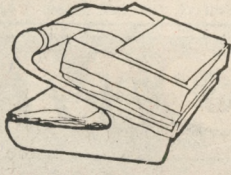
VERBATIM DATALIFE					VERBATIM VEREX				
BOXES OF 10					BOXES OF 10				
5 1/4" SS-DD 48 tpi	1-2	3-9	10+	25+	5 1/4" DS-DD 48 tpi	1-2	3-9	10+	25+
5 1/4" DS-DD 48 tpi	5.70	5.30	4.60	4.20	5 1/4" DS-QD 96 tpi	3.70	3.55	3.45	3.35
5 1/4" DS-QD 96 tpi	6.10	5.50	5.20	4.50		6.50	6.30	6.20	6.00
5 1/4" DS-HD 1.6 Mb	9.40	8.90	8.70	8.40					
	9.70	9.20	8.90	7.75					
3 1/2" SS-DD 135 tpi	10.00	9.50	9.00	8.75					
3 1/2" DS-DD 135 tpi	11.00	10.50	10.00	9.30					
3 1/2" DS-HD 2.0 Mb	26.00	25.00	23.00	21.00					

DYSAN				
BOXES OF 10				
5 1/4" DS-DD 48 tpi	1-2	3-9	10+	25+
5 1/4" DS-QD 96 tpi	6.30	5.80	5.30	4.95
5 1/4" DS-HD 1.6 Mb	9.70	9.30	8.90	8.60
	9.90	9.70	9.20	8.70

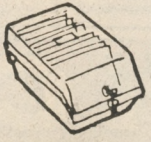
MAKE EASY PRODUCTS



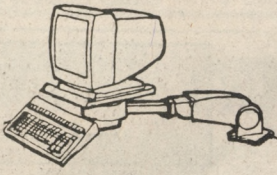
ADJUSTABLE COPY HOLDER
Desk Clamping
Only £12.50



PRINTER STAND
YU-25A 80 Col £24.00
YU-25B 130 Col £29.00



STORAGE BOXES
3 1/2" 40 Cap £5.99
3 1/2" 80 Cap £6.50
5 1/4" 50 Cap £5.99
5 1/4" 100 Cap £6.50



VDU ARM
Heavy duty (65lbs). Fully adjustable
Wall, Desk or Clamp fittings £89.00

5 1/4" BULK DISKS 3 1/2"

SS-DD 48 tpi	50	250	500	1000	SS-DD 135 tpi	50	250	500	1000
DS-DD 48 tpi	.24	.22	.20	.18	DS-DD 135 tpi	.62	.57	.53	.47
DS-QD 96 tpi	.24	.22	.20	.18	DS-HD 2.0 Mb	.63	.59	.55	.49
DS-HD 1.6 Mb	.26	.24	.23	.21		1.65	1.63	1.58	1.49
	.52	.49	.48	.46					

ALL INCLUDE ENVELOPES & LABELS

ALL BULK DISKS ARE CERTIFIED 100% ERROR FREE. PRICES ARE PER DISK

SPECIAL OFFER

5.25" DISKS AND BOXES

25 x 5.25" DS-QD 96 TPI DISKS IN A 50 CAPACITY LOCKABLE BOX	10.86
50 x 5.25" DS-QD 96 TPI DISKS IN A 100 CAPACITY LOCKABLE BOX	16.00
100 x 5.25" DS-QD 96 TPI DISKS IN A 100 CAPACITY LOCKABLE BOX	25.50

STORAGE BOX WITH DISKS

3.5" DISKS AND BOXES

25 x 3.5" DS-DD 135 TPI DISKS IN A 40 CAPACITY LOCKABLE BOX	19.95
45 x 3.5" DS-DD 135 TPI DISKS IN AN 80 CAPACITY LOCKABLE BOX	29.95
75 x 3.5" DS-DD 135 TPI DISKS IN AN 80 CAPACITY LOCKABLE BOX	49.95

IF HIGH DENSITY DISKS ARE REQUIRED: ADD 30P PER 5.25" DISK/90P PER 3.5" DISK

ALL PRICES EXCLUDE VAT

MEDIAWARE LIMITED
Unit 9 Huntsbank Industrial Estate,
Crewe Road, Wistaston,
Crewe, Cheshire CW2 6QT
Tel: 0270 666610/664236



HOW TO ORDER
By Telephone: 0270 666616/ 0270 664236
By Post: Address Below
By Fax: 0270 665556
Personal Callers Welcome

HOW TO PAY
By Visa or Access Card
By Cheque with Bankers Card
By 30 Day Account - for Official Orders Only.
By Cash

Trade Enquiries Welcome
All prices and supplies subject to change without notification



JOHN RUSSELL & CO
VALUERS & AUCTIONEERS

FORTHCOMING AUCTIONS

of computer hardware & electronic equipment

Saturday 2nd September 1989

Southgate Technical College, High Street, London N14

1200 lots of microcomputers & peripherals inc:

IBM & Compatible systems - IBM P/S 2 30,50,60 & 80 systems, Compaq 286 & 386, Deskpro & portable systems, Apple Mac Plus & SE systems, Laserwriters & other laser printers

Future Sale Dates:

Saturday 16th September 1989

Canons Leisure Centre, Madeira Road, Mitcham, Surrey

Saturday 7th October 1989

Dacorum College, The Marlowes, Hemel Hempstead, Herts

Viewing & Testing 9.00am / Sales Start 10.30am

For further details and catalogue please contact:

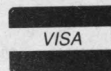
01-681 5413

Selsdon House, 34 Selsdon Rd, South Croydon, Surrey CR2 6PB

**SPECIALISING IN COMPUTER HARDWARE
& COMMERCIAL EQUIPMENT**



ASHCOM



0530 411485

0530 411485



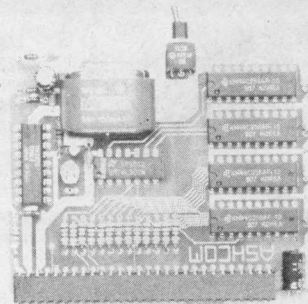
**Original ASHCOM
RAM Expansion
ONLY
£89.95**
(Limited Stock)

**PHILIPS 8833
Colour Monitor
ONLY
£200.00**

**512K RAM Expansion
with Clock for Amiga 500**

Features:

- ★ RealTime Clock with High Capacity NICAD Battery Backup
- ★ Memory Disable Switch
- ★ Low Power Consumption.
- ★ Latest Technology 1MBit RAMS
- ★ Low Chip Count for High Reliability
- ★ Direct Replacement for A501 Expansion



ONLY £99.95

All prices include VAT and Delivery. British made.
Trade Enquiries Welcome

Only from ASHCOM, 10 The Green, Ashby-De-La-Zouch, Leicestershire, LE6 5JU
Telephone: (0530) 411485

AMIGA BLIT

CCS do it again!

They said it couldn't be done, but the impossible has been achieved - the Amiga can now read and write Macintosh disks directly thanks to the American software house Central Coast Software. CCS, who are probably better known as 'the people who produce the DOS-2-DOS utility', have finally cracked the problem and have released the follow up to DOS-2-DOS, the imaginatively named MAC-2-DOS.

MAC-2-DOS allows any standard Amiga to read and write floppy disks in Macintosh format. "So what?" I hear you say. Well, the most impressive thing about this achievement is that the Macintosh uses a special multi-speed drive mechanism which speeds up or slows down the drive motor in accordance to the disk head position. Previous attempts at achieving Macintosh disk compatibility have very much been restricted to reading only those tracks where the Mac drive spins the disk at the same speed as an Amiga drive (A-Max for example).

So far, no details concerning European distribution have been made available but is more than a certainty that MAC-2-DOS will eventually make it to these shores.

Paperboy arrives

Elite certainly cannot be accused of rushing the release of a game, but when they finally are released, it is usually well worth the wait. Elite's latest is that long awaited arcade conversion of the Atari coin-op classic, Paperboy.

Unlike certain companies that will remain nameless (Canadian Silver?), Elite don't just port ST games across to the Amiga without modification. Anyone who has played the Amiga version of Space Harrier will confirm that the programmers at Elite certainly do know their business. Just like Space Harrier, the Amiga version of Paperboy uses a full overscan display and is almost coin-op perfect.

Overscan is one of the facilities of the • Xenon II - not out until late September, but definitely worth the wait! Amiga hardware that is sadly very much unused in games software. Setting up an overscan display from the hardware level is very simple indeed and can enhance just about any game with little effort from the programmer - just try walking into your local arcade and you'll be hard pushed to find an arcade game that doesn't use an overscanned display. So come on Amiga games programmers - think overscan.

Cracking Cybernoid II

No, this isn't a lecture on tearing bytes limb from limb using your favourite disassembler, but a hidden cheat mode that was revealed to me by the person who should know about these things - the programmer of Cybernoid II, my old friend Tony Cooper.

Tony is currently hard at work keeping his bulletin board system up and running (0903

700771, 24 hrs, v21/22/22b/23) and working on his latest mega block buster game (which I'm not allowed to say a thing about or he'll send me a letter bomb in the post). However, Tony took timeout to tell me the definite cheat for his little masterpiece.

Enough wibbling, onto the tip. For infinite lives, try typing in 'NECRONOMICON' on the title screen for infinite lives. Incidentally, for those of who who are even remotely interested, the Necronomicon is the Book of the Dead.

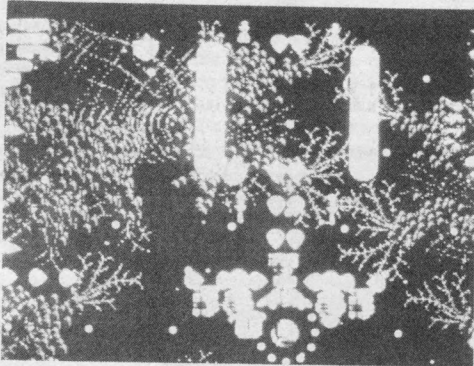
Games update

1 Those of you looking forward to getting your mitts on the Bitmap Brothers' latest megablast, Xenon II, are in for a shock. Imageworks do not plan on releasing either the ST or Amiga versions of the game until September 25th - possibly to coincide with this years PC Show at Olympia.

1 Ocean certainly seem to be producing some real corkers just recently - what with New Zealand Story and Robocop, Amiga gamers have been having a pretty good time of it of late. Ocean's next release is based on that incredibly popular game of volleyball (OK, so I exaggerated a teensy weensy bit). Beach Volley was written in France and the game features the same cutesee, cartoon-like graphics we've come to expect from those Frenchies. The aim of the game is to travel around the world playing volleyball in countries ranging from Egypt to Great Britain. Beach Volley will be available in late August for the usual £24.95.

1 What joy! Domark have made me a very happy man... Dragon Spirit is almost here. Anyone who has played around with that very tasty box of tricks, the PC Engine, will be familiar with the game. You control a blue dragon that must fly through a hazardous land of dinosaurs and other weird creatures, fighting your way to the end of each level.

1 After a period of 16-bit stagnation, the releases from Virgin/Mastertronic are starting to flood in. Next on Virgin's release schedule is that arcade favourite of mine,



Shinobi. As the name suggests, Shinobi puts you in the role of a ninja warrior that has to battle through various screens to rescue your friends from the clutches of baddies who will no doubt do unspeakable things to them if you fail in your mission. Shinobi will be available on September 18th for £19.99.

Booboo Corner

I did indeed make a booboo in last weeks AmigaBLIT column. Some of you may have noticed in the 'ECS Update' news item that I stated that the new Agnus chip within the ECS upgrade includes several new screen modes. This is of course complete porkies! As everyone knows, screen encoding is actually handled by Agnus' sister, Denise (or '8362' if you're a close friend). Oops!

COMPUTER REPAIRS & SALES

★ AMIGA ★ ATARI ★ COMPETITIVE PRICES ★

All types of home computers: Amstrad, Sinclair, etc. - prices from £7.00 inc. VAT and post and packaging and three month guarantee.

Also available: spares, software, cables, peripherals, etc.

SALE OF AMIGA AND ATARI COMPUTERS.

Tel: (0702) 618455 for immediate estimate

THE COMPUTER FACTORY, Analytic House Unit 18A, Grainger Road Industrial Estate, Southend-on-Sea, Essex.

E.M.P.D.L.

Amiga Public Domain Library. Open 7 Days 9am - 9pm

Immediate Despatch on all orders

£5 per year subscription includes 3 Catalogue Disks (regularly updated FREE), Range of accessories etc.

Write now for details

Cheques & P.O.'s payable to:

E.M.P.D.L. 54 WATNALL ROAD, HUCKNELL, NOTTS

0602 630071

Quick on the Draw?



BUY YOUR PC GRAPHICS SOFTWARE FROM SOMEONE WHO USES IT EVERYDAY

TECHNICAL AND CREATIVE HOTLINE SUPPORT - FREE

Corel Draw!-£299 Publishers Typefoundry-£325 PC Paintbrush Plus-£99 Collage Plus-£95 etc

CUSTOM DTP CLIP ART

Choose ONLY the images you want from our catalogue of

OVER 1,000 UK IMAGES

Most Popular Formats for Wide Compatibility

[All Prices Exclude VAT and Postage]

CALL or WRITE for further details and our FREE CATALOGUE

WORDS & PICTURES



PO BOX 142, BANBURY, OXON OX16 8XQ

[0295] 265590

SINCLAIR REPAIRS & SPARES

Spectrum 48K	£16.00	Microdrive	£14.00
128K, + 2, + 3	£22.00	QL	£27.00
Interface 1	£15.00	All prices include VAT and return postage	

Many spares and leads stocked

Send 19p stamp for prices (state computer)

Send cheque or postal order and computer to:

ACE REPAIRS, Outways Farm, Pelynt, Looe, Cornwall, PL13 2NW.

Tel: 0503 20282

J. D. LEWIS Computers & Repair Service

3 1/2" DSDD (Bulk)	£9.50	Mouse Mats	£3.75
5 1/4" DSDD (Bulk)	£3.95	ST Joystick/Mouse Extension	£4.95

Send Large S.A.E. for FREE Catalogue

Add 65p Postage on orders under £10

Send Payment to:

J.D. LEWIS, 97 CHAPLIN ROAD, LONGTON, STOKE-ON-TRENT, STAFFS. ST3 4RH
TEL: 0782 323348

"Computer Repairs"

Guaranteed First Class Engineers

MENDITTAL SERVICE CENTRES

Computer repairs, spares, parts & accessories

Amstrad, BBC, Acorn, Electron, Commodore, Dragon, Sinclair, IBM

Fixed Price repairs (ANY SINGLE FAULT) Fast Turnaround (Normally one week)

Commodore C64	£22.00	Spectrum 48k/+	£14.00	Amstrad CPC464	£21.95
VIC 20	£22.00	Spectrum +2	£19.00	CPC664	£24.95
Commodore C16/14	£18.00	Spectrum +3	£19.00	PCW8256	£65.00
C16/C4ULA	£24.95	Spectrum 128k	£19.00	PCW8512	£75.00
C128	£19.00	Spectrum +2 cassette	£27.95	PCW9512	£95.00
Datarecorders from	£22.00	!! NEW !!		Monitors from	£34.95
Printers from	£38.00	Spectrum +3 D/Drive	£80.00	B/W mono from	£21.95
		Spectrum +3 ULA	£39.95	Interface's from	£10.50
		Sinclair QL	£34.95		

If your computer is not listed just phone/SAE 0792 813607 (24 hrs). For computers with multiple faults customers will be contacted with a FREE estimate before any work is carried out.

Send your computer together with a cheque or postal order to:

MENDITTAL SERVICE CENTRES

Unit 3, Dept: NCE, Winifred Road, Skewen, Swansea, West Glam, South Wales SA10 6HP
0792 813607 (24 hours)

S.F.A. COMPUTERS

NOW AVAILABLE! THE CLIPPER AT. P.C. KIT

Everything you need to build a Powerful AT style Computer in one package including full instructions and step by step video.

Kit comes with Motherboard, 200W Power Supply, AT Case, 1.2MB Floppy Drive, Floppy Controller, Videocard, Serial + Parallel Ports + Games Port, Sumsung FST Monitor, 512K RAM, 102 Key Keyboard, MSDOS 4.0, Award Bios + All Manuals.

PRICES

80286 /7.5MHz £625 + VAT. 80286/ 12MHz £699 + VAT.
80386 /20MHz £1149 +VAT

A special Preview Video is available for just £2.95.
Please note Educational Discount available.

All enquiries to:

SFA COMPUTERS

UNIT 15, ABBEY MILL BUSINESS CENTRE,
PAISLEY, SCOTLAND. PA1 1JN

Telephone: 041 840 1477



G.J. Computer Supplies

3 1/2" Discs Branded (3M) £10.95 per Box 10 50 Capacity 3 1/2" disc box £5.95
3 1/2" Discs Unbranded £7.95 per Box 10 80 Capacity 3 1/2" disc box £6.95

Stockist of Atari spares
Prices include P&P. Send cheques & Postal Orders to:

GJ Computer Supplies

1005/1009 Hedon Road, Hull, HU9 5JQ
Tel: 0482 791300

CAPITAL COMPUTERS (EDINBURGH)

031 228 4410

SPECIAL OFFER!

Amiga.....£359.00 Inc Software
Atari ST.....£279.00 Inc Software
Star LC10.....£199.00

Tired of the
large, impersonal
high street stores?
Yes? Then try us!

GLASGOW COMPUTER
CENTRE 041 332 8246

AmiMail Order

A GREAT DISK DRIVE FOR YOUR AMIGA COMPUTER

- * Daisy Chainable
- * Has front doot flap
- * Includes cables
- * Colour matches Amiga
- * True half height size
- * Free utility to turn drive off using a software switch, makes drive compatible with 100% of games **GUARANTEED!**
- * Free demo disk from our own PD library
- * NEC mechanism
- * 1 year guarantee

HOTTEST
BARGAIN

£88

SELECTIONS FROM OUR CATALOGUE

80 capacity disk box £8.00, 3.5" blank disks, 100% error free with labels,
£0.85 SPECIAL PRICE
Fish disks £1.90 Fright Nite £14 (over 300 games available)
Amiga 500 with manuals, WB, Extras, the very first and 10 * pack £383

Phone before ordering
Photon Paint £25
*DPaint III £58
DMCS £38

ALL PRICES FULLY INCLUSIVE. THE PRICE YOU SEE IS THE PRICE YOU PAY

Send 26p SAE for free 60 page catalogue to:

3 Stonechat Close, Meadow Court, Durford Road, Petersfield, Hampshire, GU31 4RE,

Telephone: 0730 69273 after 5pm

NOVA PRESENTS - FOR THE AMIGA

NOVA PD CLUB The spirit of Amiga P.D.

FREE life membership.

ALL popular Amiga P.D. collections

ONLY £2 per disk

1st four disks + FREE catalogue disk only £5.50

UP TO 75% OF COMMERCIAL SOFTWARE Many more benefits. Write or phone for details.

NOVA DISK MAGAZINE

Issue 3 available now - 3 disks - only £6.

News, reviews, articles, programs and lots more

Includes plans for a complete sound sampler.

Reduced price for NOVA PD CLUB members.

Programs ART AND TEXT compressed by up to 65%

Cheques/PO's payable to NOVA.

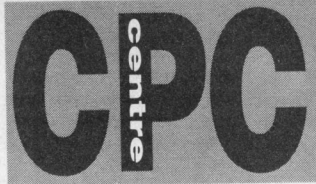
4 Octavian House, Dashwood Road, Banbury, Oxon. Tel: 0295 250121

COMPUTERWISE

WELCOMES CUSTOMERS OLD & NEW
TO VISIT OUR NEW SHOP AT
394 BIRMINGHAM ROAD,
WYLDE GREEN,
SUTTON COLDFIELD.
B72 1YJ



TEL: 021 382 3252



Spirit of the original

This week the Carey CPC has been kept busy with the latest Domark conversion of a Tengen coin-op title. *Dragon Spirit* is as well done as *Vindicators*, which was the *Amstrad Action* Mastergame a few months ago, and a considerable improvement over *Xybots* (but then, I never liked the original much, either).

There's some frantic action keeping the baddies down, and as ever some extra special end-of-level guardians to occupy your joystick arm. Under close questioning I'd concede that perhaps it's neither the most original nor the most varied of games. But what the hell, if God had meant shoot-em-ups to provide intellectual stimulation he'd have made 'em chess programs (*huh? - ed.*).

Dragon Spirit, by Domark, will set you back a tenner on tape and f15 on disc. And my bet is you'll agree it's money well spent.

Profitable program

The chaps at SD Microsystems have now released an extended version of their business program *General Ledger*, part of their range of accounting aids for small businesses.

The original, with 64K giving full control of cash and bank accounts, income and expenditure analysis, as well as producing vital reports such as Profit and Loss and a detailed VAT summary, has generally been well received. But one main drawback has irritated a number of users. Between 150 and 200 transactions can be entered into one file, and if that sounds plenty to you, believe me it ain't.

Now an expanded version that makes use of the extra bank of RAM, *General Ledger 6128*, has been released. It almost doubles that original rather meagre limit, as well as offering other refinements such as a Trial Balance report, the capacity to hand monthly

Dangerous Multiface

Mark Riley has taken the trouble to write in with *Multiface* pokes for the fabulous and hilarious Rick Dangerous:

poke 87CA, FF (255 lives)
888B, FF (255 bullets)
926D, FF (255 barrels of dynamite)

Incidentally, Mark reckons if you use the *Multiface* on missions other than the first one (*South America*), you find that the sprite "boxes" are visible when you play the game. Funny, I don't believe I've had that problem. Perhaps it's something to do with the version of the *Multiface* you're using, Mark?

He's also given the world a poke for infinite lives in the classic *Chuckie Egg*: 9B5B, 0.

"Keep up the good work," he writes, encouragingly: "thanks to Phil Howard's hacking series in *Amstrad Action* - I couldn't have got these pokes without him." Oh don't be saying that, Mark, you'll be making Phil's head swell, and he'll expect to be paid as well!

In exchange for Mark's good work, does anyone have any pokes for *Netherworld*? Send these, together with your pokes for infinite holes in Leaderboard to: Steve Carey's CPC Centre, NCE, 4 Queen St, Bath BA1 1EJ.

standing orders and direct debits and improved menu and screen displays.

Steve Denson, keen as ever to bang the drum on SD's behalf and on behalf of the CPC in general, points out that this upgraded version costs less than the VAT on most packages of similar ability for the PC!

General Ledger 6128 costs £29.95, and upgrading from the original a tenner. SD is at PO Box 24, Hitchin, Herts.

Sounds familiar

A Mr P. Andrews of Doncaster writes to ask whether there are any genealogical programs for the CPC, and I have to confess I don't know the answer, though I have the feeling that I have seen one. Does anyone have any information about such a thing?

Son of Qualitas

Ray Eckersley, boss of Seven Stars Publishing, tells me that *Version 2 of Qualitas Plus*, the print enhancer, is now ready. Besides what he hopes is a much improved manual that explains the installation procedure even more clearly, special loaders are now provided for *Masterfile III* and *Protext/Promerge Plus*. The codes for switching *Qualitas* on and off are now ordinary text characters (|, + and), but redefinable, so you no longer have to go through that business of defining special printer control codes in your word processor. And the font editor is easier and quicker to use.

Qualitas upgrades are available at low cost from Seven Stars: buying from fresh costs £16.95 (disc). Phone 06284 3445.

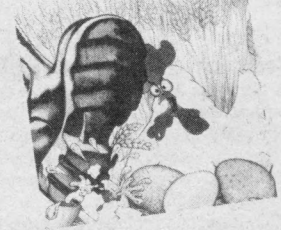
Sheep worrying programmers

Ray Evans of Harlow in Essex was kind enough to send me a print out of *KNIFE, BIN*, the hidden file in Database's big selling *Mini Office II* that was the subject of discussion in this column some months ago.

Using N. Manuel's *Lookat* scanner program (1985), Ray has given the world a valuable insight into the mind of a very tired and possibly emotional programmer on the verge of finishing what was to become one of the industry's biggest selling projects. Besides a rather unfortunate obsession with sheep, this poor anonymous 22 year old, accompanied by "the good wizard Niloc... Retep the brave and Semai" (such paucity of imagination), against all the odds, "produced the entomologists (sic) dream - the only package where the bugs come completely and utterly free of any charge whatsoever!"

Whatever happened to that crew of young programmers, I wonder? As David Jacobs used to ask, where are they now?

I'd be interested to learn, too, of other examples of "secret" messages concealed in games and other programs. Write to: *Now It Can Be Told*, Steve Carey, NCE, 4 Queen St, Bath BA1 1EJ.



• Life eternal for Egg, Chuckie!



Be happy

After depressing the +3 owning fraternity lately with talk of distorted sound faults, I thought it was about time I gave them a reason to be happy again.

Someone's finally decided to set up a +3 user group, which has to be the best excuse for a celebratory drink I've heard since yesterday's 3.40 from Hadock. The functionally titled +3 Users Group has been started by Daniel Garner, who already runs his own software label and public domain library and has the dubious honour of having had both plugged in previous columns.

His latest venture is this non-printer making group that plans to provide planet loads of +3 specific material with newsletters, disk mags and possibly even a bulletin board. Hopefully it will go some way to redressing the raw deal the latest addition to the Spectrum family gets from the software houses and press (minus Spex) alike.

Membership is £9 a year and for that you get an issue of the group newsletter every month, free public domain software and the use of a help line and cheap mail-order service. A year's supply of +3 contact, the newsletter will be worth having if the first issue's anything to go by. It was 12 page, A4 size mag with a good variety of contents including +3 DOS routines, playing tips and an article on the possibilities of a +3 virus. I really enjoyed it and I know +3ers everywhere will delight in the almost total absence of the lowlier tape-based Speccies on its pages. The other publication produced by the +3UG is a 3" disk-based one called SPECFAX, which I haven't seen yet. A subscription to this isn't included in the membership fee so you'll have to shell out £4.25 or £2 + disk per issue, if you want a copy.

As a special, exclusive, once in a lifetime etc., offer, Spex readers can save £££s on the usual cost of membership. Well, more precisely, you can save a pound and join the +3UG for the reduced sum of £8. To qualify for the offer, make the cheques out to D. Garner and mention Express when you send it to 57 Lovers walk, Dunstable, Beds LU5 4BG. The offer only remains open for 3 weeks so hurry! hurry! hurry! as the bloke on the MFI advert puts it.

Poking away

Matthew Wilson of Sussex mounted a take over bid for this column next week by sending in the poking equivalent of War and Peace. Most of the Multiface hacks were a bit ancient and fraying around the edges but with classic oldies being resurrected in compilations and as budget games they're pretty helpful all the same. Here's the most topical ones:

Talk to me

If you've got any comments, criticisms, suggestions for things you want to see in the column, or tips relating to any area of Spectrum owning send them to Spex, New Computer Express, 4 Queen Street, Bath, Avon BA1 1EJ. Remember to enclose a SAE and be patient if you want a personal, hand crafted reply.

Enduro Racer - Poke 43542, 0 and 43643, 0
Batman (original version) - Poke 36798, 0
720 degrees - Poke 40774, 0
Wizball - Poke 37052, 0
Scooby Doo - Poke 29674, 0

You need a Multiface type device to install them. Matthew will be getting a much hankered over freebie for his poking above and beyond the call of duty.

Another independent Speccy publication has fallen into my grasp. *Spectrum User* comes out every month on tape rather than traditional wood pulp and offers an on-screen magazine on the A side of the cassette with other routines and screen shots to accompany the reviews on the flip side. The issue I saw was fairly unspectacular but great value for money at only 60p (inc. tape and postage). The address for orders is S. J. Howlett, 58 Beacons View Road, Clase, Swansea SA6 7HU.

Airline software, who produce *Spectrum User*, have also got a very interesting catalogue of original utilities and games. Their range of programs extends to about twenty titles with the most impressive sounding ones being a word processor and database for £2.99 each. For a copy of their latest catalogue send a SAE to the address above.

Wafadriven

Following Peter Bellingham's query in issue 40, I know a lot of you have lost sleep wondering if it's possible to convert Tasword Two so it runs on a Rotronics Wafadrive. Wonder no more because a kind reader by the name of Allan Carside has ridden to the rescue with full instructions for achieving this seemingly impossible task. Anyone in a similar predicament can get in touch with Tasman Software who'll supply you with the relevant info. Normally Allan would just get my eternal thanks for his help but because I'm feeling unusually generous this week, he'll also be getting a piece of Speccy software free, gratis and for nothing.

What price tie-ins?

The Spectrum charts these days seem littered with film and TV tie ins. *Robocop* is the obvious example, which has held sway at the top of the chart for months. But are these games any good or are the just freeloading on the back of the huge promotional budgets of the films involved?

So many of these games seem to be just standard shoot-'em-ups or platform games with a few of the sprites changed to make them look a little more like the principal character in the film. Surely when most blockbusting films have highly unoriginal plots - most of them are sequels! - you can't expect the games they spawn to have original, or even interesting, gameplay. Regrettably though most people seem willing to buy them in their droves just because they've seen the film.

Undoubtedly in the coming weeks we will see the domination of conversions grow even stronger with the launch of the *Batman* games. Let's hope they manage to make the games a little more than run of the mill reshapes of existing standards.

Golden oldie

A golden oldie I've got fond memories for is Ocean's *Cobra*. It's pretty hard to describe; a slick, platform shoot-em-up with great music is about as close as you'll get. Anyway, it's another re-released game now available for a very cheap £2.99 and definitely worth buying. I can feel a case of joystick wrist coming on just thinking about it.

Robin Alway

EAGLE SOFTWARE

Fully Guaranteed Double Sided Disks
at the Right Price

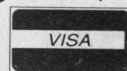
3.5" disks
10 in plastic case £9.99
25 in 40 cap case £24.99

5.25" disks
10 in plastic case £3.99
25 in 50 cap case £15.95

All prices include V.A.T. and P&P

Cheques/PO to: **EAGLE SOFTWARE**

**6, Cranmore Drive, Highley, Bridgenorth,
Shropshire. WV16 6DS.
Tel: 0746 862455**



SOFTCELL SUPER SAVERS PC SHAREWARE

£1.75 Per Disk Fully Inclusive

Copy Master.....£1.75
Tree View.....£1.75
Peasy Dos.....£1.75
DOS Tech Ref.....£1.75
OS II Manual.....£1.75

Word Games.....£1.75
PC Dash Board.....£1.75
Thesaurus.....£1.75
STD Codes.....£1.75
+ 100's more

**PC & AT
Range**
• Quality
• Value
• Free Software



10 5/14 Discs £16.00, 10 3 1/2 Discs £25.00. For further details write or phone for a FREE catalogue!
Softcell Services, Dept NCE, 9 St Wells St, Cardiff. CF1 8DW
Tel: Cardiff (0222) 222895 anytime

THE CHIP SHOP (SEMICON) LTD

DO YOU NEED INTEGRATED CIRCUITS ? TRY US !

WE HAVE A FULL RANGE OF TTL, CPU'S, EPROMS, RAMS ETC
+ MEMORY UPGRADES FOR MOST MICROS.

FOR EXAMPLE V20 - 8 -13.50
V30 - 8 -10.50



SEND SAE FOR FULL LIST
6 BEAN LEACH DRIVE, OFFERTON, STOCKPORT, CHESHIRE, SK2 5HZ
VISA ACCESS HOTLINE 061 - 483 - 1989



DISKS 65p

3.5" DS/DD KAO UNBRANDED ALL DISKS

GUARANTEED (MIN. ORDER 30)

AMIGA A500 £330

PLEASE ADD P+P TO ALL ABOVE ITEMS

COMMARI COMPUTERS, 97 UPPER PARLIAMENT STREET,

NOTTINGHAM NG1 6LT TEL: 0602-507423/475166

COMPUTER REPAIR SPECIALISTS

★ All types repaired from £15 ★ Please ring for details ★

0909 483255

P & J Enterprises

18, Anston Avenue, Worksop, Notts S81 7HT

ALL COMPUTER HARDWARE AND SOFTWARE WANTED FOR CASH OR EXCHANGE

NOTHING REFUSED!!

01 727 0424

Top Quality 3.5" Labels
3.5" Coloured Disk Labels - £2.50 per 100
Includes VAT, P&P. Many other items in stock. Mail Order Welcome

Exmouth Micros, 13/15 South Street,
Exmouth, Devon EX8 2SX.

TEL: 0395 267734 FAX: 0395 272693




ATARI ST PUBLIC DOMAIN

Alpha's Autumn Catalogue now has hundreds of great programs including:

- * Desktop Publishers
- * Wordprocessors
- * Educational
- * Art & Design
- * Databases
- * Business
- * Copiers Galore
- * Spreadsheets
- * Accessories

High Quality Public Domain on top Quality Disks
Send a 19p stamp for FREE Catalogue or £1.50 for demo disk.

ALPHA COMPUTING, 32 Meadow Drive, Halifax, W. Yorks. HX3 5JZ

MICROWORLD

MAIL ORDER AVAILABLE - PHONE FOR CATALOGUE.
REPAIR CENTRE NOW OPEN.
Software, Computers and Peripherals
All Makes Catered For

Amiga 2000 Pack£1399.00
Amiga 500 Packs from£399.00

**Unit 3, Old Post Office Buildings,
Bridge Street South, Portdown, BT62 3NW
TELEPHONE: 0762 350062**

WIZARD P.D.
Just some of the features from our service

new lower prices

FOR YOUR ATARI ST

- * HIGH QUALITY. No text based checkers from us
- * PRICES from 80p (send your own disks)
- * TOS 109 No problem all our Software is compatible
- * FULL RANGE Arcade, Adventure, DTP, Art etc. (12 sectins)
- * FULL DISKS Our Single sided disks average 325K
- * VIRUS FREE All disks immunised as standard
- * FAST SERVICE All orders despatched within 24 hrs

FOR FREE CATALOGUE SEND 9X4 SAE TO WIZARD P.D.
178 WAVERLEY ROAD, READING, BERKS. RG3 2PZ
or RING 0734 574685 10am - 7pm

UNBRANDED DISKS
TOP QUALITY, 100% GUARANTEED, WITH LABELS

10	3 1/2	DD DS	135 TPI	£7.50
20	3 1/2	DD DS	135 TPI	£14.50
30	3 1/2	DD DS	135 TPI	£21.00

100 discs for £70.00

Price includes P&P - Cheque + P.O. to:
**Mr G.S. Bradley, 49 Churchill Ave., Wyton,
Huntingdon, Cambs. PE17 2EG. Tel: 0480 454206**

SINCLAIR REPAIRS & SPARES

Spectrum 48K	£16.00	Microdrive	£14.00
128K + 2, + 3	£22.00	GL	£27.00
Interface 1	£15.00		

All prices include VAT and return postage

Many spares and leads stocked
Send 19p stamp for prices (state computer)
Send cheque or postal order and computer to:
ACE REPAIRS, Outways Farm, Pelynt, Looe, Cornwall, PL13 2NW.
Tel: 0503 20282

SuperMaths

Specially written for Amstrad PCW's, PC's and compatibles. User friendly, enjoyable package: multiplication (including tables), division, addition and subtraction - 4 levels of difficulty - ages 5 upwards. Scores shown, success rewarded. PRACTICE and TEST (timed). WORKSHEET produces worksheets on printer with choice of styles, with separate answers.

Can provide hours of fun improving numeracy
Price (inc VAT/P&P) £18.95 (PC) and £16.95 (PCW). Cheques to
Abacus Software, 11 Woodcote Drive, Orpington, Kent BR6 8DB
Proprietor: JD Charlton

Abacus
Educational Software



Game on

Wowee kids! Budget games master Players Premier Label has just released two new games. *Moving Target* places you in the role of a Commando who has to find four bombs to place outside the bases of the enemy.

Acting on a top CIA intelligence report, a Commando unit acting under orders from the special United Nations narcotics taskforce, smuggled four bombs into the Duke's (a cocaine baron) coke refinery hidden deep in the South American jungle. Unfortunately, the units were wiped out by the Duke's evil henchmen and the bombs were never put in place.

After playing *Moving Target*, I was rather disappointed that the game was so hard to get into. The graphics techniques used in the game *Joe Blade* are put to use in *Moving Target* but are nowhere near as hot. When you shoot, nothing comes out of the gun and the only way to determine the shot's effectiveness is to watch for opposing soldiers falling over.

The game proved so frustrating to me I could not get very far at all. The music is by newly formed musicians Sonic Graffiti which for their first effort was rather good even though there was not much tune to it. If you loved *Joe Blade* then you may like *Moving*

Target. The game costs £2.99 and is available from Players Premier.

Snake eyes

The second release is *Cobra Force*. You take control of a helicopter which at first is on a helipad. You must take the chopper with all its fire power to rescue POWs scattered around the two way scrolling smooth playing area. While you're trying to rescue the POWs life is made very difficult by enemy fighter planes. The game resembles *Airwolf II* except for the scrolling which does not go up and down as well. On your mission you must also destroy the missile silos. Once this is done, you must go up against the awesome secret weapon and once that is destroyed you will be taken to the next level.

Cobra Force has very slick presentation along with very nicely drawn backdrops. The sprites are well animated and help to give the game a good atmosphere. *Cobra Force* is one of Premier's best releases so far. The game costs £2.99 and is available from Player's Premier.

Ian and Mick Jones

Share it out

It looks like the C64 is going to be given another kick of life this Christmas with Commodore re-releasing the cult machine once again, but this time with a gun.

If you have any info and cheats you would like to share with other cool readers of *Sector 64*, why not pop it in a postbox with a stamp of course to the usual address. Sector 64, Future Publishing, 4 Queens Street, Bath, Avon BA1 1EJ. All donations welcome, honest!



One for sorrow

Computer journalists are notorious magpies. The problem being that they get free what everyone else has to pay for, which distorts their perspective on life somewhat. So if they don't get on with a program, it's 'sayonara' and onto the next one.

This often leads to inept reviews being published, and these take one of two forms. There's the 'Oh, isn't this wonderful' type where the hack just regurgitates PR company drivel, of which I can think of several, but which I won't repeat for legal reasons. Then there is the 'keep this pile of **** away from me' type which often represents a lack of technical expertise.

At long last

The point (!) I am getting around to here is that I am a computer journalist so my word on everything is by no means the law. So if you disagree (or agree) violently with me then let me know about it. What I want to see is your opinions on current software. Both items I have reviewed, and those I haven't. I've decided that I am doing far too much work, so I need your help to keep me out of the Betty Ford clinic. Keep it short please. A paragraph of your wit and repartee will satisfy much more than a 10,000 word essay.

Oldies but goldies

I am also going to institute an occasional series called 'Raves from the Grave', where I will muse upon the merits of programs and products long since demised.

The first to receive the call into the limelight is Bitstik. Dating back to around 1984 or 1985, Bitstik made its way over from the then still popular Apple II. It was, and probably still is, the most accomplished piece of CAD hardware and software available for the Beeb.

Its main feature was the input device, a weird sort of joystick cum trackerball cum mouse design. It worked though, and in conjunction with the software which was supplied on several 80 track disks, allowed most operations to be performed without going near the keyboard.

The system was also fast, mainly because a 6502 second processor was necessary to run it. Unfortunately this pushed the price up into the professional class which meant in the days of cassette based Beebes that nobody bought it.

Andrew Brown

Tips time

Here are two simple tips for everybody writing games in machine code on their Beeb.

*FX16,0: this turns off all the analogue ports (speeds computer up by 2 - 3% depending on what is happening)

*FX178,255: this turns off the keyboard, useful for complex calculations etc., saves between 1 and 2% speedwise.

*FX178,0: turns the keyboard back on

*FX16,0: has the disadvantage that joysticks can't be read by the normal legal methods, but that usually doesn't matter as few owners seem to have joysticks anyway.

RIBBONS

Amstrad DMP 2/3000 series	2482	A
Amstrad DMP 4000	2426	E
Amstrad PCW8256 (L/Life)	*2741	D
Amstrad PCW9512	*2746	B
Brother HR15/25/40	*2696	B
Canon PW1080A	2223	D
Centronics GLP	2412	D
Citizen 120D/180E/LSP10	2488	B
Citizen MSP-40/50	2477	D
Commodore MPS801	2236	D
Epson FX/LX-80	2273	B
Epson LX/GX-80	2454	B
Epson LQ-500	2477	B
Epson RX-80	2273	D
Epson EX-800	2774	D
Epson Full Width	2320	D
Juki 6100 Daisywheel M/S	2563	B
NEC Pinwriter P1/P2	2254	D
NEC P2200	2844	D
NEC P6+/P7+	2870	E
Panasonic KXP-1081/1180	2228	D
Seikosha GP100	2317	B
Seikosha SL80 (L/Life)	*2741	D
Seikosha 500/550	2236	D
Shirwa CP80/MT80	*2698	D
Tatung/Commodore CP80	*2698	D
Star LC10	2861	B
Star LC24-10	2868	B
Star NL10	2761	D

Many others - please enquire!

* = Avail. in Fabric Nylon or M/Strike Film.

Please choose!

(Fabrics offer longer life and may be used with Ribbon Refresh!)

PRICE STRUCTURE

	1 off	2 off	5 off
A	£2.95	£5.75	£12.95
B	£3.95	£7.45	£16.95
C	£4.45	£7.95	£18.45
D	£4.95	£8.95	£19.95
E	£5.95	£10.95	£24.95

Prices include VAT & post

**WE ALSO HAVE
DISKS**
and a Technical
Library of
1500 BOOKS!

Please enquire!

**FREE SUPPLIES
CATALOGUE**

24-page
FULL BOOKLIST
50p
(Only with goods)



PAPER

All prices per 1000 sheets incl. VAT

* P&P £2.50 any quantity

11/9.5 60gsm Listing	£6.45
11/9.5 70gsm Microperf	£7.95
11/9.5 85gsm Letter Qual	£9.95
A4 size 70gsm Microperf	£9.70
A4 size 85gsm Letter Qual	£10.95
11/9.5 2 part NCR	£19.40

A5 size Letter Quality paper,
Upright (Portrait) Orientation, £13.90
Microperf all edges for letter-writing

□ Address Labels □

3.5/1.5, 1- or 2- across

£3.75 per 1000 (+£2.50 P&P)

At last - a unique
new ink spray that
restores ribbons in
seconds

**SAVE
£££s ON
RIBBONS**

- Quick & Convenient.
- Restores & Re-Inks faded ribbons in seconds!
- Refreshed ribbon lubricates print head for smoother running & enhanced printer life.
- Use on any fabric ribbon... again and again!
- Pays for itself the first two times you use it.



**ONLY
£8.95**
inc VAT & post



Cheques/POs (no stamp needed)
CASPELL COMPUTER SERVICES
Dept NCE FREEPOST, Poole Dorset BH15 1BR
Tel: 0202 666155 or 0202 35650 (24-hr)
TRADE ENQUIRES & LOCAL AUTHORITY ORDERS WELCOMED
Account enquires: 43 Emerson Rd., Poole Dorset BH15 1QS



HSV COMPUTER SERVICES LIMITED

23, Hampstead House, Town Centre, Basingstoke, RG21 1LG

Bulk Disks - Fully Guaranteed

	25	50	75	100	200	
5 1/4 DS/DD 48TPI	8.95	16.50	23.25	29.95	57.95	
5 1/4 DS/DD 96TPI	9.50	17.95	25.50	32.95	63.95	
	10	20	30	40	50	100
3 1/2 DS/DD 135	7.95	15.50	22.50	29.50	35.50	69.95

Lockable Disk Boxes

50 x 5 1/4"	£5.95
100 x 5 1/4"	£7.95
120/140 x 5 1/4"	£9.95
50 x 3 1/2"	£5.95
100 x 3 1/2"	£7.95

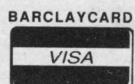
Stationery . . . Stationery . . . Stationery . . .

	500	1,000	2,000
9.5" x 11" 60gsm Micro-Perf all edges	-	£9.50	£15.95
True A4 70gsm Micro-Perf all edges	£8.50	£12.95	£23.95
True A4 90gsm Micro-Perf all edges	£9.75	£14.95	£27.95
True A4 100gsm Micro-Perf all edges (coloured - Cream, Blue, Grey or White)	£16.95	£31.95	-

	1,000	2,000	4,000
Labels 3.5" x 1.5" (1 across)	£5.25	£9.50	£17.95
Labels 3.5" x 1.5" (2 across)	£5.75	£10.50	£19.95
Labels 4.0" x 1.5" (1 across)	£5.75	£10.50	£19.95
Labels 4.0" x 1.5" (2 across)	6.75	£11.95	£22.95
Labels 2.75" x 1.5" (3 across)	£4.75	£8.50	£15.95

**Credit Card
Hotline
(0256) 463507**

**Faxline
(0256) 841018**



Orders under £8 in value carry a small order charge of £2

Evesham Micros

We Accept EXPRESS VOUCHERS

All prices include VAT and Delivery



All our ST prices include: mouse etc. plus 5 disks of software including 'First Word' wordprocessor, utilities, 'Neochrome' graphics utility, game and demos.

520 STFM POWER PACK

Amazing value, all-new special ST package from Atari! Includes 520STFM with 1Mb drive, joystick, mouse, user guide, 5 disks of public domain software, plus an incredible selection of chart-topping software worth over £500! Software included is:

R-Type
Afterburner
Double Dragon
Super Hangon
Space Harrier
Overlander
Pacmania
Starglider
Super Huey
Eliminator
Predator
Bombjack
Out Run
Bombuzal
Xenon
Gauntlet II
Black Lamp
Starry
Nebulus
Stargoose
First Music
First Basic
Organiser

All for **£349.00**
only Inc VAT & delivery

520 STFM SUPER PACK

Fantastic value! Includes 520 STFM with 1Mb drive, over £620 worth of software, joystick, mouse, User Guide and 5 disks of Public Domain Software. Software includes:

Starglider I & II
Carrier Command
Marble Madness
Beyond Ice Palace
Thundercats
Summer Olympiad
Arkanoid II
Eddie Edwards Ski
Ikari Warriors
Tracker
Flying Shark
Chopper X
Buggy Boy
Quadrant
Xenon
Wizball
Seconds Out
Zynaps
Virus
Sentinel
Ranaraka
Starquake
Genesis
Black Lamp
Thrust
Organiser

Same price!
only **£319.00**
Inc VAT & delivery

520 STFM with 1Mb internal drive fitted	£269.00
1040 STFM latest model, with built-in TV modulator	£399.00
1040 STFM Games Pack, includes 'Starglider I & II', 'Flying Shark', 'Carrier Command', 'Virus', 'Tracker' and 'Sentinel'	£419.00
1040 STFM Hyper Pack, including 'Hyper Paint', 'Hyper Draw', 'First BASIC', 'Organiser' plus £50 Atari Software Offer Voucher	£429.00
Buy a monochrome monitor with any ST from above for £110.00 extra	
Mega ST1 with mono monitor	£599.00
Mega ST2 with mono monitor	£849.00
SM124 mono monitor	£119.00
SC1224 colour monitor	£279.00
Philips CM8833 14" colour monitor c/w ST or Amiga lead	£229.00
ITT CP3228 16.5" TV/Monitor with remote control & ST / Amiga cable	£229.00

AMIGA ACCESSORIES

A501 RAM/Clock expansion unit for the Amiga 500	£119.00
External 5.25" 40/80 track switchable floppy drive	£114.95
Midl Interface by Omega Projects, including 30" serial connector	£29.95
Vortex 'System 2000' 40Mb hard disk, with interface & software	£529.00
ITT CP3228 16.5" TV/Monitor with full rem/ctrl & SCART cable	£229.00
Philips CM8833 colour monitor, c/w Amiga cable	£229.00
Philips 8CM852 colour monitor as above, higher resolution	£259.00
Amiga 500 dust cover	£4.95

DOUBLE TAKE!
PYE 15" FST TV/MONITOR
(MODEL 1185)

Superb quality, stylish medium resolution FST colour TV/monitor to suit the Amiga or Atari ST. Features teletext, full infra-red remote, SCART connector, Video/Audio inputs and headphone output, 40 tuner presets, ext. aerial connector and a loop aerial. Supplied with cable (please state computer type when ordering).

ALL THIS FOR JUST £269.00
Includes VAT and computer connection lead

Amiga & ST 3.5" Drives

- *Very Quiet
- *Slimline Styling
- *Fully Compatible
- *Top quality drive mechanism
- *On/Off switch for Amiga
- *External plug-in PSU for ST
- *Throughport for Amiga
- *1Mb unformatted capacity

Fully compatible, high quality 3.5" external drives for the ST and Amiga
Amiga version only £74.95
Atari ST version only £79.95
Prices include VAT & delivery

Western Digital Filecards

Upgrading your PC to hard disk? Look no further, we offer the best prices on top quality hardcards. Thorough documentation supplied, low power consumption, with free XTree file management software and Speedread. For Amstrad PC1512/1640 users we supply hardcards tested and formatted, with our simple software installation procedure. The best packages available!

20MB...£199.00 32MB...£229.00 40MB...£289.00

3.5" disks

10...£ 9.95 in plastic case £11.95
25...£22.95 in 40 cap case £29.95
Fully guaranteed double sided media

5.25" disks

25...£9.95 in 50 cap box £18.95
in 100 cap box £20.95
Fully guaranteed double sided media

Amstrad PC1512/1640/2086

We offer a wide choice of Amstrad PCs with many upgrade options, including the very latest PC2086 range. For the hard disk option, check our 'Evesham Upgraded Models'. Only the best will do - so we normally upgrade by means of a Western Digital Filecard, which includes XTree and SpeedRead software; however on single drive 1512/1640 models we can offer internal installations at the same price (leaving more expansion room but no upgrade opportunity for a 2nd floppy drive). On-site service contracts are available on any PC1512/1640 model for only £39.00 inc.VAT. Prices in lighter type exclude VAT.

Free with 1512 models... Ability and 4 US Gold Games

	SD	DD	AMS H.D.	SD 20MEG	DD 20MEG	SD 32MEG	DD 32MEG
EVESHAM UPGRADED MODELS							
MONO 1512	384.35 442.00	477.39 549.00	N/A N/A	557.39 641.00	650.44 748.00	583.48 671.00	676.52 778.00
COLOUR 1512	494.78 569.00	555.65 639.00	N/A N/A	667.83 768.00	728.70 838.00	693.91 798.00	754.78 868.00
MONO 1640	474.78 546.00	555.65 639.00	738.28 849.00	647.83 745.00	728.70 838.00	673.91 775.00	754.78 868.00
CGA COLOUR 1640	581.74 669.00	651.30 749.00	825.22 949.00	754.78 868.00	824.35 948.00	780.87 898.00	850.43 978.00
EGA (ECD) 1640	677.39 779.00	738.26 849.00	938.26 1079.00	850.44 978.00	911.30 1048.00	876.52 1008.00	937.39 1078.00
2086 MONO	584.35 649.00	633.91 729.00	813.04 935.00	737.39 848.00	806.96 928.00	763.48 878.00	833.04 958.00
2086 CD	658.52 755.00	726.09 835.00	903.48 1039.00	829.56 954.00	899.13 1034.00	855.85 984.00	925.22 1064.00
2086 12" HRCD	746.96 859.00	813.04 935.00	995.65 1145.00	920.00 1058.00	986.09 1134.00	946.09 1088.00	1012.17 1164.00
2086 14" HRCD	833.91 959.00	903.48 1039.00	1086.09 1249.00	1006.98 1158.00	1076.52 1238.00	1033.04 1188.00	1102.81 1268.00

PC1512 special offer Buy an Amstrad DMP3160 10" carriage 9pin printer with any PC1512 model for only £120.00 extra!

upgrades / accessories

1512 memory upgrade to 640K	£39.95	Enhancer 101 replacement keyboard ...	£74.95
Maths Co-processor 8087-2	£129.00	3.5" drive (720K) for SD models	£79.95
NEC V30 (8086 replacement)	£24.95	PC2000 series compatible	
Cipher CT1525 tape streamer	£319.00	5.25" (360K) external drive	£100.00
Amstrad Modem Card V21/23	£99.00	Genius GM6+ Mouse package	£32.95
Communicate Fax Card SR	£199.00	Konix PC Joystick & Controller Card	£24.95

Amstrad PPCs

Low prices on all portable PCs - especially twin drive models prices in brackets are excluding VAT

PPC512S	(£373.04) £429.00	PPC640S	(£477.39) £549.00
PPC512D	(£433.91) £499.00	PPC640D	(£546.96) £629.00

Low price External 3.5" floppy drive (720K), suits almost any Amstrad 1512 1640 inc. DD and HD models, uses no expansion slots £99.95

Central Point Software

For all your PC disk management requirements

PC Tools Deluxe Version 5...Other utilities may claim to 'do it all' but only PC Tools Deluxe is the complete disk utility package, providing a fast hard disk backup, the best undelete available, 100% safe formatting of floppy and hard disks, unformat, reliable disk caching, compress facility, in fact everything required to manage & protect your data at a sensible price.....£39.95

PRINTERS

All prices include VAT, delivery and cable



We use and recommend Star printers since they do offer an unbeatable combination of features, print quality, reliability and value. Make the sensible decision - get it right with a Star printer at our special, all in, prices.

Star LC10 best-selling 144/36cps printer, 4 NLQ fonts, inc.2 extra ribbons free ..	£179.00
Star LC10 7-colour version of above printer, inc.2 extra black ribbons	£229.00
Star LC24-10 feature-packed multifont 24 pin printer	£319.00
Star NB24-10 great value 24pin inc. cut sheet feeder + 2 extra ribbons	£499.00
Star NX-15 budget wide carriage printer	£329.00
Star FR-10 new Professional 9pin 300/76 cps, 31K buffer, 16 NLQ fonts, EE-PROM configuration memory and 12 months on-site maintenance	£399.00
Star FR-15 9pin as FR10, wide carriage version	£499.00
Star XB24-10 Professional 24pin: 27K buffer, 4 SLQ & 25 LQ fonts with EE-PROM configuration memory and 12 months on-site maintenance	£499.00
Star XB24-15 wide carriage version of XB24-10, with 41K buffer	£649.00
NEC P2200 budget 24pin, great value 168/56 cps	£319.00
Hewlett-Packard 'Deskjet' inkjet printer 240/120 cps	£749.00
Amstrad DMP3160/3250DI good value 10" 9pin	£169.00
Panasonic KXP1081 reliable budget 10" printer 120/24 cps	£169.00
Panasonic KXP1180 super new 9pin with over 3400 typesyles, 11" carriage	£199.00
Panasonic KXP1124 great new sturdy 11" multifont 24pin printer	£319.00
Epson LX800 popular 10" 180/25 cps	£179.00
Epson LC550 good 24pin printer 150/50 cps	£319.00
Citizen 120D good value 10" 120 cps	£139.00
Citizen HQP-45 wide carriage 24pin printer	£399.00
Mannesmann Tally MT-81 130/24 cps	£149.00

How to order

All prices VAT/delivery inclusive
Express courier delivery £5.00 extra
Send cheque, P.O. or ACCESS/VISA details
Phone with ACCESS/VISA details
Govt., educ. & PLC official orders welcome
All goods subject to availability E.&O.E.
Open to callers 6 days, 9.30-5.30
Telex: 333294 Fax: 0386 765354

Evesham Micros Ltd

63 Bridge Street
Evesham
Worcs WR11 4SF
Tel: 0386 765500

Also at: 1762 Pershore Rd., Cotteridge, Birmingham, B30 3BH Tel: 021 458 4564

● FOR SALE

SHARP MZ-700, original software, all sorts. Tel (0532) 498985 evening.

ATARI 800XL, 1050 drive with I.S. plate/D.D. and lazer, write protect switch, loads disks, no reasonable offer refused. Phone today, Basildon (0268) 555643.

AMIGA software. Games and serious. Over 20 titles. SAE for list. Brian Empson, 89 Grenfell Ave, Saltash, Cornwall, PL12 4JD.

ST GUNSHIP, unwanted gift, unused, quick sale, £12. Nick, 0545 580671

YAMAHA PSR-70 midi keyboard. 61 keys, 32 voices, built-in programmer and memory. £500. Reply to: T Jackson, 1 Beechfield, Higher Downs, Altrincham, Cheshire WA14 2QN.

AMIGA A500 + 1084S monitor. Six months old. Hardly used. Games + Protech word processor. £500. Tel 01 262 7445.

TAXAN Kaga KP810 dot matrix printer £110. Multiface V5 £25. Disector v5 £5. All for Atari ST. Phone 01 660 0430.

PC ENGINE (PAL) with five games plus Sega system and lightgun and five games. Worth £600. Sell £245 or Amiga exchange.

PCW8512 good condition. Master Scan. Stop Press. Disks. Games software. Cost £800+. Any offers. Tel: 01 508 3535 after 6pm.

ACORN teletext adapter with ATS £50. Various BBC wargame disks. Phone 0268 785324 evenings.

AMSTRAD CPC 464 colour complete with joystick, dust covers and various games. £175 ono. Tel 0276 66521.

ATARI 520 STFM plus 50 disks, including games (Populous, Dungeon Master, etc), mouse, manuals, magazines, good condition. £250. 061-428 9675.

EARN money from your micro. New book. £10. 267A Maidenhead Road, Windsor, Berks SL4 5HF.

AMIGA PD software, 75p each. SAE R.J., 19 Earn Court, Alba FK10 1PT

MPS 803 printer, extras, £50. Tel John 061 790 0655.

ST software, £2 to £5. Giber Studio wanted. 05438 4102.

ATARI ST games for sale. All original. £8 each.

C64/128, monitor, printer, books, software. Absolute bargain at £280. Ring 0272 744214 anytime.

AMIGA originals, Capone, Interceptor, World Tour Golf, Mortville Manor, Captain Blood, Defender of the Crown, Three Stooges, Hostages. £40. Tel Ian on Bristol 613173.

BBC disc drive £90. Amiga games, £10. 051-342 2693 Danny.

C64 disk drive, needs repair, £70. Phone Ikky 0706 57921.

SAXON Micro Collection for PCW. Three programs £22. 01 560 7916.

ATARI 130XE data recorder, many good games. Boxed. £90 o.n.o.

ARTIST II graphics package, Spectrum version. £7.50. Tel Newark (0636) 71275.

GETTING RID of my Amiga. PD disks only £1.00 each. Send SAE +10p for list and details. 113 Main Street, Forth, Strathclyde, ML11 8AB. Be quick.

SPECTRUM 128K+2 with 70+ games, interfaces, joysticks, etc. £180. Phone 0705 750483.

ANTI VIRUS IBM PC. Can you afford not to use it? £15 Keith Parking, 10 Church Road East, Farnborough, Hants, GU14 6QJ.

VIDEO GENIE EG3003 complete. Perfect. £80 inc. Input magazine 4 volume 52 issues. £32 inc. M Small, 8 Cherrytree Road, Chinnor, Oxford.

MASTER TURBO Coprocessor. £40. Solidisk DFDC £20. BBC software 01 674 3579.

SANYO MBC 4050 twin floppy computer + Wordstar. £250. Paul 01 594 2257.

CHEAP Atari ST-FM. Excellent condition. Humberstone area. Phone 0964 614053.

ATARI ST. 1Mb RAM kit £60 or will install £70. Phone Alan 091 5363579 AM or Sunday.

MINI Office Professional, 5 in 1 package for Amstrad PCWs. £19. 01-907 3512.

PCW software. Money Manager + business/home accounts. £25. 01-907 3512.

ATARI 520 STFM. Half meg internal, 1 meg external drives. 124 hi-res monitor, s/ware, mags, etc. £350. Tel 0968 76346.

MODEM Miracle WS2000, will interface any computer £50. Atari 400 - 48K. Tape, 1050 drive, samplers, loads software, £120. Will separate. Southport (0704) 38735 or 0704 26673 after 15/9/89.

YAMAHA MSX-CX5M computer/synthesizer, full-size keyboard, software. Offers over £150. 0704 38735 now, 0704 26673 after 15/9/89.

520ST 1 meg drive, software, books, £240 o.n.o. 0704 38074 for details.

TANDATA TM512 modem, V21/23, a/answer, a/dial, Hayes, intelligent Ruby View s/ware, £175. Casio TV400 pocket TV, 2in LCD colour screen and transformer £85. Tel 0722 790776 after 6pm.

SPECTRUM software, Dragon, assorted computer stuff for sale. 01 431 2100

ATARI 130XE, 1029, 1010, 1050, loads extras. £200. 0268 284074.

CPC 6128 colour, Siren Soundblaster, AMX mouse + Max desktop, Multiface joystick, 25 blank discs + boxes, books, magazines, £700. Quality games & serious disc software, worth £1300. Sell £500. 0273 304955 evenings.

MSX software bargains!! SAE to: R Cross, 17 Tourney Road, Bournemouth BH11 9SX.

IBM PC with 10 meg hard disc, mono monitor £430. 1 meg 256k DRAM chips £75. Phone 0384 393568 evenings.

YAMAHA PSR-70 midi keyboard. 61 keys, 32 voices, built-in programmer and memory. £200. Reply to: R Stone, 21 Highton Street, Walkley, Sheffield, S6 5TQ.

AMIGA 500, Joystick modulator, game, one day old, £300. 01 794 6247 evenings.

AMSTRAD CPC games for sale. Over 270 tapes and discs. All originals. For price list send SAE to Mr R Harmer, 10 Crescent Rise, New Barnet, Herts. EN4 9RR.

ST ROBOCOP plus Op Wolf only £18. Simon 0904 625016.

CPC discs. DR Graph £10, Plan It £5. Tel 0742 363026.

COMMODORE C64C as new. Boxed with games. £110. Tel 061 633 7892.

ATARI SH204 hard disk with lots of goodies £275. Panasonic 24-pin printer almost new. £270 ono. Phone Amen 01 731 0758.

AMIGA software under £5. Phone Shaun (Croydon) 0689 45238.

AGENDA Micro Writer, 5"x2.5" comms link peripherals excellent. £120. 0704 66485.

AMIGA B2000 68020/8881 Hurricane accelerator board and Hewlett Packard paint jet printer. Both items for £1200. Call Joe 0279 730020.

● WANTED
GRAPHICS TABLET for Pioneer PX7 plus software wanted. 0326 76158

TANDY TRS80 software wanted urgently, especially Superscript, Visicalc for model IV disk drive. Any offers phone 01-302-2318.

PC contacts wanted. Write 54 Clarendon Road, London E17 9AZ.

PITCH PI by Lucy Scale Developments wanted. 08244 346.

ST Contacts wanted. Gordon, 38 Millbrook Road, Manchester M23 8XH.

FOOTBALL pools program for Amiga wanted. Stamp. Tel 0482 897558.

AMIGA contacts wanted. Swaps, PD, etc. H Weddle, 23 Kingsley Place, Newcastle NE6 5AN.

IBM PC viruses wanted. Keith Parkins, 10 Church Road, East Farnborough, Hants GU14 6QJ.

"FLOW" ideas processor for Amiga wanted. Your price paid. Any info welcome. Basingstoke 781408

ST contacts. Trev, 9 Burnside Close, Hatfield, Herts AL10 0QU.

AMIGA contacts wanted to swap PD and software. Contact J Bagwell, 34 Lower Oxford St, Castleford, W Yorks, WF10 4AE. Hi to Steve, Mick, Tommy, Skyhawk, Rick and hamster. Bye.

AMIGA software wanted. Write to 2 Wordsworth Road, Oldham, OL1 4NE.

AMIGA fast and reliable contacts wanted. Phone 0572 756173.

● BULLETIN BOARDS

SAS BBS (0742) 325232, 24 hrs, (Ringback) V21/22/23/22BIS. No fees!

NEW BBS. Write to 34 Nagigation Close, Mordishaw, Runcom, Cheshire.

THE LOFT BBS V21 V22 V2BIS V23. 0442 230461.

SWAP Sega and Amstrad for Amiga. Phone for details. (0993) 851193.

● MISCELLANEOUS

FREE 'Atari ST User' magazine, volumes 1,2 and 3. 01-500 1340. Hainault, Essex. First caller collects.

WORD PROCESSING service. SAE. Andy, 14 Clayford Way, Liverpool 14.

FANTASIA, a new monthly Fanzine. Tel 0232 471602 now!

40p PD South-East. Phone Ipswich (0473) 310582. Marcus.

FREE READER ADS!

- As a major new service to readers, we are now offering small ads of up to 30 words absolutely free of charge!
- It's an ideal opportunity to sell secondhand computer equipment or get in touch with other users, or even to print a simple tip you've discovered!
- Because Express is published every week, you can be sure that ads submitted here will appear more quickly than any other magazine can manage.
- We're particularly keen to receive ads from people offering free help to other users (see box).
- Don't miss out on this opportunity for speaking directly to Britain's liveliest computer users.

COULD YOU HELP ANOTHER USER?

Next month we're introducing a special reader-to-reader helpline and we'd like *your* help in setting it up. Are you knowledgeable about one or more of the following?

- One or more computers
- MS-DOS, TOS, Amiga Dos, CP/M.
- Any popular software package (serious or leisure).
- Any programming language.

knowledge to other users, please use the free Reader Ad service below to list the areas in which you can help.

You may list either a phone number or an address. (Readers using the Helpline will be instructed not to call in anti-social hours and to enclose an SAE with any queries.)

What do you gain from it? Simply the prospect of getting in touch with other computer users who could do with your help.

If you're prepared to pass on that

Send to EXPRESS READER ADS, 4 QUEEN STREET, BATH BA1 1EJ.

Reader Ads order form

Name

Address

.....

..... Tel

Write your FREE advert here! (30 words max. Repeat details above if you want them to appear in print.)

- Please tick the category your ad should appear in:
- Help offered
 - Mini-tips
 - Help wanted
 - For Sale
 - Goods wanted
 - Services
 - Events
 - Bugs discovered
 - Virus warning
 - Humour
 - Announcements
 - User Groups
 - Bulletin boards
 - Personal
 - Misc

- Please note:**
- 1 Sorry, NO trade ads! All reader ads must be from private individuals
 - 2 We cannot vouch for the quality of goods and/or services advertised in this section. All ads are accepted in good faith.
 - 3 We reserve the right to amend or refuse ads at our discretion.
 - 4 No pirated software may be sold through these columns. Any readers being offered non-originals should contact us.
 - 5 We cannot guarantee that adverts will appear in a specific issue of New Computer Express.
 - 6 The following declaration must be signed:

My advertisement conforms to the terms above and is legal, decent honest and true

Signed



Getting harder

There's a new hard disk for the PCW. Cirtech have launched their 32 and 48 meg versions (with the capacity of 92 and 133 normal floppies respectively). Interface is the standard XT3.9 SCSI and average access time is 28 ms, which even if you aren't familiar with hard disks is clearly very fast. The interface also allows several PCWs to share a hard disk. Details on 0896 57790 - price will be around £530.

Bad memories

Most of us had forgotten about Isenstein's memory upgrade - remember? It's a 512K memory add-on that you fix in to your PCW, bumping up your RAM drive by 512K. I saw the demo version, oh, it's slipped my mind when.

Anyway, Isenstein are now assuring us that it's here at last and being sold 'at the rate of 800 to 1000 a week'. The ramdrive

Pigg Book of Records

Oldest user

JF Maunders of Surrey was using his Amstrad PCW regularly in May 1988 - at the age of 84.

Britain's oldest man - John Evans of Wales, who celebrated his 112th birthday last week - has never used a PCW.

costs just under £100. Details on 0244 822768/ 312986.

Plain sailing

The CP/M User Group is organising a sale of second hand computers and hardware on September 30th at the Spring Lodge Centre in Witham, Essex. You can book a stand for £10 - details from Roger Stangroom, 11 Barwell Way, Witham Essex CM8 2TY.

Selecting your club

WC Fields was once asked if he believed in clubs for women. 'Yes', he said, 'if every other form of persuasion fails' thus combining violence and sexism in one joke.

However, violence and sexism are two things you won't find at PCW User clubs. A few forthcoming meetings are **The South Bank Computer Club** every Tuesday at 6.30pm (Neighbourhood Centre, 7 South Bank, Cleveland, details John Chilvers 4 Cranford Avenue, South Bank, Middlesbrough, Cleveland TS6 0AU); the **M25 Club** (Middlesex Club) - details on the 19th and 25th September meetings from Tony Brown on 01 841 3666 evenings; and the **Hampshire PCW User Club** on September 5th. Details from Peter (0252 548660).

Insure deep waters

A Mr J Noon of Bury, reports this month's *8000 Plus*, found that his house insurance specifically excludes his PCW printer. Cornhill offer no explanation, though it may have something to do with England's miserable performance in the current test series.

Anyone know why the PCW printer should be classed along with contact lenses, nuclear war and civil insurrection?

Basil Pigg



Book worms

If you are programming in assembly language on the QL, technical information about QDOS and the QL hardware is necessary. I have found the following publications very useful, if not essential.

The *QL Technical Guide* is the official source of information about QDOS. It contains almost everything you need to know, but is not particularly readable and is woefully short on examples.

Adrian Dickens' *QL Advanced User Guide* (Adder Publishing) covers much the same ground as the *Technical Guide*, but is much more readable, and has several interesting examples. It also contains information about the QL hardware and even tells you how to

More bugs

Dilwyn Jones, author of Sector Software's popular Page Designer 2 program, has sent me seven pages of QL bugs. While I have already mentioned some of them, many of them are new to me and I will therefore be listing them in the next few issues. My thanks to Dilwyn.

Here are a couple to be going on with. With JM machines you can't INPUT more than 128 characters to a string in SuperBASIC and CALLing routines longer than 32K results in a crash.

build your own parallel printer port. Andy Pennell's *The Sinclair QDOS Companion* (Sunshine Books) is a bit short on examples, but has quite a lot of information on writing device drivers, not covered in any detail in the other two books.

My advice is to get hold of all three publications, if you can. Each one has sins of omission and commission, and you will find that they complement each other. One major problem is that they are probably out of print, but you might get lucky and come across a QL user who is selling up and has one or more of them. You may be able to get hold of copies of them through your local library, also.

"She who must be obeyed"

One reader has taken me to task over my slightly tongue in cheek reference to computer widows in Issue 40.

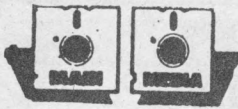
This wasn't intended as a sexist remark, but it is a fact that many wives resent their husbands spending a lot of time at the keyboard. I know of two marriages that have broken up with computing as a contributory factor!

QUANTA library

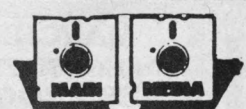
I've just received the latest QUANTA software library list. From time to time, I'll be reviewing some of the more interesting programs which are included in this extensive and useful library.

One stand-out item is Nigel Taylor's disassembler program which should prove useful to assembly language programmers. It converts machine code, like the QL ROMs, into assembly language source code files that can be reassembled.

John Torofex



MAIN MEDIA



FREEPOST, ANDOVER, HANTS SP10 3BR.
Tel: 0264 333830 (24 hrs)

★ UNBRANDED LIFETIME GUARANTEE ★

	QUANTITY	10	20	30	40	50	100
3 1/2" SS/DD	135TPI	£7.95	£15.50	£22.75	£29.50	£35.75	£69.95
3 1/2" DS/DD	135TPI	£8.50	£16.50	£23.95	£31.25	£37.95	£74.95
	QUANTITY	25	50	100	250	500	
5 1/4" DS/DD	48TPI	£7.25	£13.95	£26.95	£64.95	£124.95	
5 1/4" DS/QD	96TPI	£7.95	£15.50	£29.95	£77.50	£139.95	

All 3 1/2" Disks come complete with labels. All 5 1/4" Disks supplied with Write Protect Tabs, labels and envelopes and come with our No Quibble Money Back or Replacement Guarantee.

DISKETTE STORAGE BOXES

		Price Each
50 x 5 1/4"	Hinged Lid Lockable	£5.50
100 x 5 1/4"	Hinged Lid Lockable	£7.50
140 x 5 1/4"	Hinged Lid Lockable	£9.50
50 x 3 1/2"	Hinged Lid Lockable	£5.50
100 x 3 1/2"	Hinged Lid Lockable	£7.50

DISK BOXES WITH DISKS

50 x 5 1/4"	Hinged Lid Lockable with	25 DS/DD	48TPI	£11.95
50 x 5 1/4"	Hinged Lid Lockable with	25 DS/QD	96TPI	£12.75
100 x 5 1/4"	Hinged Lid Lockable with	50 DS/DD	48TPI	£20.95
100 x 5 1/4"	Hinged Lid Lockable with	50 DS/QD	96TPI	£22.50
140 x 5 1/4"	Hinged Lid Lockable with	100 DS/DD	48TPI	£35.95
140 x 5 1/4"	Hinged Lid Lockable with	100 DS/QD	96TPI	£38.95
50 x 3 1/2"	Hinged Lid Lockable with	20 DS/DD	135TPI	£21.50
100 x 3 1/2"	Hinged Lid Lockable with	50 DS/DD	135TPI	£44.95

All prices include VAT and Carriage. All Goods despatched within 24 hours subject to availability.

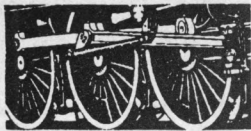
Cheques/P.O.'s to: MAIN MEDIA, Dept NCE, FREEPOST, ANDOVER, HANTS, SP10 3BR
Telephone: Credit Card Hotline 0264 333830 (24 hrs)



GRADUATING IN 1990

Do you expect to get a good university degree next summer, and want an interesting job in PC software development?

For further details contact Linda Haynes at:



**LOCOMOTIVE
SOFTWARE**
Allen Court, Dorking,
Surrey RH4 1YL
(0306) 740606

Track Computer Systems

Are one of the leading Computer Systems sales and development companies in the UK. We sell hardware and Software for all the leading makes of Computer. We also develop systems for the Insurance and Investment markets. We are to open our new retail division on Blacksmiths Yard in Derby during September. We are looking for a smart articulate person with computer and retail experience.

Please forward a full CV to Chris Harvey.

Track Computer Systems

28 Braemar Ave, Eastwood, Notts NG16 3JY
& Blacksmiths Yard, Derby DE1 3PD
Telephone 0773 531991 FAX 0773 765721

MANCHESTER
IN-HOUSE FULL-TIME
GAMES PROGRAMMERS
and
**GAMES ARTISTS
REQUIRED NOW**

We are in our tenth successful year producing great games for the worlds leading publishers.

To discuss joining us:
RING: 061 728 2282
ASK FOR JIM OR VAL



FUTURE VACANCY • FUTURE VACANCY • FUTURE VACANCY

EDITOR - AMSTRAD ACTION

Due to internal promotion, Britain's biggest and best independent CPC magazine, selling over 35,000 copies monthly, needs a new editor. If you have journalistic experience and are looking for a challenging job with excellent promotion prospects in Europe's most beautiful city, this is the job for you. Knowledge of the CPC is an advantage, and the ability to learn to new computer skills fast is essential.

Apply with CV and sample of published writing by 8th September to: Greg Ingham, Future Publishing, 4 Queen St, Bath BA1 1EJ.

Future
PUBLISHING

In just four years Future Publishing has become Britain's leading publisher of news-stand computer magazines. As well as *Express* and *Amstrad Action*, the company publishes *PC Plus*, *ST Format*, *Amiga Format*, and *8000 Plus* - and two more titles are being launched this autumn. Future employs over 90 staff and offers exciting prospects for anyone with publishing talents.

Future Publishing Ltd • 4 Queen St • Bath • Avon • BA1 1EJ • Tel. 0225 446034

EXOCET WANTS SPORTS GAMES

If you have an unpublished product.

Send a demo to Guy Spooner
Exocet Software, 14 Langton Way,
London SE3 7TL
or CALL 01-985-7232

ACTUAL SCREENSHOTS

"What you see is what you get"

Actual screenshots is looking for the best programmers, graphics artists and new games for the Amiga, Atari ST and PC machines.

If you think your standards could match ours, send your demos with full details to:

**ACTUAL SCREENSHOTS, 7D KINGS YARD,
CARPENTERS ROAD, LONDON E15 2HD**

or contact MICHAEL HODGES or ADRIAN TURNER on

(01) 533 2918

Actual Screenshots

Never in the field of
human endeavour have
so many war games been
written by so few
programmers!

Reinforcements needed!
Ring Tricia on (01)-985 7232

COMPUTER GRAPHIC ARTIST

This is your chance to join our friendly team of software developers and to work on exciting entertainment, promotional and television projects.

The successful applicant will be working with, and trained on custom programs as well as popular commercial computer graphic programs.

You should be adaptable, hard working and have a good eye for design and colour. In return you will enjoy an excellent salary with bonuses and other company benefits.

Please send details of your experience and /or CV together with samples of your work to:-

*Ian Andrew, Managing Director,
Incentive Software Ltd, Zephyr One,
Calleva Park, Aldermaston, Berks. RG7 4QW.
Telephone: (0734) 817288.*



Something Wonderful is happening in games software and I need more 68000 coders to join me to create the future

If you are excited by what's still to be done please contact me.

**Edward Grabowski,
6 Dykewood Close, Bexley, Kent DA5 2JN**

TECHNICIAN REQUIRED

★ A vacancy exists in our ever expanding BBC technical section at our premises in Watford. ★

Duties will involve the diagnosis and repair of all BBC microcomputers including model B, B+, Master Compact, Master 128, and Archimedes. A sound knowledge of electronics theory would be a definite advantage as other duties will involve the repair or servicing of printers, monitors, disc drives and other add-on peripherals for the computer.

**TRAINING WILL BE GIVEN.
Apply by telephone or in writing to Mr K Archer.**

Watford Electronics
250 Lower High Street, Watford, WD1 2AN.
☎ 0923 37774 ☎

AT VEKTOR GRAFIX WE HAVE A RATHER UNUSUAL ATTITUDE TO OUR PROGRAMMERS

We treat them like people

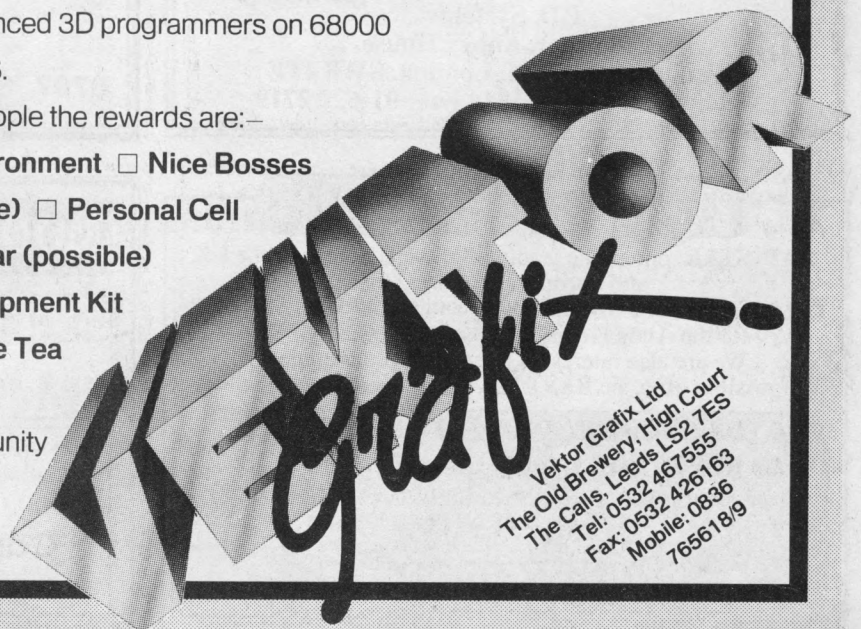
We do not promise fast cars and an exotic life style (though some of our guys do enjoy that). What we offer, is a relaxed, creative and friendly atmosphere.

■ WE NEED experienced 3D programmers to join our existing development team to work on exciting new projects for the 90's. We have immediate vacancies for experienced 3D programmers on 68000 and MS-DOS.

■ For the right people the rewards are:-

- Great Working Environment Nice Bosses
- Psion Organiser (possible) Personal Cell Phone (possible) Company Car (possible)
- Comfy Chair 286 or 386 Development Kit
- Parking Space (if you're early) Free Tea and Coffee Not Bad Salary

If you're interested in checking this opportunity out then call Andy Craven or John Lewis immediately.



Vektor Grafix Ltd
The Old Brewery, High Court
The Calls, Leeds LS2 7ES
Tel: 0532 467555
Fax: 0532 426163
Mobile: 0836 765618/9

IT DOESN'T COST MUCH TO INCREASE YOUR SALARY

In fact you can find out for free. Return the coupon for details of how you can earn more by training for a job in computing. You don't need experience. Or even a stamp.

Name

Address

Postcode

Occupation Age

Tel. no.

Send to: Computech International Limited, FREEPOST, Stourbridge, West Midlands DY8 7BR. **FREEPHONE: 0800 626976.**



134B NETHERGATE DUNDEE DD1 4ED
TEL 0382 28100 FAX 0382 28787

SCOTLAND

DMA Design, producers of high quality software including *MENACE* and *BLOOD MONEY*

are currently seeking dedicated programmers, artists and musicians to join our growing development team on a freelance basis, preferably based in Scotland or the North. We offer development equipment and technical backup on all major machines.

If you think you fit the bill, then send us a demonstration of your work, or phone Dave Jones for a chat.

Alternatively, if you will be visiting the PC show this month, drop in at the

PSYGNOSIS

stand and ask for Dave Jones.

We look forward to hearing from you.

P. D. Systems

Full time assembly language programmers (preferably 8086) are urgently required. IBM PC, MSDOS, or PDS knowledge will be useful.

We are offering **TOP** wages, for experienced, or quick learning capable programmers.

PDS is now the industry standard development system. If you have used, or heard of the system, or feel you would like to work on serious application software, then call or write to us immediately.

P.D. Systems
2nd Floor, Abbey House,
Wandsworth Road, London, SW8 4TE
Telephone: 01-978 1844 Fax: 01-622 2719

DUE TO EXPANSION DOWLING COMPUTERS

Have vacancies for full-time sales assistants

at their branches in BEDFORD, HERTFORD and ST. IVES.

If you are interested in a career in retail sales please contact Mrs Ling

on

0767 81750 / 81760 in the first instance

URGENT

GAINSTAR, one of the leading Software Houses in the UK and Europe, are looking for **TALENTED PROGRAMMERS** and **GRAPHIC ARTISTS** for the Amiga, Atari and more importantly PC.

We are also interested in existing programmes.

We possibly offer the **BEST DEALS** for suitable candidates.

For further details please contact me, Michael, at:

GAINSTAR SOFTWARE
AVON HOUSE,
ALBANY PARK INDUSTRIAL ESTATE,
CAMBERLEY, SURREY. GU15 2PI
Tel: 0276 20144
0276 20226

MOONLIGHTERS REQUIRED

Turn your spare time into

CASH

Tel/Write for more information to:

Lisa

Danfforddgar House
Carmarthen, Dyfed SA32 7DU
Tel: 0267 84538

DON'T READ THIS AD

WHILST STANDING UP, SIT DOWN AND LOOK AT THE AMAZING OFFERS YOUR FAVOURITE SUPPLIER HAS TO OFFER!!!

3 1/2 DISCS + BOXES	3 1/2	5 1/4 DISCS + BOXES	5 1/4
25 DS DD 135 tpi Plus 40 Lockable Box	£22.95	25 DS DD 96 tpi Plus 50 Lockable Box	£12.49
35 DS DD 135 tpi Plus 80 Lockable Box	£31.95	50 DS DD 96 tpi Plus 100 Lockable Box	£18.49
45 DS DD 135 tpi Plus 80 Lockable Box	£37.95	75 DS DD 96 tpi Plus 100 Lockable Box	£23.49
55 DS DD 135 tpi Plus 80 Lockable Box	£40.95	100 DS DD 96 tpi Plus 100 Lockable Box	£29.49
65 DS DD 135 tpi Plus 80 Lockable Box	£44.95	200 DS DD 96 tpi Plus 2, 100 Lockable Boxes	£52.99
75 DS DD 135 tpi Plus 80 Lockable Box	£49.95		
150 DS DD 135 tpi Plus 2, 80 Lockable Boxes	£89.95		

Our 3.5" discs are VERY CAREFULLY SELECTED to give you 100% error free performance. Each disc is covered by our 100% money back guarantee and is supplied with labels

Our 5.25" discs are VERY CAREFULLY SELECTED to give you 100% error free performance. Each disc is covered by our 100% money back guarantee and is supplied with labels

5.25 HIGH DENSITY DISCS

25 DS HD 1.6 meg Plus 50 Box	£19.99
50 DS HD 1.6 meg Plus 100 Box	£37.99
100 DS HD 1.6 meg Plus 100 Box	£69.99

3.5 HIGH DENSITY DISCS

10 DS HD 1.44 meg 3.5 Discs	£18.99
30 DS HD 1.44 meg plus 40 Box	£52.99
50 DS HD 1.44 meg plus 80 Box	£81.99

BULK BUYERS

3.5" DS DD 100% error free

100 DS DD 135 tpi	£59.99
200 DS DD 135 tpi	£114.99
250 DS DD 135 tpi	£134.99
500 DS DD 135 tpi	£249.99
1000 DS DD 135 tpi	£489.99



M.D. OFFICE SUPPLIES
18 CRESCENT WAY,
FARNBOROUGH, KENT BR6 9LS
TEL: 0689 61400



H T COMPUTERS LTD

TEL: -01 948 1681

COMMODORE AMIGA

AMIGA 500	£305.00
AMIGA 500 + COLOUR MON	£540.00
AMIGA 2000	£665.00

ATARI

ATARI 520 ST	£235.00
ATARI 1040 ST	£387.80

MASTER SERIES

MASTER 128	£339.15
MASTER COMPACT	£296.65
COMPACT TV SYSTEM	£308.55
COMPACT MONO SYSTEM	£339.15
COMPACT COLOUR SYSTEM	£486.65

ZENITH DATA SYSTEMS

EAZY PC	£447.00
EAZY PC 2 DRIVES	£536.40
Z-159 MONO	£617.15
Z-159 COLOUR	£852.40
Z-159 20MB HD COLOUR	£1100.00
Z-386 120MB HD	£4100.00

AMSTRAD

PCW8256	£327.70
PCW8512	£416.00
PCW9512	£499.00
	EGA
MONO	COLOUR
1512SD £400.40	£479.60
1512DD £483.96	£563.98
1640SD £498.39	£592.48
1640DD £562.00	£657.44
1640HD £698.00	£798.00
	MONO
2086SD £581.00	£715.00
2086HD £910.05	£1067.00
2386HD £2423.85	£2536.80
	COLOUR
	HI-RES
	£890.00
	£1237.60
	£2740.00

ARCHIMEDES

ARC 305 BASE	£599.50
ARC 303 MONO	£65.14
ARC 305 COLOUR	£794.76
ARC 310 BASE	£722.61
ARC 310 MONO	£767.91
ARC 310 COLOUR	£910.00
ARC 310M BASE	£767.80
ARC 310M MONO	£826.80
ARC 310M COLOUR	£965.36
ARC 440 BASE	£2188.92
ARC 440 MONO	£2221.37
ARC 440 COLOUR	£2356.42

COMMODORE PC1

PC1 MONO	£285.25
PC1 COLOUR	£388.72

PORTABLES

CAMBRIDGE Z88	£225.00
ZENITH Z-184	£1065.00
ZENITH Z-184 with 20MB Hard Disk	£1998.00
ZENITH SUPERSPORT 286 20MB HD	£2416.00
ZENITH SUPERSPORT 286 40MB HD	£3021.70
ZENITH SUPERSPORT 386 40MB HD	£3777.40

PRINTERS

STAR LC-10	£213.68
STAR LC24-10	£333.00
STAR LASERPRINTER 8	£1640.93
EPSON LX800	£236.17
EPSON LQ500	£353.16
EPSON INK JET SQ2500	£1112.95

H T COMPUTERS LTD

1 ARLINGTON ROAD, PETERSHAM, RICHMOND, SURREY, TW10 7BZ. Tel: (01) 948 1681
 N.B. Please telephone before calling. — Please add VAT @ 15% and £10 courier delivery



WE NOW TAKE VISA



PHONE FOR MANY MORE GREAT DEALS ONLY FROM H T COMPUTERS

TAKE A LOOK AT OUR BEST SELLING LIONS!

Callers welcome at both our shops - Birkenhead by Tranmere Rovers FC, and our new shop now open at New Ferry Wirral, at 63 New Chester Road. Open 9.15 to 5.30 six days. All the prices quoted include VAT and Carriage. The price you see is the price you pay and no hidden extras. Order by telephone, post, or by fax. Pay by cheque, postal order or credit card.

AMIGA - KING OF THE JUNGLE?

Featuring:
11 Wild Games

Amiga A500
T V Modulator
Mouse
Mouse Mat
Workbench 1.3
Amiga Basic
Amiga Extras

Thundercats
Stargoose
Amigas
Art of Chess
Barbarian
Buggy Boy
Ikari Warriors
Insanity Fight
Mercenary
TerrorPods
Wizball

£389.95 inc. vat

OUR AMSTRAD PC2086 PACKAGES GIVE YOU MORE -

Latest Design - 3.5" inch disc drive. VGA monitors. Prices down. Lots of extras

DMP 3160 PRINTER ONLY £99 WITH ANY PC2086	MONO MONITOR	14" COL MONITOR	12" HIGH RES COL. MON	14" HIGH RES COL MON
Single Drive Version	679.95	799.95	909.95	1029.95
Double Drive Version	799.95	909.95	1029.95	1139.95
30 Meg Hard Disk Version	1029.95	1139.95	1259.95	1359.95

All our PC2086 packages include free mouse, free mouse mat, system software, free Lotus Symphony integrated software package (original price £500+), 10 free blank disks. Each system is double checked by our engineers prior to dispatch. Prompt delivery, carriage free, VAT included.

AMSTRAD SOFTWARE SPECIAL!

FOR PC's
BUY ACCOUNTS MASTER PRICE £169.95 AND RECIEVE INFOMASTER DATABASE, VALUE £79.95 AND PAYMASTER PAYROLL VALUE £56.35 ABSOLUTELY FREE!

COMMODORE

MP 1200 PRINTER

- * CITIZEN 120D SPEC
- * PARALLEL CENTRONIC
- * 120 CPS DRAFT
- * 24 CPS NLQ
- * TRACTOR FEED
- * SINGLE SHEET

SUIT AMIGA, ST, PC, BBC AND MANY OTHERS. EXCELLENT VALUE, CHEAP ENOUGH FOR THE CUBS.

£129.95 INC VAT

THE **star** OF THE SHOW
STAR LC24-10, 24 PIN DOT MATRIX PRINTER, JUST REDUCED!
SUPERB FEATURES INCLUDE: 170 CPS IN DRAFT/57 CPS NLQ
24 PIN. MULTIFONT. EXTRA FONT
£259.00 INCLUSIVE
Simply the best value printer around
LC24 10 AUTO SHEET FEEDER NOW AVAILABLE AT
£74.75 INC



The Secretary Bird: Best ever all-in-one budget package for the PC?

- NC EXPRESS

WORD PROCESSOR . SPELL CHECKER DATABASE & SPREADSHEET FOR ALL IBM PC AND COMPATIBLES. BOTH SIZE DISKS INCLUDED - DON'T MISS THIS FEAST
SPECIAL PRICE **£29.95** INC VAT

Amstrad PC1512 Licks the Competition

No other compatible PC offers so much for so little. All these packs contain: Free Mouse, Free Mouse Mat, Free Ability Integrated Software Package, Free Systems Software, 4 US Gold Games Free.

	BASIC MODEL	20 MEG HARD CARD	30 MEG HARD CARD	40MEG HARD CARD
Single Disk Drive Mono Monitor	449.00	679.00	699.00	719.00
Single Disk Drive Colour Monitor	569.00	799.00	819.00	839.00
Dual Disk Drive Mono Monitor	569.00	799.00	819.00	839.00
Dual Disk Drive Colour Monitor	679.00	909.00	929.00	949.00

When purchasing any PC1512 you can also purchase an Amstrad DMP3160 Printer for just £99. Hard Card versions made up specially to your order using best quality components. Visit either shop for a demo. One year service contract on any system for £39.95 extra. All prices fully inclusive.

star LC10 Printer

Our best selling printer. We use them ourselves. Sturdy, Reliable, Superb Value, Push Button Fonts. 144 CPS in draft, 36 NLQ. Guaranteed UK specification, ideal Amiga, ST, PC, BBC etc.

Standard Model (Parallel cent.).....	164.95
Standard Model Colour Print.....	209.95
Commodore 64 version.....	164.95
Commodore 64 Colour version.....	209.95

AMIGA A501 Upgrade

RAM expansion with built in clock
£129.95

Send any old stamp for our current price lists. New 24 page booklet now available on request.

Timeworks Special Offer -Must end soon

Timeworks Lite DTP for PC's combined with Typographica Prime Collection.

Normal price £115.

Offer price £59.95

Closes September 15th 1989

Mini Office Professional Plus Amstrad PCW

Integrated Package for the Amstrad PCW8512/9512

Featuring:

- Word Processor • Graphics
 - Spreadsheet • Database
 - Communication • Thesaurus and Spell Checker
- Only **£39.95 inc.**

Present this ad at either shop for these special prices

GIRD YOUR LOINS FOR THIS ONE - THE COMPLETE AMIGA!!!

We've put together a very special package comprising A500 Amiga, A501 memory upgrade, A1010 second drive, 10845 stereo colour monitor, Commodore 1200 printer, 11 wild games, Photon Paint art package, Kindwords 2 word processor, Digita Home Accounts, mouse, mousemat, manuals etc. The original price for that lot is a ridiculous £1527. Our price is £1050 which is a lot of dosh - but you get a lot of meat.

AMSTRAD PCW'S

Still the best value word processing packages around. Price includes keyboard monitor, printer, software, manuals & a free ream of bond paper.

PCW8256 **£399.95**, PCW8512 **£514.95**, PCW9512 **£569.95**

DISK PRICES MAULLED

3.5" Blank Disks DS DD Certified/Guaranteed with labels
Boxes of 200 Disks.....**£118.50**
(sorry can't be split)

TO ORDER RING MAIL ORDER HOTLINES

051 255 0625. 051 255 0650

051 608 0435. 051 645 5325

Quoting your credit card details

Fax your order or enquiry on:

051 255 0640

Send your orders, enclosing cheque, postal order, or credit card details with expiry date to:

LION COMPUTERS

778 Borough Road, Birkenhead, Merseyside L42 9JG

All offers subject unsold. Government, PLC and Educational Establishments official orders very welcome. Send or Fax for our prompt attention.

Export enquiries dealt with promptly, VAT deducted.

All enquiries will receive our prompt and careful attention.



Licensed Credit Broker

NEW SHOP NOW OPEN

63 New Chester Rd
New Ferry, Wirral
Merseyside

TOP OF THE CHARTS

Presentations can be jazzed up by adding slick computer graphics. Stuart Anderton investigates three packages designed to make charting easy

Presentation is everything. When your putting together an important document, whether it's a report, a proposal or this month's newsletter you're bound to come across the need to present facts as a graph.

One solution to this problem is to use an art package like *PC Paint* or *Degas Elite* to sketch a pie chart or two, but it's fiddly and requires a lot of time with a calculator to work out all the relevant shapes and scales.

Presentation graphics programs take all the slog out of drawing up charts by giving you a variety of display options which can all be called up at the press of a key using the same data each time. Data can be typed in by hand or imported from another program; a spreadsheet say, or a database.

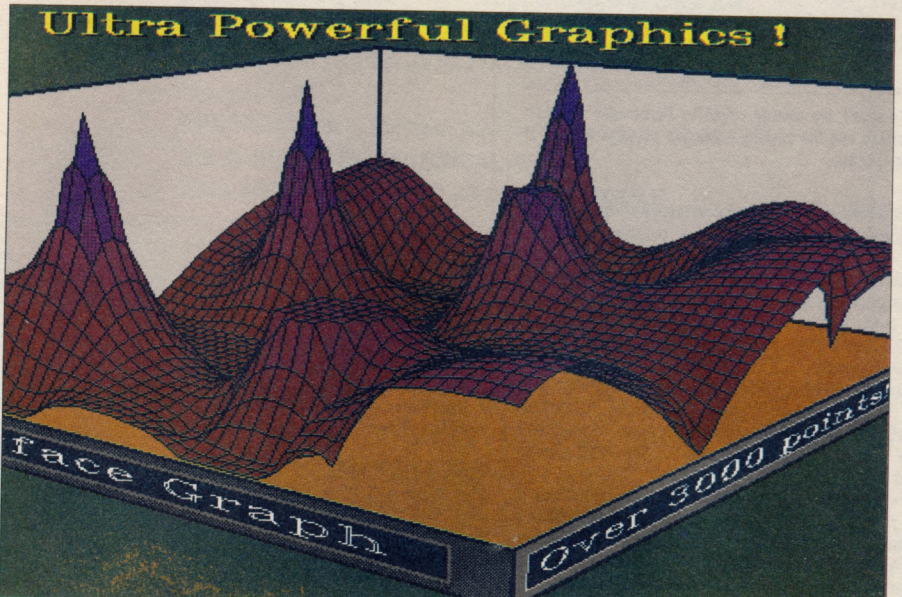
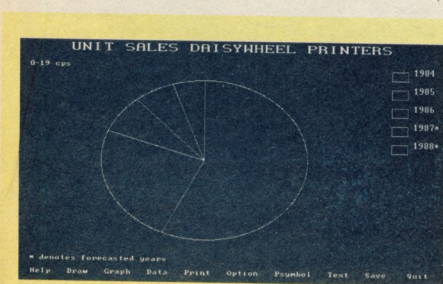
When you have entered the data, you can label the axes and choose the kind of graph you want to display. The three commonest types of graph are line charts, pie charts and histograms (also called bar charts).

Line charts are your common or garden graphs, with labelled axes containing join-the-dots lines. The graphics programs automatically scale the graph to fit and you can label axes, change colours, shade areas and so on.

Pie charts are particularly useful for showing proportions. A circle is divided into sectors according to the values they represent. The resulting pie can be cut to emphasise a particular fact. Another common modification is to produce a 3D effect with the pie resembling a multi-coloured coin.

CHART 1	Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7
5 Inter-Neuron	Neuron A	Neuron B	Synapses	Dermitt Cell	Neuron B		
1	50.00	3.00	55.00	1.00	57.00		
2	50.00	9.00	59.00	2.00	62.00		
3	51.00	12.00	63.00	3.00	66.00		
4	50.00	7.00	57.00	1.00	58.00		
5	51.00	8.00	59.00	2.00	61.00		
6	48.00	15.00	63.00	3.00	66.00		
7	45.00	17.00	62.00	3.00	65.00		
8	46.00	15.00	61.00	2.00	63.00		
9	42.00	10.00	52.00	2.00	54.00		
10	44.00	11.00	55.00	2.00	56.00		
11	45.00	12.00	57.00	3.00	60.00		
12	46.00	13.00	59.00	3.00	62.00		
13	47.00	14.00	61.00	4.00	65.00		
14	48.00	15.00	63.00	5.00	68.00		
15	49.00	16.00	65.00	6.00	71.00		
16	50.00	17.00	67.00	7.00	74.00		
17	51.00	18.00	69.00	8.00	77.00		
18	52.00	19.00	71.00	9.00	80.00		
19	53.00	20.00	73.00	10.00	83.00		
20	54.00	21.00	75.00	11.00	86.00		
21	55.00	22.00	77.00	12.00	89.00		
22	56.00	23.00	79.00	13.00	92.00		
23	57.00	24.00	81.00	14.00	95.00		
24	58.00	25.00	83.00	15.00	98.00		
25	59.00	26.00	85.00	16.00	101.00		
26	60.00	27.00	87.00	17.00	104.00		
27	61.00	28.00	89.00	18.00	107.00		
28	62.00	29.00	91.00	19.00	110.00		
29	63.00	30.00	93.00	20.00	113.00		
30	64.00	31.00	95.00	21.00	116.00		
31	65.00	32.00	97.00	22.00	119.00		
32	66.00	33.00	99.00	23.00	122.00		
33	67.00	34.00	101.00	24.00	125.00		
34	68.00	35.00	103.00	25.00	128.00		
35	69.00	36.00	105.00	26.00	131.00		
36	70.00	37.00	107.00	27.00	134.00		
37	71.00	38.00	109.00	28.00	137.00		
38	72.00	39.00	111.00	29.00	140.00		
39	73.00	40.00	113.00	30.00	143.00		
40	74.00	41.00	115.00	31.00	146.00		
41	75.00	42.00	117.00	32.00	149.00		
42	76.00	43.00	119.00	33.00	152.00		
43	77.00	44.00	121.00	34.00	155.00		
44	78.00	45.00	123.00	35.00	158.00		
45	79.00	46.00	125.00	36.00	161.00		
46	80.00	47.00	127.00	37.00	164.00		
47	81.00	48.00	129.00	38.00	167.00		
48	82.00	49.00	131.00	39.00	170.00		
49	83.00	50.00	133.00	40.00	173.00		
50	84.00	51.00	135.00	41.00	176.00		
51	85.00	52.00	137.00	42.00	179.00		
52	86.00	53.00	139.00	43.00	182.00		
53	87.00	54.00	141.00	44.00	185.00		
54	88.00	55.00	143.00	45.00	188.00		
55	89.00	56.00	145.00	46.00	191.00		
56	90.00	57.00	147.00	47.00	194.00		
57	91.00	58.00	149.00	48.00	197.00		
58	92.00	59.00	151.00	49.00	200.00		
59	93.00	60.00	153.00	50.00	203.00		
60	94.00	61.00	155.00	51.00	206.00		
61	95.00	62.00	157.00	52.00	209.00		
62	96.00	63.00	159.00	53.00	212.00		
63	97.00	64.00	161.00	54.00	215.00		
64	98.00	65.00	163.00	55.00	218.00		
65	99.00	66.00	165.00	56.00	221.00		
66	100.00	67.00	167.00	57.00	224.00		
67	101.00	68.00	169.00	58.00	227.00		
68	102.00	69.00	171.00	59.00	230.00		
69	103.00	70.00	173.00	60.00	233.00		
70	104.00	71.00	175.00	61.00	236.00		
71	105.00	72.00	177.00	62.00	239.00		
72	106.00	73.00	179.00	63.00	242.00		
73	107.00	74.00	181.00	64.00	245.00		
74	108.00	75.00	183.00	65.00	248.00		
75	109.00	76.00	185.00	66.00	251.00		
76	110.00	77.00	187.00	67.00	254.00		
77	111.00	78.00	189.00	68.00	257.00		
78	112.00	79.00	191.00	69.00	260.00		
79	113.00	80.00	193.00	70.00	263.00		
80	114.00	81.00	195.00	71.00	266.00		
81	115.00	82.00	197.00	72.00	269.00		
82	116.00	83.00	199.00	73.00	272.00		
83	117.00	84.00	201.00	74.00	275.00		
84	118.00	85.00	203.00	75.00	278.00		
85	119.00	86.00	205.00	76.00	281.00		
86	120.00	87.00	207.00	77.00	284.00		
87	121.00	88.00	209.00	78.00	287.00		
88	122.00	89.00	211.00	79.00	290.00		
89	123.00	90.00	213.00	80.00	293.00		
90	124.00	91.00	215.00	81.00	296.00		
91	125.00	92.00	217.00	82.00	299.00		
92	126.00	93.00	219.00	83.00	302.00		
93	127.00	94.00	221.00	84.00	305.00		
94	128.00	95.00	223.00	85.00	308.00		
95	129.00	96.00	225.00	86.00	311.00		
96	130.00	97.00	227.00	87.00	314.00		
97	131.00	98.00	229.00	88.00	317.00		
98	132.00	99.00	231.00	89.00	320.00		
99	133.00	100.00	233.00	90.00	323.00		
100	134.00	101.00	235.00	91.00	326.00		

• Data entry is normally into a screen which looks rather like a spreadsheet. You can choose which of the columns are displayed



• This kind of graphic would have taken hours, maybe days with an art package or conventional drawing techniques. *Perspective Junior* produced it in under a minute

Histograms represent the data as columns, the height indicating the amount. The columns can be given a 3D block effect and a third dimension of data can be indicated by dividing the bars up into different colours.

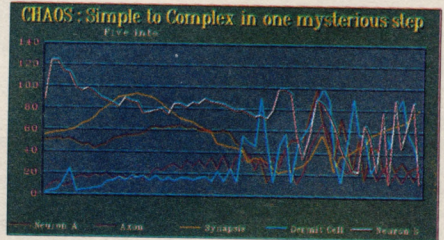
Three programs to produce graphs with their own individual features are Brown Bag's *Easy Presentation Graphics* and *Three D Graphics*, *Perspective Junior* on the PC and Database's *Mini Office Professional Presentation Graphics* on the ST. Similar programs exist on other machines: *ViewChart* on the BBC micro for instance, but these three illustrate the range of features you can get.

Easy as pie

EPG takes a straightforward if rather dull approach to presentations. Data is typed into an internal spreadsheet or imported in *Lotus 1 2 3* format. You can choose between 12 styles of graph including the normal line and bar charts, and data can be easily replotted in a different form.

You have very little control over the graph's format; unlike other programs such as *Harvard Graphics* there is no facility for freehand drawing or changing text typeface. Saving the graph is similarly limited, the program using its own data format which cannot be read by any other.

But *EPG* has two saving graces. The first of these is its ability to draw 'pictograms'. These are charts of the kind you often see in American magazines like *Time* where oil sales are represented by stacks of barrels, car ownership by



• A straightforward line graph produced by *Perspective*

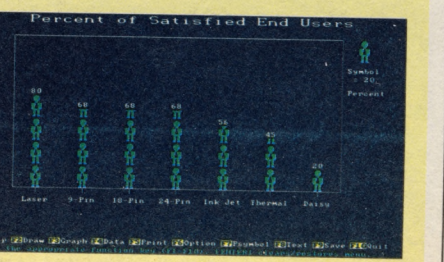
stacks of cars and so on. You can define up to 26 'pictograms' using a built in editor, and the feature certainly produces some striking and clear charts.

The other outstanding feature of *EPG* is the quality of its dot-matrix output. By making a number of passes over the same area on the paper the program can drive even the simplest dot-matrix to produce very clean, crisp results. The illustration shows how the graphs appear to be almost laser printed. The problem with this is, however, time. It takes nearly 15 minutes to print out a single chart in its 'maximum resolution' mode.

In perspective

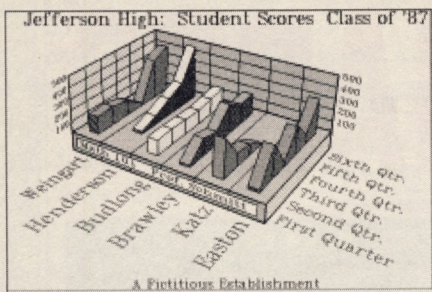
Perspective Junior is a very different kettle of fish. From the word go you feel as if this is a professional system. The manual is excellent, but

• Two screens from *Easy Presentation Graphics*. The simple pie and bar charts it produces are thoughtfully labelled, although you don't get much opportunity to change them if you don't like them. The 'pictogram' on the right uses user defined drawings to build up the bars of the graph. With a little care, slick-looking graphics can easily be prepared



GRAPHICS

PRESENTATIONS



• This is a TIFF file directly output by *Perspective* and then incorporated into the desktop publishing package we use to produce *Express*

unnecessary as the self explanatory menu system leads you through the stages to creating your chart.

As with *EPG* data can be imported from various spreadsheets and databases, but *Perspective* gives a far wider range of output options including .IMG and TIFF files. This means that graphs from *Perspective* can be incorporated directly into desktop published documents produced with the likes of *PageMaker*, *Ventura* or *GEM Publisher*. The illustration shows the increase in quality when graphs are directly used in DTP documents.

Perspective is so named because it offers a huge range of 3D perspective diagrams as well as the usual pie and bar charts. The occasions when they are really necessary are probably few and far between but the images *Perspective* produces are certainly striking.

You can alter the shape of the bar representing the data, and also vary your viewpoint of the graph as a whole. You can zoom in on areas and rotate and pan the graph at will. Stretch options allow distortion of the chart, and in combination some very strange effects can be produced with these functions.

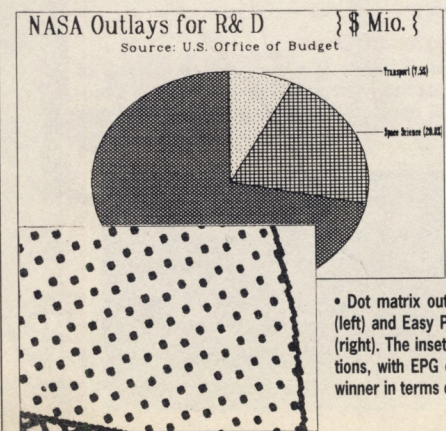
The text on the graph is selectable between four different options, all of which are presentable although more control would have been an advantage. You can also change the colour scheme (Both programs work with all the major graphics adapters, including Hercules).

With the aid of a slide maker and an optional extra driver you can produce top quality presentation slides, and if the budget won't run to that then a slideshow option within the program allows you to put together your own presentations by seamlessly melding graphs together into a sequence.

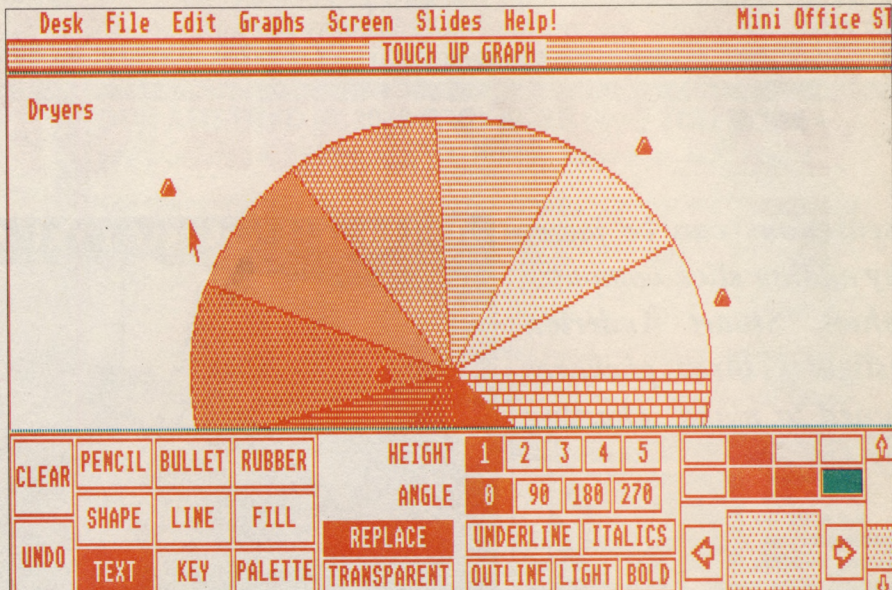
The only real problem with *Perspective* is its lack of PostScript support. Although charts can be printed on a PostScript printer their maximum resolution is 300 dots per inch, well below typesetting standards.

ST action

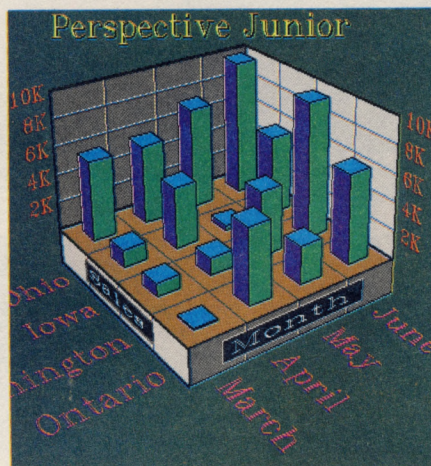
The ST program is very much the poor cousin of the others when it comes to ease of use. A jumble of menus and file selector boxes leaves the user



• Dot matrix output from *Perspective* (left) and *Easy Presentation Graphics* (right). The insets show enlarged sections, with *EPG* coming out the clear winner in terms of print quality



• When you've produced your graph in *Mini Office Professional*, you can use the program's editing features to add text, graphics and annotations to create a fully labelled chart

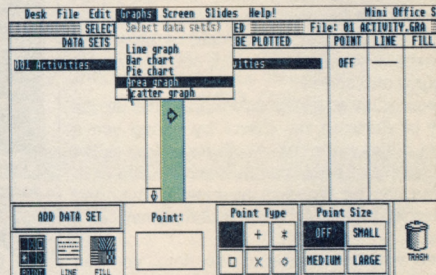


• *Perspective's* 3D graphs can clearly display data with three elements to it. The above display is the default set up, and by far the most useful one. Changing the shape of the columns or the angle of view produces pretty, but uninformative results

confused about where to start. Control is split between icons at the bottom of the screen and drop-down menus at the top with the result that you don't know where to point next.

The options offered by the program are basic compared to the others: line graph, bar chart, pie chart, area graph (a shaded-in line graph) and scatter graph (a line graph with the dots unjoined).

But *Mini Office Professional* does have a feature which the others could well do with: a full



• *Mini Office Professional's* data entry and preparation screens are unnecessarily complex and confusing

screen editing system. Once your graph has been drawn you can add text and use a simple drawing program to add boxes, arrows and annotations.

Another feature of the program is the slideshow feature. Like *Perspective*, a sequence of graphs can be displayed in order, perhaps to augment a presentation. As *Mini Office* uses *Degas Elite* format to store its graphs, other illustrations can also be incorporated into the show. The file format also means that most ST DTP and graphics programs will happily import the graphs.

Conclusion

If you want to use charts as part of a desktop published document then *Perspective Junior* is an excellent program to do it. It is easy to use and can produce some powerful graphics.

Easy Presentation Graphics is a very much humbler piece of software, but if you need top-quality printed output and your pocket can't manage a laser printer then it's well worth a look.

Mini Office is a lot rougher about the edges, but then it costs a fraction of the price. Its flexible labelling makes it ideal for scientific and technical graphing.

PERSPECTIVE JUNIOR

PCs with hard disk • £144 • In Touch • 0222 882334

MINI OFFICE PROFESSIONAL PRESENTATION GRAPHICS

ST • £?? • Database Software • 0625 878888

EASY PRESENTATION GRAPHICS

• PC • £195 • Brown Bag • 01-831 1106

BRITAIN'S BIGGEST SELLING PC MAGAZINE

ISSUE 34 SEPTEMBER 1989 £2.30

PC PLUS

The complete package for all IBM-compatible personal computers



IN THIS MONTH'S ISSUE...

- **THE BATTLE FOR THE MID-RANGE MARKET** ● Six VGA 286s slug it out ● Surprise winner named ● Amstrad's 286 given a good going over ●
- **PRINT SPOOLERS** ● What they are and why you need one ●
- **FROM 640K TO 1MBYTE** ● Two expansion cards compared ●
- **PC NAVIGATOR** ● Howard's Way simulator? ●
- **ADD-ON FONTS FOR DESKTOP PUBLISHERS** ● Glyphix vs Typographica ●
- **DOS PROMPTS** ● More batch file tricks ●
- **SIX PAGES OF PC TECHNICAL HELP** ●
- **FULL REVIEWS OF OVER 30 PC PRODUCTS** ●



...AND ON THE SUPERDISK

FILE MANAGER
DOSMATE PLUS
PLUS Five other useful programs

SEPTEMBER ISSUE ON SALE NOW - JUST £2.30

PC PLUS

The complete package for all IBM-compatible personal computers

SEGA SENSATION

New magazine for Britain's fastest growing console!

Exciting news, Sega lovers. The publishers of New Computer Express are about to launch a new monthly magazine dedicated to your machine.

And now is your chance to make it what YOU want it to be. We want you to write to us with:

- Your views on all things Sega.
- Playing tips on your favourite software.
- The features you would like to see in the new magazine.

We'll be awarding exciting prizes for the best contributions, so don't miss out. Write to:

Steve Jarratt, Future Publishing Ltd, 4 Queen Street, Bath BA1 1EJ.

Oh, and if all you want to do is register for your FREE magazine information pack, just send your name and address on a post-card to **Sega Registrations** at the same address.

WAS EARWIG?

Whilst skimming through my back issues of *New Computer Express* I notice many references to the phrase "WYSIWYG", although I know what it means I am at a loss how to pronounce it. Is it 'Wuzzywig', 'Wezziwig', 'Woosywog' or what? I would be grateful if you could relieve me of this great problem.

Ross Taylor, Wrexham, Clwyd

• 'Whizzy wig' seems to be the UK standard. What you see is only ever a loose approximation to what is actually printed out. This however would lead to the acronym WYSIOEALTWIAPQ which is even less pronounceable.

JOB DISSATISFACTION

I read with interest the news item (Express 38) which states there is a shortfall of 50,000 qualified people in IT. Arghhh!!!

Ever since I've been 18 (I am 27) I have tried for a career in programming. Despite a Control Data Institute course I have been forced back into electronic sales as a job (not career) with all the prospects of Leprosy.

Maybe this is a northern problem; if that is the case, then listen, all you southern employers. I am bright, quick to learn, hard working and would live in a tent if it needs be.

If nobody is willing to train people like me then the computer industry has only itself to blame when the British industry sinks slowly down the drain.

Gary Ingram, Wakefield, West Yorks

• It sounds like your best bet is to come down South - maybe stay with a mate or relatives of relatives if you can find some. As someone who did this myself to get a

job, three years ago, I have mixed feelings. I found one easily enough, but I resent enormously the fact that I had to leave my family and friends and the area I was born and brought up in.

FAME GAME

That Paul Quinn might not have a brain cell but isn't he getting sort of famous? A bit like Ken Mosley.

Steve Sharples, Bingley

• Some believe the only cell Ken ever had was a padded one.

PIRATE SCUPPERED

You offered to give a free subscription to a certain person from Sheffield a while ago for setting up the Guild of Unemployed ST Users. Well, I am not unemployed, but I am a student (what do you mean it's the same thing?) so I wrote to him asking to join. Imagine my surprise when he sent me back his software list and asked for mine in return. I sent him mine back and he wrote asking for copies of some games.

I am not one of these people who think that pirates are the scum of the earth etc, but I do feel it is wrong for someone to write in to your mag offering a 'service' when it is nothing more than an excuse to pirate software - if you are a pirate, say so. Don't hide behind the facade of being unemployed to try and account for it.

Dave Palmer, Jarrow, Tyne & Wear

• Our offer to the person concerned has been withdrawn pending further enquiries. Instead of sending him a new copy of Express every week we'll just send him photocopies of the same one each time.

being able to chat to its designers on the phone, a rare treat indeed. All this, with good support from software houses makes me tingle with anticipation. As an added bonus, the availability of mountains and mountains of new and old Speccy software to re-discover all over again (now where did I put *Desert Rats*...)

The message is loud and very plain. The price of the software for the trendy all-singing, all-dancing machine you are about to get, may be just in order to try and keep up with the going trend, could be the very nail in the coffin that breaks the camel's back, well, sort of. It doesn't matter how much Atari or Commodore fight over price cuts for their own brand of 16 bit gizmo. If the software houses can't do equally amazing things with the prices of games etc, then what the heck is the good of it to the average punter. Maybe we will one day see the ST being given away free with a pack of ten games from Ocean or Rainbird or whomever.

D F Tremling, Wittering

• A spirited defence of the good ol' 8 bit machines we all have somewhere in a cupboard. We'll be sending you some Speccy software for your SAM as the sender of this week's prize letter.

And there's nothing wrong with mixing metaphors. After all, time marches on its stomach. Incidentally, have you noticed how Bath is 'The Roman City' according to the sign on the A4 but 'The Georgian City' on the A46?

EXPRESS MAIL

Dear Reader

Another collection of comment, controversy, compliments... and Rob Ainsley's replies. Have you got something to say? Make your voice heard in computing's liveliest letters page! Send your contributions to:

Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ
PS. Sorry, but we just don't have the time to give personal replies, whether you include an sae or not. We're too busy putting Express together!

TWO ROMS DON'T MAKE A RIGHT

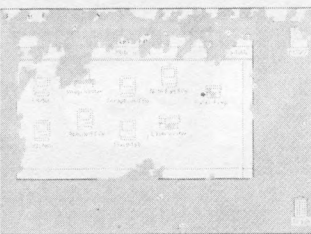
I was surprised to read about the pirate version of the Apple Mac emulator, *Aladin*, in the States which didn't require the ROM chips of the Mac in order to run the emulator.

Several of my computer friends and I already have this emulator in our software collection and have been using it for several months. It consists of two disks. The first is the actual emulator *Aladin* and the second disk is the systems disk. Once they have both loaded into the ST the computer welcomes the user to the Apple Macintosh and then enters into the operating system where the games/ utilities can be loaded.

The system is very simple to use, although two drives are really necessary for any serious work to be done. I own an Atari 1-40 STFM and think that your magazine is great.

Howling Mad Mike, Leicester

• Hmm. How about Mac viruses - do they also work on the ST under the emulator? I should take a good hard look at those copied Mac programs if I were you...



• Coming to an ST screen near you - if you use dodgy Mac software: a nasty Mac virus like this

CAVY CANEM

Thank you for publishing my letter concerning the job as gained by columnist in your magazine. However, I must put the record straight. I did not attempt to load a Spectrum cassette tape into an Atari computer and I most definitely am not a guinea pig.

It was a C64 tape and I am in actual fact a golden hamster.
S Hunter, Falkirk

• You didn't fool us. A guinea pig with an ST indeed! Everyone knows that covies prefer PCWs.

CONCEPTION OF QUINN'S

A few weeks ago, *Express* published a top-ten hates list, encouraging other readers to submit theirs. Being in a

jovial mood, and with nothing better to do, I faxed in mine. This list contained a few irreverent comments about the Amiga and its owners - big deal.

Now, all this was meant as a joke, and I've had many a debate and friendly argument with Amiga owners about it - OK so far. Unfortunately, a few people failed to see the joke, and decided to insult me, by way of these pages. Well, fair enough. Everyone - frustrated under-achiever or not - is entitled to their opinion.

The Amiga when in full flight is nothing short of spectacular - the intro to *Blood Money*, some of the demos for example - I will concede, no argument there. It is the needless design faults I object to, such as the "Oops, we forgot something" modulator, the extremely unreliable PSU supplied with some of the newer ones, which spoil an otherwise great machine.

As Jim Brown stated (Express 40) computer owners choose their hardware according to needs and budgets, and most are content with their choice. I own an ST and a PC with a 20 meg hard drive. The PC I use for work (some of us have to write the boring file handling programs), and the ST for leisure (mostly *Dungeon Master*). If in the future I feel that I need an Amiga, I will not hesitate in buying one. What I won't do is go around ramming it down every non-Amiga owning persons throat.

One last comment to Grant (Express 40). I will write to Express if and when I see fit, with or without your sanctimonious permission. And a little bit of advice, don't call people childish names from a safe distance when you don't have the guts to say them to their face, son.

Paul Quinn, Kilmarnock

• Quite so, Paul. Whether you agree with someone or not, you must support their

THE PRICE OF GAME

MJ Adams (Express 41) brought into the open what I consider to be the most important aspect of buying a home computer: the price (and availability) of software for any particular machine.

A ZX81, a rubber keyed 48K Spectrum, 128 'heatsinked' Spectrum, 128+2, Commodore 64 and various other not so well known machines have all graced our dining table over the years. More recently my son persuaded me to upgrade to the much revered Amiga. One visit to my friendly Amiga stockist later, in Georgian Bath, found me the proud owner of the Amiga 500 with lots of free goodies (VG and star for the salesman).

Six months later found me on the corner of our local street selling matches, old Speccy tapes and back-numbers of declining competitor weekly computer magazine. Why? To try and afford games and various other things for the Amiga. Yep, a bad cock-up on the looking ahead front.

End result... The ultimate selling of the (fault-free) Amiga, and the resulting blushing about my bad decision.

Happy ending... yet another advance order for MGT SAM. Could it be a return to the exciting and slightly uncertain world of the early Sinclair machines. Hell, even if it doesn't work properly it will be terrific fun trying to find out why, and

right to state their opinion. I can tell that you're in favour of free speech by the way you use your firm's phone to send these faxes.

PAIN IN THE ARTS

In Express 34 you asked for artwork to be sent so you could feature it in your excellent magazine and so I set about creating some art work for you. I spent many an hour or two or three or four slaving away over a hot computer, and as yet I have not heard a dicky bird. Robert Hudson, W Yorkshire

• Response to our appeal for computer art was dismal so we didn't bother to run a feature. We might try it again in the future, maybe offering prizes for the best efforts.

IT'S AN EDUCATION

Would you consider introducing an educational section dedicated to news, soft-

ware reviews and releases etc? I am sure there are lots of parents out there, who read you're magazine, who would find such a section of great advantage in helping them to choose the right type of software for their children to use at home. Should you ask other readers if they feel there is a need for such a section then I am sure the response would be favourable. So come on - ask the question and lets add another feature to your splendid magazine! NP Grant, Rugby

• Tell you what. We're doing a feature on education in the next week or two; if the response is good we'll consider a column.

DEVIL'S ADVOCAT

It is understood that there is a large computer gathering in Amsterdam at the moment. I would be grateful if you could let me know who the organisers are and

of any clubs in the UK that may be connected with it. R Schenk, Cheshire

• There was a big piracy meeting a few months ago but we know of nothing com-



• And you thought that flat in London you looked at was small. This is the building in Amsterdam where all the MSX users in the world will congregate (see Devil's advocat)

ing up. If anyone does hear of a large computer that's about to gather in that city perhaps they could let us know.

LIBRARY CARD

Two letters in Express 39 both focussed on the sale of public domain software. One stating that it is a rip-off and the other that the more you pay, the better the service. I am just starting a PD library.

I believe that our price of £2 per disk fully justifies costs, although with some library who charge £3 per disk, without customer service, then they must be making a profit.

If anyone would like a catalogue send a large SAE to: Vince Marsters, England

• Oh, what a shame - we just didn't quite have enough space for your address. Tell

TOP TEN TIME...

More top ten hates about computing! A bumper selection this week...

KIDS' STUFF

1. Me, because I don't understand BASIC of any sort.
2. Computer mags that ignore you and can't stand criticism.
3. PD that keeps bombing out after you get it home.
4. Lack of humour in other mags.
5. Demos that come with cover disk mags and don't work right.
6. Having to keep swapping disk when copying folders etc.
7. You, if you don't publish this, and my letter which I wrote while looking after our five kids because the wife was out all day.
8. Looking after the kids.
9. The over pricing of games.
10. Amiga owners who are, or must be easily pleased. Robert Hudson, W Yorkshire

STRANGE BITS

1. Morons who slag off the mighty Amiga when they know its the best home computer available.
2. Idiots who think the pathetic little Sega is superior to the King Amiga! Let me make it crystal clear (like the sampled speech you get on most Amiga games). The Sega is totally and utterly Inferior! OK?
3. Depressing 8 bit computers
4. Pointless 32 bit computers (you know what I'm talking about Archie owners, all four of you).
5. Mail order companies who say in small print "add £2 towards p&p"
6. Independent PD suppliers (everyone knows that Softville and 17 bit are the best for quality PD)
7. Old fuddy duddies who want to ban excellent games such as Veteran (MW-ring any bells?).
8. Not enough sex games
9. Not enough gory games (except for Jack The Ripper and Sword of Sodan).
10. ST Format, ST Action, Atari ST User, Express's Your Format ST column (why don't you replace it with MGT's SAM?), ST portovers, the ST in general really! Glen Williams, London

• We would have made this the prize letter, but we can't send you any free software, as we just can't imagine what computer you might have.

MORE TOP TENS!

WILD MONGOOSE CHASE

1. Computer shop keepers who think that because you are female you know as much about computers as a neolithic mongoose.
2. Computer repairers who keep your machine for weeks because 'there's a shortage of parts for the C64' when they haven't even looked at it yet.
3. When they do look at it, say its going to cost £35 as the CP has gone dead and 'there's a shortage of CPs' - the first electronics shop I called sold me a 6502 for £5.
4. Flight sims.
5. PC software that costs £25 and then turns out to be in CGA and has a game play that even said neolithic mongoose would find tedious.
6. Computer mags (you know the ones) which give every game in every format a rave review and then it turns out to be as 5.
7. Populous, because it isn't out on the PC yet.
8. Companies that begin with A and end in MSTRAD.
9. Uninteresting PC columns (sorry)
10. Amiga owners, no I'm not jealous, honest. Dee Dee, Cheltenham

• I'm waiting now for an angry letter from a member of the genus *Herpestes* signed 'R. T. Tavi' complaining about stereotype images of non-computerate mongooses and saying how it programs in 286



• 'Amazing resemblance... 'mongoose' ...

assembly language and keeps its snake killing records in dBase II.

DO I HAVE TO SPELL IT OUT?

Two lists of top ten hates that you might like to publish:

1. C
2. O
3. M
4. P
5. U
6. T
7. I
8. N
9. G
10. .

But seriously (or not):

1. The size of the boxes for adverts in your classifieds (you try writing 'compatibility' in one).
2. The amount of paper we use in this computer age when computers were supposed to bring the opposite.
3. Idiots who write viruses.
4. Parents who think their kids are clever because they use computers when all they do is play games.
5. Rip-off advertisers who give computing a bad name.
6. Incompatibility between 8 bit micros with similar specifications
7. Tape based micros which don't have built-in or machine specific data recorders and hence loading problems.
8. The colour command in ST and first BASICS.



... 'girlie'

• Has anyone noticed the strange resemblance between a mongoose and a girlie? Well, there isn't much, but some computer shop owners find them difficult to tell apart

9. Job ads in the national press that have nothing to do with computers but the salary is '10k' - do successful applicants get £10,000 or £10,240.

10. Not getting my fix of Express every week because the newsgang forgot.

11. People who can't count.

Paul Trainer, Leeds

• Re your point 9, remember Amstrad's definition of a '1 megabyte' disk in their ads for the PCW9512 as 720K?

STEVE'S THIRD LETTER THIS WEEK

10. People who slag off the ST because it's not as good as the Amiga (graphical and socially).

9. Version 1.00 of Microsoft Write for the ST (bug-ridden)

8. People like MH Knight who get four letters printed in the same issue of Express (how many did they send by the way? Were all the letters in the same envelope?)

7. People that only play games on expensive computers (what a waste ..)

6. All the different sorts of monitor leads/ connectors/ plugs.

5. Computer magazines that don't go out of their way to inform you of price increase in the issue before the increase occurs, thus leaving you very embarrassed at the front of a long queue in WH Smith (New Computer Express, Atari ST User).

4. The penny change you get when buying software from computer shops

3. Games reviewers that give over 80% for lastability or whatever. Are they really still playing those games they reviewed over a year ago?

2. A certain computer magazine for the ST that has started putting a disk on the front cover, despite the fact that another ST magazine has been doing the same thing for ages.

1. Mags that offer fabulous prizes in reader surveys, to get you to give them ideas for articles and such like that they will use, sell more copies of the magazine because of, and save money by not using a market research team. Steve Sharples, Bingley

• Ah, but if we did have a market research team, we'd have to raise the price without telling you again...

you what, there's plenty of space in our new Shopping Express section, where you can advertise your fantastic services and also browse through for the very best bargains. See pages 17-48...

CARTRIDGE GUNNING

How come cartridges have not been used as the main format for games and software? I can see two, perhaps three, great advantages of using cartridges over tape and discs (or disks) but two disadvantages.

Advantages: 1. It will be impossible for people, or crackers to break into games. 2. Cartridges are much faster than either tape or disc.

3. Cartridges are capable of storing vast amounts of data cartridge without first switching off the computer, and opening the outer casing.

Disadvantages: 1. Only MSXs and C64s have cartridge slots. Adapters could be made linking a slot to the ROM connections. Unless somebody makes an adapter, I doubt we will ever see cartridges as our major format, particularly as the 16 bits don't have cartridge slots and they would probably be the best sellers.

2. The cost may be another problem. Tapes on the MSX are £9.95 and cartridges range from £10.95 to £25.00 (Nemesis 3, Crazy Cars, Galuelliou). Wayne Morrison, Tyne and Wear

• Fair points, but as revealed in this week's news, it looks as though even cartridges are now being cracked and copied.

AND DERE'S ONLY TWO OF US

We've all heard about how computer game violence warps the minds of our darling little cherubs and turns them into anti-social destructive maniacs, how about exploiting the fact and start producing games that feature shooting ivory poachers and destroying tree fellers in Brazil with their own chainsaws etc. Maybe then the fruits of our loins will be of some use to the world instead of mugging grannies and slashing car tyres.

Neil Barnes, Birmingham

• Well, Rainbow Warrior from Microstatus lets you go round spraying seals to stop the cullers being able to kill them for fur and other worthy things similar to those you describe, so your prayers are answered. But what's this about an Irish threesome in Brazil with chainsaws and why should they be destroyed?

CLUB STE

I have read about the new STE computer, and I understand that it is simply an ST with a few chips swapped around and some added. Will it be possible to upgrade the ST, either internally or externally, to STE standard? When the STE is released, will it be given its own column, or will it be covered in the "ST Club" column?

Half the space on an average computer magazine's letter-page is taken up with the classic, tired "my computer vs. your computer" argument. Why not cut through this, and help first-time buyers as well, by doing a feature where all the popular makes of computer ie. all those in the "Your Format" section - are specified in terms of memory, processor-power, software base, graphics - and sound-capabilities, business applications, etc., with a comments column for each, and a separate set of each column could be printed, listing the computers in order

of performance in each specification, just to clarify the point for anyone still incapable of facing facts. As new computers are released, their specifications could be printed in the same format, and the entire list could be updated and reprinted annually.

Mark Blunden, Bournemouth

• It certainly won't be possible to upgrade the ST to an STE. When it arrives it'll be covered in the same column at the ST though.

The feature idea is one we're planning in the 'near future', either as a guide in Shopping Express (which starts this week with a run-down of PCs - and some really do get run down!) or as a cover feature, maybe in the run-up to Christmas.

HOORAY FOR US

I don't mind Monday mornings (I am retired) - there's the whole week stretching ahead, and who knows what it will bring. I look forward to the weekend since I treat myself on Sunday to a slap up meal in a hotel, but midweek was miserable - until I started to take Express which brightens up my Wednesday! I think it's a splendid mag and agree with many of your readers that it is grossly underpriced (possibly your competitors are charging for the nice glossy paper!) May I thank you and wish you all well.

Leslie Barratt, Torquay

• Gosh, well, thanks - we just try to do our best. If you enjoy reading it just half as much as we enjoy writing it, then, er, it means we enjoy writing it twice as much as you enjoy reading it.

MSXTREMELY ANNOYING

I bought Rambo III and Operation Wolf for my Toshiba HX10 MSX. The former title gave no trouble and loaded first time; Operation Wolf however appeared to load as normal at first but then no loading screen appeared. When the program was loaded the keyboard feigned dead and the only way to regain control was a reboot.

I sent the cassette back to Ocean, who sent me a replacement (very quick I must add), but on loading I encountered the same problem. It seems to me the program is bugged, I rang Ocean and was told to send it back to them. I have already paid for postage and phone calls through no fault of my own. They suggested I return it to the shop, but that would mean a journey to Leeds and a hefty train fare. If I returned the program to Ocean would it be possible to exchange it for a different title - one that I could be sure would run successfully.

Mark Armistead, Lancs

• I don't think you have any way of claiming back postage or train fares or anything, so I suppose your best bet is to ask for your money back or a replacement. It does sound like your Op Wolf won't work on the Toshiba MSX, for whatever reason, so it's not of merchantable quality and entitles you to this.

KNOW YOUR RIGHTS!

At present I am busy writing a shoot-'em-up for the Atari ST. Not quite Xenon II quality but good enough for a budget label. How do I go about getting it copy-righted? I've read about these things before but can't remember the relevant details.

Norman Tierney, London

• You don't have to register anything or pay any money to get the copyright on a

program or a piece of writing; the mere fact of doing it first gives you copyright.

However, if you find that someone's nicked your work later on (actual program code or text, not just 'the idea') it's up to you to find them out, and to prove that you did it first. Clearly then it helps if you've done something like deposited a copy of the program with your solicitor.

A cheaper alternative is to post a copy of the text or the program on disk in a well sealed envelope to yourself (and not to open it when it arrives, of course!) The date on the postmark should provide adequate evidence for most circumstances.

GIRLIE GAMES

You asked what games girlies like playing. Well, I haven't found a PC game yet and my C64 has been out of action for quite a while. I suppose it's anything that's not a flight sim (well, not everything!) I did like Jet Set Willy though.

Dee Dee, Cheltenham

• Trying any sort of jokey reply to this letter will only get me into trouble. But thanks anyway.

IF MUSIC BE THE FOOD OF LOVE, CRASH ON

After playing EA's Populous for weeks without a hitch, I finally found a bug. While playing on my ST for a couple of hours, my small cousin decided to place his destructive interests on my Casio HT 700 keyboard, which at the time was plugged into the ST's MIDI port. I watched in horror as my walkers continued to potter about their business, but my mouse pointer refused to move.

Brian Sirgour, Bath

• What tune was your small cousin playing? Anything by Bros or Kylie Minogue perhaps? Then your ST's disgusted reaction would be understandable.

STRIKE OUT

I would like to reply to Philip Moor's question (Express 41) why does everybody slag the Amiga? Well, the Amiga was born with three strikes against it that it is powerful, versatile and complex.

Firstly its power and versatility upset those who bought a lesser machine rather than save the few quid extra for the Amiga and they spend most of their time writing letters to magazines comparing the two in an attempt to justify to themselves that perhaps the machine they own is just as good but secretly kicking themselves for not saving the extra cash and not only that but it proves they are not happy with what they own.

Secondly you have those who own the Amiga but haven't got the intelligence to progress further than loading games or clocking about on the workbench these tend to be the "AmigaDOS is crap" or "it's only good for games" letters frustrated by paying lots of money for a machine that's smarter than they are. Being able to read and write is a must for any computer user and to master the Amiga requires a lot of reading due to its complexity a case in point if anyone read the workbench page in Amiga Format September they will have noticed that all the question could have been answered by reading the first few chapters of the supplied manual.

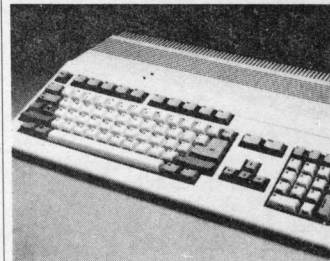
Then finally you have the people who probably don't own computer at all they just like to add fuel to an ongoing argument so they write in to agitate a good example is the shop assistant he's got nothing to say but revels in the flak a

OUTRAGED?

Want to reply to something you've read? Get YOUR comments into these pages - fast! Ring the Express hotline on 0225 444439 and your views can make it into print the very next week. You've only got a minute, so keep it

case of self indulgence.
Chris Cannon, Essex

• There is a lot in what you say but first I think while it's true that the Amiga is a massively powerful machine and to dismiss it as a gaming toy is rather dim the reason people say AmigaDOS is crap is because AmigaDOS really is crap and second I would get your Amiga keyboard seen to if I were you because it appears that the comma and full stop keys are not working which makes your sentences look ever so long and breathless because one runs on from the other without any pause in between all the way to the end of the paragraph oh dear mine seem to have stuck as well now.



• The Amiga nice machine shame about the sticky comma and full stop keys sometimes they don't work

SNIPPETS

BUSTERS BUST

Express 35 said I had won a prize of Sleepsafe, the virus buster, in a competition. What happened to it? Paul Frazer, Cumbria

• Software Horizons, who were to supply the prizes, have unfortunately gone bust. I don't think it's worth bothering about the virus buster now, but if you write in with the name of your machine, we'll try our best to supply software to the value of the prize you would have won. I'm afraid that's the best we can do!

VILE FILTH

I turned to letters page last Thursday and choked. Two pictures of Bros, and if that wasn't bad enough, on the other page you featured Kylie. Did you do it as a shock tactic or has someone in editorial gone mad? I hope you will be receiving my hospital bill soon...

L Sheed, Hampstead

• We accept that the printing of these pictures was unwarranted and some may have found them disturbing. We apologise unreservedly for any distress that may have been caused to readers of Express.

520ST-FM SUPER PACK



The Atari Super Pack is ideal for you if you want to get off to a flying start with the best in entertainment software. The Pack includes a 520ST-FM with 1/2Mb RAM, a built-in 1Mb disk drive, over £450 of top games and a joystick. If you buy the Super Pack at Silica Shop, we will add our own ST Starter Kit (worth over £200), Free Of Charge. Return the coupon for details.

£399

INCLUDING VAT

With SM124 mono monitor: £498 INC VAT

With SC1224 colour monitor: £698 INC VAT

1Mb DISK DRIVE £450 OF SOFTWARE ARCADE GAMES

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

SPORTS SIMULATIONS

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

PRODUCTIVITY SOFTWARE

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

JOYSTICK

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

FREE ATARI BUNDLE VALUE: £458.97



ST COMPUTERS

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

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

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



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

£260

ONLY £2.51 PER WEEK
RETURN COUPON FOR DETAILS

+VAT= £299

+ SM124 mono monitor: £398 INC VAT

+ SC1224 colour monitor: £598 INC VAT

1040ST-FM PROFESSIONAL PACK

NOW WITH TV MODULATOR

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



£499

INCLUDING VAT

With SM124 mono monitor: £598 INC VAT

With SC1224 colour monitor: £798 INC VAT

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

NORMAL RRP: £884.82

LESS DISCOUNT: -£385.82

PROFESSIONAL PACK PRICE: £499.00

2Mb & 4Mb MEGA ST

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



2Mb MEGA ST

£899 INC VAT

+ mono monitor = £998

+ colour monitor = £1198

4Mb MEGA ST

£1199 INC VAT

+ mono monitor = £1298

+ colour monitor = £1498

DTP PageStream £149 +VAT = £171.35

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

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

DO YOU OWN AN ATARI ST?

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

SILICA SHOP:

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

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

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

To: Silica Shop Ltd, Dept NCE 0989, 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
PLEASE SEND FREE LITERATURE ON THE ATARI ST

Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode: NCE 8

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

STREET TALK

By Rik Haynes

Kick Off fans should be pleased to hear about a new expansion kit that's coming out for their favourite footie-sim. Imaginatively titled, *Kick Off Expansion Kit*, this game add-on will include new player tactics, faster play, stricter refs and weather conditions. It should be out in December on ST and Amiga, price £9.95. Meanwhile, Spectrum and CPC versions of *Kick Off* should be out sometime later this month.

I wish NEC would change its stance over the PC Engine in this country. Still only available as a "grey import", the PC Engine is one of the most cyber and desirable games decks I've ever used. Take for instance, the three new PC Engine games I got in for review this week - *Gunhed*, *Side Arms* and *Pacland* - these games were immensely playable, infuriatingly addictive and very, very audio-visually attractive. Come on NEC, you'd quickly muster a loyal legion of users if you officially sold the PC Engine in the UK, go for it...

And now, the time has come, to face, my final Gameplay... that's right peeps I'm off pastures new. However, before I go I'd just like to say thanks, it's been great fun and I hope you've enjoyed my (outspoken and hopefully entertaining) news, views and reviews...but more, much more than this, I did it my way!



(Yet) more tremendous tricks'n'tactics from a wide variety of games, thanks to our *Robocop* Competition entrants (sorry tipsters, no prizes for your info this time because you've already entered a competition).

'Bard's Tale: For fast experience, go to Harkyn's Castle at N, E on the top level. There are 396 Berserkers, with three fighters at the front set to defend, the Bard using the fire horn and two Sorcer-

ers with Mind Blade. You will take hardly any damage, and after about three rounds you will get about 60,000 experience."

JULIAN OLIVER, Boston, Lincs

'Amiga R-Type: Type in 'SUMITA' in the high-scores for infinite lives. PS: Why do you call yourself *New Computer Express* when you've been around for 10 months?"

N CHILD, Croydon, Surrey

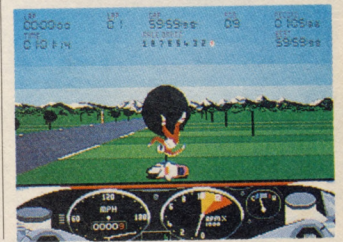
"With older **chess** games, it's possible to take (some) advantage over the software regarding non-queening of queening pawns."

EA COOK, Cwmbran, Gwent

'Carrier Command on the Amiga: Pause the game with the mouse button and type 'THE BEST IS YET TO BE', followed by a press of the '+' key. Invincible mantas result."

B MOONEY, Washington, Tyne & Wear

'Honda RVF: Get plenty of practice, try to learn each circuit. Don't panic if you're left at the start, follow the other bikes



DO YOU OWN THESE GAMES?

- XENON II
- APB
- BEACH VOLLEY
- INDIANA JONES
- THE LATEST GAMES RELEASED ON SEGA, NINTENDO AND PC ENGINE CONSOLES

Have you tamed any of these new games? Found a hidden cheat mode? Perhaps a poke, or a useful tip? How about a bug?

If you have the info, you could win a new game, T-shirt or poster! Write to

Tame the Game, *New Computer Express*, 4 Queen Street, Bath BA1 1EJ or fax us on 0225 446019. Please state the machine you use.

Everybody who gets a tip, cheat, poke or bug published wins a prize!

HOW TO CONQUER THE NEW ZEALAND STORY

An extensive collection of tricks and tips on this addictive coin-op conversion.

THE ULTIMATE NEW ZEALAND STORY CHEAT

Sorry New Zealander's, we made a mistake back in *Gameplay* 41, the cheat we printed is incorrect: you should type 'FLUFFY KIWIS' on the title page.
GARY BRACEY, Ocean

NEW ZEALAND STORY WEAPONS WORKOUT

DALE WILKS of Cambridge with some tips on which weapons to use when playing *New Zealand Story*...

ARROWS: The starting weapon, good firing rate, but not very strong.

BOMBS: The business! Good rate of fire, and a large explosion area, so you don't have to be very accurate. Bombs are a must for killing the whale at the end of Level 1.4.

LASER PISTOL: This appears on Level 1.3, and has an excellent rate of fire. One shot kills anything in its path.

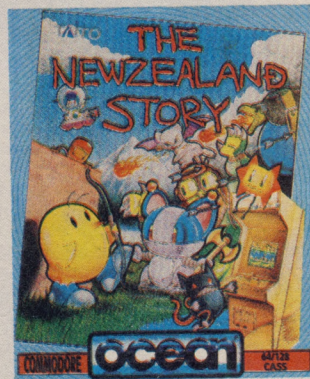
CABBAGES (Well that's what they look like!): these are pretty naff. Although they bounce around the screen killing all and sundry, you can only have two on the screen at a time.

SPACESHIP: You get this on Level 2.1, it's easy to fly, and fires homogenous great laser bolts that kill everything.

• Cheers Dale, a homongous reward (Battletech from Infocom/Activision) for your weapon wisdom is on its way.

TACKLING NEW ZEALAND STORY

Some *New Zealand Story* tips from **CLIVE GRAVEN** of Sale, Cheshire.
AUCKLAND 1-4: There are many ways to go about killing the end level Whale guardian, this is the most successful



method. After releasing your caged friend, go as near to the left wall as possible without stepping on the nails. Face right and fire at the snow flakes that fall. This will improve your score if you hit them. When you're swallowed up by the whale, in true Jonah style, go to the far left and continuously fire at the whale until the middle blob drops, and the one above wobbles. Then move to the far right and fire until the blob in the middle falls and the one above wobbles. Repeat this, still firing until the whale dies.
ROTORUA 2-2: After killing the first rabbit, go up to the top. Whilst killing anything that moves, go up further to the far right, where the rabbits on balloons will appear. Kill the two that appear and then continue firing at the wall about 1cm below the top. Soon a windmill-like object will appear, which I have decided to name The Warp. If you step into the Warp it will wizz you to the end of the level.
ROTORUA 2-4: Well done, you've just arrived at one of the most nasty levels!

As you worry about getting past the bullets, just try to remember it's only a game. Go up and kill all four of the little monsters that appear out of the opening in the scenery. Go down left and come back up and repeat the killing, etc. Wait for your score to pass the 50,000 mark, so that you gain a life or you're given the bottle that gives you a few seconds of invincibility, in order to get past the bullets. Once you're invincible or have the extra life, guide your Kiwi through the bullets to the water and then take a swim.

ROTORUA 2-4: Once you find the position of your friend, you'll need to be armed with the bombs. If your not, play until you are! When you release your caged friend, the end of level monster will appear and attacks you. If you are armed with the arrows you will find it difficult to kill him, so once armed with bombs and the monster is after you, climb to the top of the runs and fire down at the monster till it dies.

WAITAMO CAVES 3-2: At the start of this level, jump up and grab a duck balloon, then travel to the top left corner of the room and go to the far left of the next room. Go down until you get the lettered balloon. Next, go up, first right, down, then first left and down. Once in the next room, go to the far right and up, first right, far right and up until you're faced with the signs: Down and Left. Go down and dive through the water to the right-wall, then go between the waterfalls and put your head above the water until you can fire. Keep firing at the wall to your right until the next warp appears. This will take you into the next level 3-3.

• Phew! Thanks for the detailed tips, Clive, see what you can do with *Wicked* by *Electric Dreams*.

GAME

and pick them off slowly – you'll make fewer mistakes."

S TUCKER, Birmingham

"Amiga **Super Hang-On**: Type in '[750]' in the hi-scores. Now when you play again your motorbike will be equipped with a machine gun to blow the other bikes and obstacles away! (Just use the '[SPACE]' bar to fire."

MARK SUTTON, Waunarlyydd, Swansea

"**Test Drive**: If a police car comes up behind you, stay in the left-side lane as much as possible. This prevents the car from overtaking you and thus makes it impossible to receive a ticket for speeding."

INDRAJIT CHANDA, Allestree, Derby

"**Leisure Suit Larry 2**: Find the Bikini top at the bottom of the pool before leaving the ship."

AE NEWELL, Cheltenham, Glos

"When playing the computer on Atari eight-bit **Rebound**, always serve slightly in from the far left of the court, and your opponent will always miss."

SIMON BODGER, Funtington, Chichester

"**Gunlaw** on Commodore Plus 4: Enter the monitor and change AB to AA and 15 to 11 for endless lives."

NEIL HOPPER, Uplands, Swansea

"**Streetfighter** tip: Reformat the disk!"

P COLLINS, Herts

"Don't bother asking Robin Hood for help in **Defender of the Crown**."

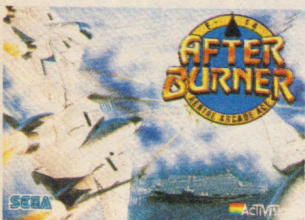
PETER ANDREW, London

"Keep the '[K]' key pressed while loading Amiga **Defender of the Crown** to give you 255 knights in your army."

RICHARD HALL, Thames Ditton, Surrey

"Amiga **Afterburner**: Type 'TOGETHER IN ELECTRIC DREAMS' and press '[T]' to reduce missiles, '[G]' to increase missiles, '[<]' to return to previous stage, '[>]' to advance to next stage and '[I]' to play a sampled sound."

STEPHEN ALLEN, Gillingham, Kent

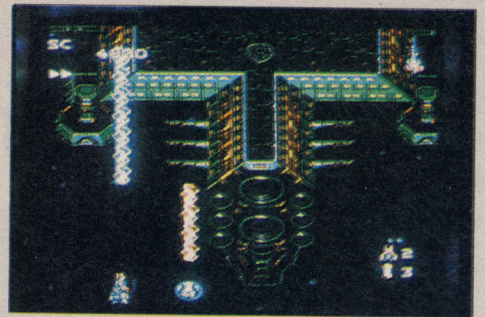
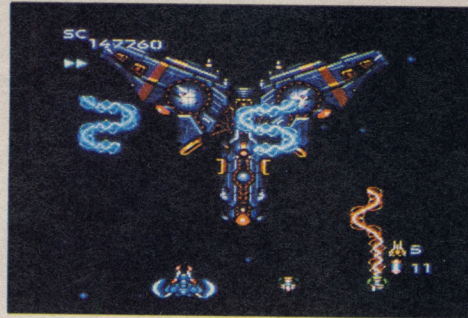


"ST **Ikari Warriors**: Type 'FREE RIDE' in the hiscore table for invincibility"

MARK HUGHES, Norris Green, Liverpool

"On **Karate Kid II**, press the '[P]' key to advance to the next screen."

DAVID CRAGES, Gilesgate, Durham



GAMEPLAY • Basically, *Gunhed* is another vertically scrolling shoot'em-up. However, it has got one single advantage over its numerous competitors: it's absolutely brilliant. Everything from *Gunhed's* playability to its sprites are expertly crafted. Even the add-on weapons for your ship are spectacular and very original – and look great, especially if you pick-up an awesome array of kit.

Gunhed reminded us of the cult vertical shoot'em-up, *Star Force* – except *Gunhed's* even better than this classic coin-op, in terms of both gameplay and audio-visuals.

GRAPHICS AND SOUND • *Gunhed* comprises coin-op quality graphics and sound with a typically Japanese cartoon feel to the visuals. In fact, fans of the *Robotech* TV cartoon series will recognise your main ship as some sort of Verotech fighter. The sprites vary greatly in size, design and movement and the full-screen backdrops scroll fast'n'smoothly.

The audio may not be stereo, but you don't have chance to notice it, as you're bombarded by a multitude of

GUNHED

From Hudson Soft • PC Engine version reviewed



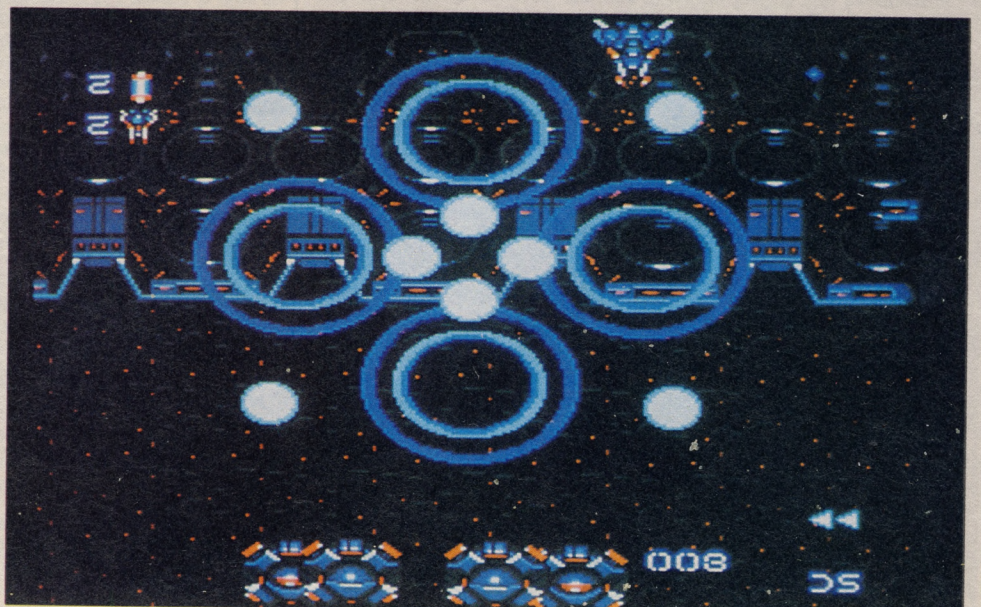
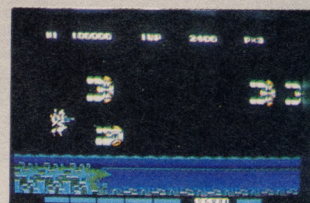
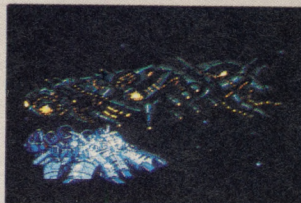
Ok, *R-Type* on the PC Engine was excellent, but Hudson Soft will never be able to top it with another game, right? You couldn't be more wrong...

sound spot FX, enhanced by a deceptively soothing soundtrack, which changes with every area.

OTHER VERSIONS • We don't believe there are plans to bring out *Gunhed* on any of the major UK micros. None of them could handle the graphics and sound anyway.

VERDICT ★★★★★

Gunhed is (another) good reason to buy the PC Engine... it's simply superb. Here on *Express* we've fought all week to decide who gets the next go on it. *Kick Off* is the only other game we've played as much this year. *Gunhed* is the best vertically-scrolling shoot'em-up we've played outside a coin-op.



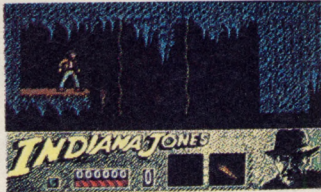
Special thanks to Mention Technical Services (0436 78827) for supplying all the PC Engine games reviewed in this week's Gameplay.

MINI-REVIEWS

INDIANA JONES AND THE LAST CRUSADE (ACTION GAME) ★★

Lucasfilm Games/US Gold • C64 • £9.99cs, £14.99dk • Also on Spectrum, CPC, ST, Amiga

The C64 version of *Indiana Jones and the Last Crusade* (the action game) is a boring multi-level platform arcade adventure, "enlivened" by colourless mundane backdrops, really irritating sound effects and pathetically unrewarding gameplay. The only thing going for it is that the main sprite

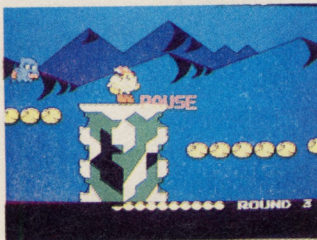


does at least look a bit like Indy himself. Of course, the game will sell well – but as you know that's not always connected in any way to style, quality or value

for money. It's going to be totally wasted by Ocean's forthcoming blockbusting movie licence, *Batman* – and deservedly so too.

PACLAND ★★★★★

Namco • PC Engine

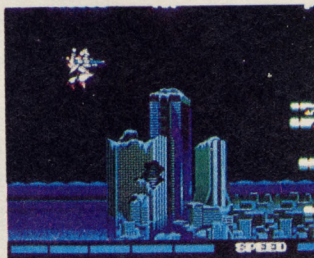


Another excellent and exciting PC Engine game, which is identical to its cute coin-op parent in all areas: looks, sounds and play. You control Pac over the various landscapes of Pacland, in a horizontally-scrolling arcade adventure, which pays homage to the classic maze-game that created its lively bunch of inhabitants. By the way you can also get *Pacland* on the Spectrum, C64, CPC, ST, Amiga and MSX courtesy of Grandslam – although none of these conversions are a patch on PC Engine *Pacland*.

SIDEARMS ★★★★★

Capcom • PC Engine

A great, and very accurate conversion of the popular horizontally-scrolling shoot-'em-up coin-op featuring some stylish mecha and backdrops. A perfect example of the PC Engine superiority over all the other home games machines, as witnessed by the farcical US Gold Spectrum, C64, CPC, ST and Amiga conversions. The only slight problems we encountered with playing the PC Engine version of *Sidearms* was that



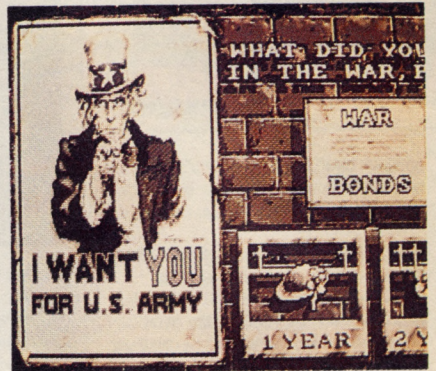
it is incredibly difficult to master, and it really loses something special with the absence of the coin-op's simultaneous two player option.

ONE-LINERS • ONE-LINERS

- Buena Vista Software – the computer games side of Walt Disney – is obviously pleased with the success of its first title, *Who Framed Roger Rabbit*, because it's currently working on "a number" of new games projects for this autumn. More details as soon as we get them.
- Ferrari Formula One, the popular EA racing-sim, is finally going to make it onto the Spectrum, C64 and CPC this Christmas... after almost a year of development.
- Infogrames has got the UK rights to Broderbund's new American games epic, *Sim-City*, which is due for release next month on C64, ST, Amiga and PC.
- The authors the surreal classic *Archipelagos*, are developing a new sci-fi hovercraft sim, presently going under a working title of *Mangrove*. It should be out from Logotron early next year on ST, Amiga and PC.
- Artronic is taking the state-of-the-art a step further next week, when it releases a PCW games compilation. *PCW challenge* only costs £14.99, and includes four games: *Ace* (shoot-'em-up flight-sim), *Formula One* (rac-sim), *Sky War* (shoot-'em-up) and *Strip Poker* (supposedly very tame).
- And talking of new compilations, Psygnosis is just about to launch *Triad II* (*Menace, Baal and Tetris*) on ST and Amiga for £24.95 – C64 and PC versions will follow in December.
- Mandarin Software is also releasing an ST games compilation, only this time it consists of six games written with STOS, its games creator BASIC.
- Pools predictors on a tight financial budget should check out Blue Ribbon's new *System 8 – The Pools Predictor* program. Out now on Spectrum, C64, CPC, BBC, MSX, Atari 8-bit and C16/+4 for £3.

FIRST PEEK

• An early look at Electronic Arts' new role-playing game on the Amiga, *The Hound of Shadow*. The game is set in 1920s England, and centers around your characters involvement in murder and the occult. The whole set-up is run under the *Timeline* games system, which lets you give your character a complex interactive personality and detailed background. *The Hound of Shadow* should be released towards the end of next month on ST and Amiga, with a PC version following in November.



A run-down of our favourite five games released in the last two months. Never mind the charts, *New Computer Express GamePlay* is the best guide to the top games of the moment, every week.



C64, CPC, ST, Amiga
Very cute platform adventure featuring a cuddly kiwi. Twice Game of the Week.

4. CARRIER COMMAND
Rainbird • Spectrum, ST, Amiga

Workable mixture of strategy and shoot-'em-up set in World War II.

5. STARGLIDER II
Rainbird • Spectrum, ST, Amiga

High-end shoot-'em-up with more than a hint of strategy in this space adventure.

1. GUNHED

Hudson Soft • PC Engine

One of the best vertical shoot-'em-ups we've ever played. The graphics are superb and the speed unbelievable. Come on NEC, get the PC Engine out over here!

2. KICK OFF

Anco • C64, ST, Amiga

Brilliant footie-sim which has dominated life in the Future Publishing offices for the last few weeks.

3. NEW ZEALAND STORY

Ocean • Spectrum,

Play back

YOUR views on the latest software – call 0225 444439

"Jeff Minter is the God of 68 bit machine code." No name or address supplied

• He's probably also the patron saint of llamas

"Operation Hormuz on the ST looks a it's running a Spectrum emulator – is this some kind of joke?"

Jonathan Barry, no address supplied

"Any tips for getting through *Gauntlet II* would be appreciated."

Tony Smith, Southend-on-Sea, Essex

• Can anybody help? You may win a free game for the right info!

"Has anyone stayed awake long enough to get onto the second landscape of *Archipelagos*?"

Robert Collinson, Leeds

"How dare Greg

Williamson say the Bitmap Brothers are overhyped! Amiga *Speedball* is one of the most addictive games ever made, and is easily better than *Kick-Off*. Greg Williamson should put his head down a toilet and stay there."

G Gitara, Leeds

"While I agree about New Zealand Story's blistering gameplay, the game refuses to load after my ST has been switched on for more than two minutes. Thanks Ocean, your protection techniques have just done me out of £20."

Michael Orber, Middlesex

"Is a decent cricket game coming out on the Amiga, because Alternative's is crap? When is *Bomber* coming out?"

Philip Palmer, Crediton

• Perhaps Alternative's

cricket game is just a very accurate simulation of our pathetic England cricket squad. Bomber should be out next month

"Silkworm is the best game out."

Nathan Lorry, Surrey

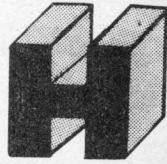
"The worst thing about ST games is the crappy music."

Robert Parkinson, Derby

Are you **delighted** or **disgusted** with your latest games purchase? Get **your opinion** into print within **seven days!** Just call our **24-hour hotline on 0225 444439** ready to speak your mind. Or write on a post-card or the back of an envelope (in less than 50 words) to **Playback, New Computer Express, 4 Queen Street, Bath BA1 1EJ** or fax us on 0225 446019.



TREBLE



COMPUTING



ATARI

★ NEW ★ POWER PACK PLUS
ATARI 520 STFM 1 MEG DRIVE

FIRST BASIC, ORGANISER, FIRST MUSIC, XENON, DOUBLE DRAGON, NEBULUS, ELIMINATOR, OUT-RUN, GAUNTLET II, SUPER HUEY, AFTERBURNER, R-TYPE, PREDATOR, SUPER HANG-ON, BLACK LAMP, STARGLIDER, SPACE HARRIER, BOMB JACK, OVERLANDER, PACMANIA, STAR GOOSE, STAR RAY, BOMBUZAL.

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

ALL FOR ONLY
£384.99

ATARI 520 STFM 1 Meg Drive	£269.99
ATARI 520 STFM 1 Meg Drive + Super Pack	£349.99
* NEW* ATARI 520 STFM 1 Meg Drive + Power Pack	£349.99
ATARI 1040 STFM + Professional or Games Pack	£439.99
ATARI 1040 STFM + Steinberg Pro-12	£439.99
* NEW * MEGA 1 ST Inc. Professional Pack	£519.99
ADD £99.99 TO INCLUDE SM124 MONO MONITOR WITH ANY OF ABOVE	
AMIGA 500 Inc. Modulator	£359.99
AMIGA 500 + 1/2 RAM Expansion	£489.99
AMIGA 500 + 1084S Med. Res. Colour Monitor	£589.99
B2000 + XT Bridgeboard + A2040 20 Mb Hard Drive + 1084S Monitor	£1499.00
AMIGA Art & Animation Pack Amiga 500	
+ 1/2 Meg Expansion + Deluxe Paint III	£549.99

AMIGA

NEW ★ SPECIAL PACK

AMIGA 500 INC MODULATOR
WORKBENCH 1.3 AND MANUALS
10 GAMES AND PHOTON PAINT
OR 8 GAMES, 24 PD TITLES & JOYSTICK
EITHER OF ABOVE PLUS
80 CAPACITY DISK BOX
10 x 3 1/2" DISKS
MOUSE MAT
DUST COVER

ALL FOR ONLY
£399.99

ACCESSORIES

Amiga A501 RAM Upgrade	£129.99
Disk Organiser for Above	£10.00
Workbench 1.3	£13.50
Joystick/Mouse Extension	£5.50
Disk Drive Cleaner (3.5 or 5.25)	£4.95
Mouse Mat (Soft)	£4.50
ST or Amiga Dust Cover	£6.50
Amiga to Scart Lead (Not Sony)	£9.95
ST to Scart Lead	£9.95
Quickshot II Joystick	£8.50
Cheetah 125+ Joystick	£6.95
DCOMJoystick (Fully Microswitched)	£9.95
Competition Pro 5000 (Black)	£11.50
Competition Pro 5000 (Clear)	£12.50
50 x 3.5" Disk Labels	£1.20
80 Capacity 3.5" Disk Box	£6.50
Monitor Covers From	£6.95
Konix Speedking	£10.50
Konix Navigator	£12.25
ST Modulator	£59.95

GAMES SOFTWARE

ST SOFTWARE	
Battle Chess	£16.50
Blood Money	£16.50
Colossus Chess X	£16.50
Dragon Ninja	£13.50
Falcon F16	£16.50
Falcon Mission Disk	£13.50
Forgotten Worlds	£13.50
Grand Monster Slam	£16.50
Gunship	£16.50
Kick Off	£13.50
Kult	£16.50
Licence to Kill	£16.50
Millenium 2.2	£16.50
Microprose Soccer	£16.50
Navy Moves	£13.50
Personal Nightmare	£20.99
Populous	£17.50
Red Heat	£13.50
Robocop	£13.50
Running Man	£13.50
RVF Honda	£16.50
Space Quest III	£20.99
Silkworm	£13.50
Tank Attack	£16.50
Thunderbirds	£16.50
Voyager	£16.50
Waterloo	£16.50
Wicked	£16.50
3D Pool	£16.50

AMIGA SOFTWARE	
African Raiders	£13.50
Balance of Power 1990	£16.50
Battle Chess	£16.50
Bio Challenge	£16.50
Circus Attractions	£13.50
Falcon F16	£19.50
Falcon Mission Disk	£13.50
Fed. Of Free Traders	£20.99
Forgotten Worlds	£13.50
Grand Monster Slam	£16.50
Gretzky Hockey	£16.50
Hawkeye	£13.50
Kick Off	£13.50
Kult	£16.50
Lords of the Rising Sun	£19.50
Mayday Squad	£13.50
Millenium 2.2	£16.50
Microprose Soccer	£16.50
Personal Nightmare	£20.99
Populous	£17.50
Powerdrome	£17.50
Robocop	£16.50
RVF Honda	£17.50
Skweek	£13.50
Sorcerer Lord	£16.50
Spherical	£16.50
Targhan	£16.50
Tech	£16.50
T.V. Sports Football	£19.50
Weird Dreams	£16.50
3D Pool	£16.50

MONITORS

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

DRIVES

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

PRINTERS

STAR LC10 mono inc Cable	£189.99
STAR LC10 colour inc Cable	£229.99
CITIZEN 120/D inc Cable	£139.99
EPSON LX800	£189.99
STAR LC 24/10 inc Cable	£324.99

HARD DRIVES

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

MUSIC AND SOUND

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

AMIGA	
Aegis Sonix V.2	£44.95
Aegis AudioMaster II	£59.95
Amas	£77.99
Future Sound	£74.99
Pro Sound Designer Gold	£74.99
Eidersoft Midi Interface	£24.95
Datel Midi Interface	£34.95
Music X Out Now!	£199.99
Dr T's KCS	£159.99
Dr T's Midi Recording Studio	£52.95
Deluxe Music	£59.95

DISKS

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

NEW PRICES

10	£7.95
25	£17.50
50	£33.50
100	£65.00
200	£128.00

INCLUDING LABELS. Add £5.50 for 80 Capacity Disk Box when ordering disks or £4.50 when ordering 50 or more Disks

ART & ANIMATION

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

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

DUST COVERS

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

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

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

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

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

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

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



TECH TIPS

Personal computer problems? Express' Agony column has the answer. Write in strictest confidence to Uncle Techtip.

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

HELP!

Aged Commodore

I have an old Commodore (four years old) and I can't get any colour pens for my printer plotter, model number 1520. I have tried all local stores but no-one seems to stock them. Could you please help me to find anyone who sells them or has any.

J. Fowler, Carrville, Durham.

• Have you heard of Tandy's, J. Fowler? The high street electronics store with the largest prices in town does a nice line in inflated-price plotter pens (if you can't find the store in Durham, there's one in Sunderland - howay the lads...).

HELP!

Dynamic duo

I have a Commodore 128 and Amiga. I need a reasonable quality printer which I can use with both machines (one at a time, obviously!) without swapping leads and unplugging things. I have read that the new Commodore 1230 printer has both serial and parallel interfaces, so will this fit the bill? Failing that, is there any way of connecting, say a Star LC10 to both machines?

I've written to Commodore to ask them, but I need to know before I die!

Stephen Mercer, Shaftesbury, Dorset.

• A printer that has both serial and parallel interfaces won't let you connect machines bearing each configuration and run them without first having to switch between each interface. This process is usually carried out via almost inaccessible dip switches.

Your best course of action is to locate



• Connecting a printer to the Amiga's a simple task

a two-into-one printer switch bearing serial and parallel interface inputs and one parallel output. With this device (available from many computer retailers for approximately 25 quid) you can connect a standard parallel printer, such as the Panasonic KXP1081 to the output and both machines to the inputs. It's then a simple matter of flicking the knob at the front of the switch box to determine which computer has access.

HELP!

Spectrum monitor

We are at present using a Spectrum Plus 2 and a mono TV with Tasword for word processing at our local primary school.

We have recently been presented with a mono IBM monitor model 5151002. Could you please tell me if this is compatible with the Spectrum and if so, what is the pin-out of the monitor (I have the Spectrum pin-out from the manual).

R. Clark MacGregor, Shefford, Beds.

• Forget it, R. Clark MacGregor. The plan's a washout. Bereft of any semblance of possibility, it lies still-born before me. Bung an ad into the incredibly cheap (free) Express classifieds and off-load it onto some unsuspecting reader. In this way you may be able to raise the wind to purchase - second hand - a monitor suitable for use with the humble Spectrum

HELP!

Jolly Roger

I would be grateful if you could help me with a small problem I have with the game *Rogue*. I own an Amstrad PC1512 with twin drives, colour monitor and 32Mb filecard and often play *Rogue* on this machine.



• Spectrum: problems fitting Big Blue's monitor

I have discovered that although it is possible to save an uncompleted game during play, I can't seem to find any instruction on how to load a game I've previously saved and the help file doesn't seem to include this.

Also, how do I get the game *Astro to work* on an Amstrad PC1512? It either fills the screen with squiggly yellow lines or crosses. I have obtained copies of this from a public domain catalogue and two other sources but all the copies behave the same way. I hope you can offer me some advice on these two problems.

Richard Meredith, Poole, Dorset.

• Obviously, you're currently enjoying the pirate version of the game *Rogue*, other-

wise you'd have access to correct instructions. I'm afraid that unless I receive notice to the contrary in the next few days I shall be forced to pass on your name address to the forces of FAST (Federation Against Software Piracy). Let this be a warning to other pirates attempting to solicit information from squeaky clean Uncle BlackBeard, sorry, Techtip, to help them in their nefarious doings.

HELP!

Go forth

I recently had the extreme good fortune of being given a Jupiter Ace computer from by a friend who'd given up computing (after owning the *Jupiter Ace*, I should say that was a wise move - Uncle Techtip). The problem is I believe the machine

BUG OF THE WEEK

Whilst using the *Quest* database on the Beeb, I discovered a little buggette. Input from the keyboard is not properly vetted, allowing all sorts of silly effects to take place. For example type:

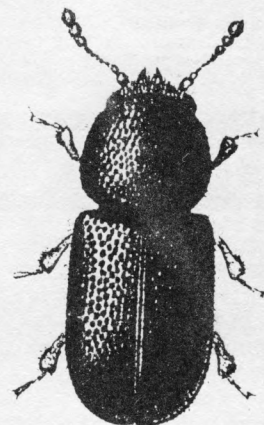
```
Ctrl+V
2
Ctrl+Q
Shift+f2
```

Now hold down the Ctrl key and type:

```
L,Y,E,f1,B,@,B
```

See what I mean? From the middle of a - supposedly - serious database package, you have just changed mode, corrupting all the data, turned the screen an appealing shade of green and placed a white line in the bottom left hand corner. With some experimentation it should be possible to draw full colour masterpieces...

Rafael Jay, Bath, Avon



• *Modus corruptus*

The larvae infest data files and can cause sudden destruction of screen RAM when they hatch

uses the Forth programming language rather than BASIC but I don't have any manuals or information to confirm this or to glean any information as to how to program in Forth. Can you tell me if my computer is Forth based? Also, is there a user group anywhere in the country? I would very much like to contact other owners to discuss the computer and swap hints and tips. Thank you for your help.

Maurice B. Forster, Gayton, Cambs.

• The Jupiter Ace, huh? The computer does indeed use Forth as its in-built programming language and is, to my knowledge, the only machine ever to do so. Forth, once you're acquainted with reverse polish notation and its stack-based structure is a very simple and effective programming language to use. Have a rummage in the computer section of any high street book store for a suitable text to explain the language.

There is a user group devoted to the Jupiter Ace. Contact J. R. Charter, 27 Regent Street, London SW1. Tel: 0246 37555..

HELP! Records, fields and files

At the moment I am busy studying on a computer studies course at my local college of higher education. We have just started to learn about the finer points of spreadsheets and databases and although I'm getting to grips with the concept of the spreadsheet, I'm afraid I'm completely lost as far as the database is concerned. Records, files, fields none of it makes any sense, and the more I try to become acquainted with it all the more confused I become. If you, in your infinite knowledge, (well thank you - Uncle TT) could explain this to me in a clear way, I would be very grateful.

I. Hollender, Cox Green, Shropshire.

• With such unstinting praise how could I possibly refuse your cries for help. The database consists of files. A file can be thought of as a large (electronic) box. You can open the lid and deposit data in the box. Obviously if the data was put into the file any old how it would be pretty difficult to get it back out again in a sensible way.

To overcome this problem the file is divided up into distinct parts known as records. Each record represents one

complete item of data that you wish to store in the database file. Now for a digression. Have a think about what constitutes the kind of information you'd want to store in a database.

For example, the Smith Insurance company wants to store information about its customers in a database. Each customer has a name, an address, telephone number, maybe a date of last payment etc. Rather than store each piece of this information as a record, thereby taking up lots and lots of record 'slots' in the database, all related information - name, address etc. - can be stored together in one single record. To do this, the record has to be divided into 'fields' (in the same way that the database is divided into records). All fields of a record are related and describe one piece of information.

So, we have a collection of fields describing one event, person or whatever, which make up one record, and a collection of records, which make up a database file. Fairly straightforward, right? The database itself is used as a convenient repository of data that you want to store in an orderly form and have easy access to.

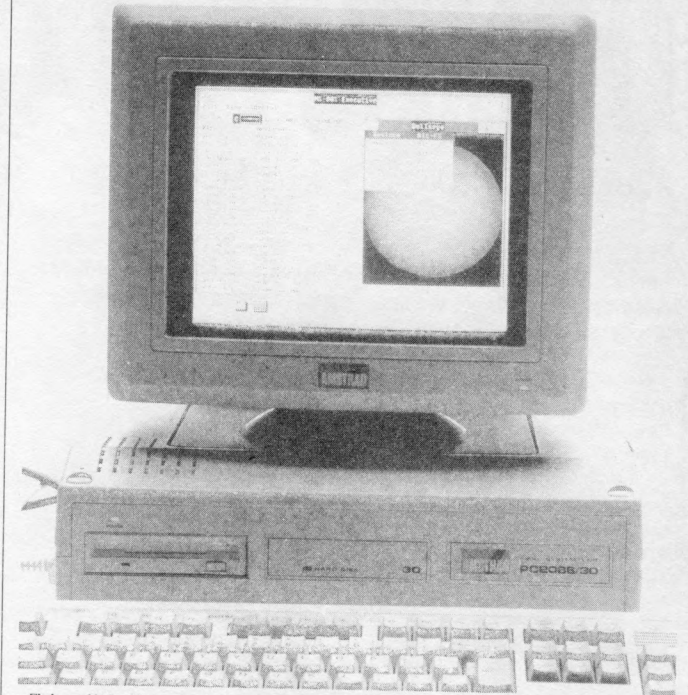
HELP! Two computer family

I have both an Atari ST and an Amstrad PCW. I've owned the PCW for several years but have only recently upgraded to the ST. The problem is that I have hundreds of files on three inch Amstrad disks that I would like to transfer to and edit on the ST. I'm afraid I don't know very much about serial connections. Could you please explain in an easy way if there is any way I can transfer the files easily?

M. Orissey, Manchester.

• A problem about which I receive a considerable amount of mail. To start with you'll need a serial port add-on for your PCW. Then you'll need to make up a lead. First, purchase two standard 25 way 'D' connectors (female) and a length of cable containing at least six wires. All items are freely available from the Maplin catalogue or any reputable electronics supplier. You'll also need a soldering iron rated at about 15 watts and a multimeter. The latter items will cost you about £10 each.

Connect one of the D plugs in the following way: a wire each to pins 1, 2, 3 and 7. Next, connect the second D plug in the following manner: the wire from pin 1 to pin 1, pin 2 to pin 3, pin 3 to pin 2



• Fitting a V30 will accelerate the Amstrad

and pin 7 to pin 7. These pins provide the protective ground, transmit, receive and signal ground signals respectively. Finally, test the cable for secure solder joints with the multimeter.

You now have a cable which will allow the two machines to communicate via their respective RS-232 serial ports. Now you're going to need some communications software to control all the hardware you've been building. Because the Atari ST is a popular home computer there is a vast quantity of free comms software available from the public domain. And the PCW's CP/M operating system means that it too has an enormous collection of PD to rely upon. Have a rummage through the Express classifieds wherein you'll discover a large quantity of PD libraries advertising their wares. Acquire comms software for both machines which supports the X-MODEM file transfer standard. Connect the machines together with the RS-232 cable, boot up the software, select X-MODEM and transfer your files...

HELP! Faster chip

I own an Amstrad PC2086 computer. Can you tell me whether replacing the 8086 central processing unit chip with an NEC V30 would make any significant difference to the performance of the machine?

M. G. Miller, Sheffield.

• The NEC V30 will indeed increase the performance of any machine in which it's used as a direct replacement for the 8086.

HELP! Got a new Tosh

I have read your magazine from issue 10 (when I first found it) and find it most enjoyable. I presently own a Toshiba HX-10 MSX which I find is one of the best eight-bit machines around.

I'm presently trying to finish the *Maze of Galious* and am stuck in

world 5 at the deep water. I'd be very grateful if anyone out there has any hints! The only items I'm missing are the oar, the carpet, the trumpet shell, the vase and the dagger. I'd be very grateful for any hints regarding these as well. Finally, I enclose a routine to give infinite lives on *Hunchback*. I'm afraid I can't claim complete authorship for this, but some people may not have seen it before.

```
BLOAD"CAS:"
POKE 28370,0
DEFUSR=GH9000
A=USR(0)
```

Type in the above and run it. The cassette will then start to load.

Tony Fryer, 59 Chescombe Road, Yattton, Avon BS19 4EU.

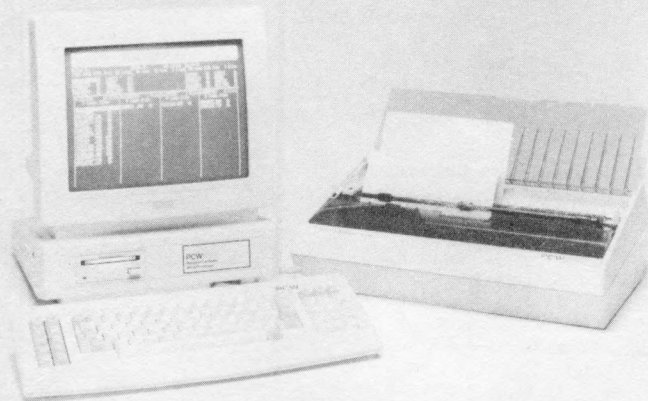
• Thanks for the *Hunchback* wrinkle. If anyone can help this guy with his *Maze of Galious* problems drop him a line at the above address.

HELP! Book review

Could you please recommend a general computer studies text book for me? I am about to start a computer science course and need to try and learn something before I begin the course. I do know a little about computers so don't need a complete beginners book but rather an introduction to the layout of computer systems. Any help would be much appreciated.

B. Britton, Dulwich, Sth. London.

• I have just the book for you! One only, going cheap. Not five, not three pounds ten, but to you Mrs, only five and a tanner (oh, shut up!). Rush out this instant and invest approximately 15 quid in a copy of *Structured Computer Organisation* by Andrew Tanenbaum and published by Prentice-Hall International. "It's really unputdownable, a smashing read" - *The Sun*.



• The PCW: transferring files to the ST is no problem, as long as you have a soldering iron and plenty of money

COMPUTER CHAOS

More true life computer anarchy from the archives of Mel Croucher...

M.O.D. Whitehall.

Five audio cassette tapes are removed from the Ministry of Defence word processing department. They contain highly classified data due to be encrypted into the 'War Book': a document which tells the Powers That Be what to do when World War Three begins.

Over the next 12 months, 115 more tapes disappear. Three years later, the War Book is needed for an exercise, and a major security alert blows up when it cannot be traced. The 'spy' is traced to the computer department that deals with word processing. His flat is raided and sure enough, fifty of the cassettes are found.

Although the culprit resigns from the M.O.D. and is charged under the Official Secrets Act, all charges are dropped to avoid any publicity. The publicity that is

to have been avoided is as follows: the M.O.D. have no back-up tapes or disks, internal security fails to detect that the tapes are being removed on a regular basis, the War Book does not exist for three years before anyone notices and finally, the cassettes have been put to a subversive purpose.

They have all been taped over with bootleg rock music, except for one which contains a lesson in holiday German.

(Daily Telegraph)

MIR, Outer Space.

On September 7th 1988, the Soviet-Afghan crew of the Soyuz-TM-5 go for re-entry into Earth's atmosphere. The computer refuses to obey, and tries to hijack them back to the MIR space station. When the software is checked out, it is discovered that the computer believes the crew to be a Soviet-

Bulgarian mob blasted off the previous June. Soviet officials admit that not only was the command computer fed the wrong data, but the crew were in the wrong space craft.

(Aviation Week)

Bogata, Colombia.

A transfer instruction for \$13.6 million is received by a London bank in May, allegedly from the Director General of the Colombian National Bank. It is destined for an Israeli bank in Zurich, but gets diverted to New York and ends up in the account of Robert Russel.

\$8 million is transferred to another Israeli bank in Panama, where it gets collected in \$500 notes, and the rest is telexed to Miami and withdrawn. The whole operation is achieved via a Siemens EDX-200 and a home-made plugboard.

The operation remains undiscovered

until the following October, when a non-standard toggle switch is spotted by a telephone engineer.

An investigation is launched into this massive fraud, but grinds to a halt when the computer disappears, and the investigating Colombian Senator and Attorney both suffer rather unnatural deaths.

(The Internationalist)

HMS Hermes, South Atlantic.

While the rest of the crew is engaged in fighting the Argentines, the 34 year-old Chief Petty Officer in charge of the Pay Office accounts computer is engaged in other enterprises.

He diverts cash payment slips before they can be entered onto the computer, and the loot ends up back home to cover a series of debts that he has run up.

When hostilities cease, the flagship's crew look forward to spending the £12,000 cash float on a few beers, but find the coffers somewhat depleted.

The Officer is busted, court martialled and dismissed from the Senior Service. The computer software is rewritten. The patriotic press bury the story.

(Navy News)

NEXT WEEK ■ NEXT WEEK ■ NEXT WEEK

On sale Thursday September 7th – Don't miss it!

In the great second issue of...

SHOPPING EXPRESS

- 32 pages of the best deals around
- Unique, fact-packed buyers' guides – different every week
- Pages crammed with bargains from Britain's leading mail order advertisers
- The most up to date products and prices guaranteed
- Free reader ads – the fastest way to sell
- Revised voucher scheme guarantees greater savings

If you're serious about buying, you can't afford to miss the Shopping Express!

Next week's buyers' guide: **Word processors, databases and spreadsheets** The 50 best tested and evaluated

A REAL EDUCATION

Express looks at the best in learning software on all the machines

ACTING TOUGH

How the Data Protection Act is screwing up the poll tax

PLUS...

- Absolute Beginners – more jargon-free expertise
- Multimedia – amazing happenings in London
- A section for your machine

WITH...

Lively letters, terrific tech tips, fierce features, racy reviews, brilliant bargains, juicy jobs, value added vouchers, and hard-hitting humour

AND ALSO...

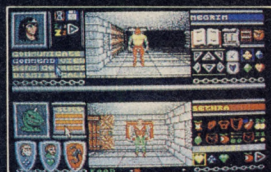
The very latest in news and comment on today's computing scene. Every week in New ComputerExpress

**Only
58p!**

Bloodwych



**ARGUE! BARTER!
LIE THROUGH
YOUR TEETH!!!**



Atari ST Screen Shots



Amiga	£24.99
Atari ST	£24.99
Spectrum (tape)	£9.99
Spectrum (disc)	£14.99
Amstrad CPC (tape)	£9.99
Amstrad CPC (disc)	£14.99
Commodore 64 (tape)	£9.99
Commodore 64 (disc)	£12.99

As the people of the Bloodwych awake to a new dawn, they find a stranger in their midst – from one of many races he has come. His task; to halt the demon that lies dormant within the Castle of the Bloodwych.

Unification of the Crystals of Sanguis will secure the Behemoth in his lair for all eternity. Should they remain separate, then he shall rise to bring darkness into the world.

This unique role-playing fantasy game allows greater interaction with the environment than has ever been seen before. Argue, barter, negotiate – even lie through your teeth! The fully implemented personalities of all the characters in Bloodwych allows a rich style of role-playing that has only been dreamt of.

With one or two player simultaneous mode, this is the game that you've been waiting for. Bloodwych for those that dare!



EVERY 'FIN' FOR YOUR COMPUTER

CORPORATE BUYERS WELCOME
 Official purchase orders accepted from Government,
 Local Authorities and PLCs

FULL AFTER-SALES SERVICE
 On-site maintenance contracts; installation and training;
 networking.

EXPANDING SHOWROOM NETWORK
 Friendly personal service and sales advice.

ALL GOODS GUARANTEED
 Free 28 days Customer Assurance Warranty on purchases
 over £1,000.

SCANNERS

Logitech Scanman - Great Software Makes This A Best Buy. £179

DISKETTES

Computer Express 5.25in DS/DD 48tp disks box 10 £10.60
 Computer Express 5.25in DS/DD 96tp H-Density box 10 £16.90
 Computer Express 3.5in DS/DD diskettes box 10 £14.70
 Allpop Locking 5.25in Diskette Box (holds 60) £16.32

MODEMS AND COMMUNICATIONS

Callbox - Automates Your Telephone Work £149
 Pace Linnet V21/V23 Internal Modem Autodial/Autoanswer £101
 Miracle WS4000 V21-V23 Modem £139
 Miracle WS3000 V22bis Professional Modem £377
 Miracle Keypad 3000 Internal Modem V22bis £183
 Amstrad MC2400 Internal Modem V21/V22/V23 £239
 Amstrad SM2400 External Modem V21/V22/V23 £16
 RS232 Serial Modem Cable.

RIBBONS

Epson FX800/LX800 Branded (also MP165, Juki 5510) each £5.00
 Compatible FX800/8500/LX800 Ribbon each £2.97
 Compatible Panasonic 1080-1081 Ribbon each £4.99
 Star LC-10 Black Ribbon each £4.99

This is just a small selection of our wide range.
 NOTE: Minimum quantity for mail order ribbon orders four units.

CABLES, SWITCHES & STANDS

IBM & Compatible Centronics Parallel Cable (Round) £13.99
 Two-Way Printer T-Switch choose Serial or Parallel £29.99
 SpaceBase Adjustable Floor-Standing Printer Stand £74.99
 Universal Printer Stand - Holds Paper Under Printer £9.99

FAX & TELEX

Procom Telex 20 Plus - Converts Your PC into A Telex £629
 Express Telex with Printer - Complete System £1649
 Quadram JT Fax Card - Converts Your PC into A Fax £249
 InterScan Desk Top Fax - A Gift At The Price £749

NETWORKING

Ethernet Cards - Full 10 mbits per Second £249
 3-COM - Full Range of Cards and Software Call £569
 Novell ELS - Entry Level Professional Networking £399
 Invisible Net - Ideal for MCA Machines and Fast £389
 Sage MainLAN - Fast and Low in Cost (2 models).

TAPE BACK-UP

Archive 40Mb Internal Tape Back-up (very fast) £299
 Inwin External & Internal Back-up 20/40/64/80/120 Mb From £359

ADD-ON BOARDS

AboveBoard - Intel with 512k installed. £356
 AboveBoard - Intel AT 286 with 2Mb installed. £945
 Expansion Card - Everex Mini Magic RAM (chips extra) £163
 Graphics - Paradise Auto-Switch EGA-480 Card £197
 Graphics - Video Seven VGA Card £102
 Graphics - Everex EverGraphics Plus (Clone Hercules) £649
 Emulation - AST 3780 Terminal Emulation Card £579
 Emulation - AST 6251 Model 12 Remote Emulation Card £299
 Multifunction Card - AST SixPack Plus 384k memory, RAM Cards - AT & XT RAM expansion always in stock. From £89

32Mb FILECARD

Need extra hard disk storage on your PC? Fit a 32Mb hard card in a spare slot and carry on computing! Can operate as drive C: or D: on your PC to give a full 32Mb of extra storage. Fast access times of 65ms sec. £221.73

LOTUS 1-2-3 Version 2.3

This market leading Spreadsheet again moves ahead of its competitors. The long promised improvements are incorporated into Version 2.3 at anytime now. Still easy to use, but now with impressive graphics. Multiple Spreadsheets can be linked together. Version 2.3 for XTs and 8086 based PC. £274.89

LOTUS 1-2-3 Version 3

The new Lotus 1-2-3 for 386 and 286 computers. 3 dimensional spreadsheets to extra power to your analysis. Can read all other Lotus files to make your transition easier. Easy graphics and immense power. £281.99

EPSON LQ850 and LQ1050

These hot favourites from Epson are the most popular 24 pin printers on the market. At speeds of 220cps draft and 73cps in 24 pin letter quality mode, they're on everybody's short list. This is one buy you won't regret. Remember, they have a built-in tractor feed and paper parking as standard. £599.00
 LQ850 £471.00 LQ1050 £429.00

ALDUS PAGEMAKER V3

Pushing Ventura hard for the number one DTP slot PageMaker now offers support for long documents, automatic text flow, 20 style sheets, support for spot colour, bitstream custom font generator, and near typeset quality output. £499.81

Official purchase orders accepted from Government, Local Authorities, Universities & PLCs. Others with prior approval only. All prices and specifications subject to change and availability without notice. Delivery charges extra. All items guaranteed. No returns or repairs accepted without a Returns Authorization Number obtainable from our Technical Support Department. Defective dead on arrival (within 28 days from purchase) merchandise repaired immediately at our carriage expense. Carriage on warranty repairs is paid by the customer. Non-defective credit returns subject to a 15% restocking fee.

FOR FULL PRICE LIST PLEASE CALL
 EXPORT AND TRADE ENQUIRIES WELCOME
 TELEPHONE & MAIL ORDERS WELCOME

dBASE IV

At last it's here! The new version of the UK's most popular Database software. Lots of new features to make all its competitors obsolete (so Ashton Tate hope!). New pull down menus make it easy to learn. £392.52

MICE FROM MICROSOFT & LOGITECH

If you need a mouse the Microsoft bus or serial version are the ones for you! Now with free software giving you a choice of Mouse Menus and Paintbrush, or Windows and Paintbrush. £99 to £109
 Choice of Logitech Mice to fit on the Serial Port or in a Bus Slot. Logitech M7 Serial - This 3 button opto-mechanical mouse comes complete with software and LogiMenu. £79

MICROSOFT WORD 5

The word is out on how to make professional output an everyday event! The advanced features of Word 5, like style sheets and PageView, help to speed you through both large and small jobs. On-line tutorial and 'undo' command makes it ideal for first time users. This is the package to use for producing contracts, 130,000 word spell checker and Thesaurus. Supports almost every printer or laser. £275.64

MICROSOFT EXCEL

A new generation spreadsheet for high performance 286s and 386s. Combines a powerful spreadsheet with a fast flexible database and extraordinary business graphics (44 different charts!). Intelligent recalculation, linked worksheets, and a full array of auditing tools make Excel stand out from the other spreadsheets. Don't just take our word for it try it for yourself or ask an Apple user. £275.82

VENTURA

The professional's DTP! Produces quality documents easier and faster. Contains Style Sheet and can import files from AutoCad, GEM, Lotus etc. Full WYSIWYG with drop down menus. Try it with a Xerox 4020 printer to print your output in colour. See our Timeworks advert below for new low cost fonts for Ventura. £508.71

TIMEWORKS

An excellent package for anyone wanting to make a start in DTP for a very modest sum. Timeworks is very popular, and has good telephone support from the manufacturer and ourselves. £95.00
 NEW low cost fonts for all DTP. 9 super faces to choose from. Just £29.00 each.

HP DESKJET PLUS

NEW. Now even faster! Still superb Laser quality but at more than less per minute. Print resolution of 300dpi for both multiple font text and full page graphics. Can be used like a laser or like a normal printer with print speeds of 320cps in draft and 160cps in true Letter Quality. Built-in cut sheet feeder and 16k buffer. A snip at £619.00. DeskJet standard 240cps draft, 120cps LQ. £540.00

SUPERCALC 5

The new, improved alternative to Lotus 1-2-3 and its clones. Many new features make this one worth considering. They say it is everything Lotus should have been. Easy to use and quick, good graphics, it may be number two, but it tries harder! £221.82

SMARTWARE II

The easy to learn and use Smart System has greatly improved! This popular integrated package now has a new word processor with thesaurus, faster spreadsheet handling, a fully relational database to give you faster easier access to your data, and enhanced graphics for all business applications. It will drive more printers and displays, including VGA, and to make you life easier there tutorials, improved instruction materials and manuals. The old Smart System was good - the new one is absolutely brilliant. £379.27

EPSON LQ2550

Impressive but not expensive when you consider all its features, this true letter quality speeds through printing 1400cps draft, 133cps LQ. You won't find a printer to beat this one. 24 pin printing, 132 column with built-in tractor feed, 380cps graphics, up to 5 copy multipart stationery printing. Colour as standard. 7 resident fonts including a script for very personal letters. £899.00

SPECIAL PCAX2 EGA OFFER

At last! A fast (12MHz) AT compatible machine at a price you can afford. This Special Offer comes bundled with MS-DOS, Keyboard, 14in EGA Colour Monitor and 20Mb base unit. All you need in a small size footprint. £1249.00

EPSON AX40 VGA SPECIAL

A 80286 chip AT compatible machine with a new 12MHz processor speed. A fast 28 msec 40 Mb hard disk. 6 expansion slots ready for memory expansion when OS/2 seriously arrives. Our special deal comes complete with VGA card and 12in VGA colour monitor. £1799.00

EPSON FX850 and FX1050

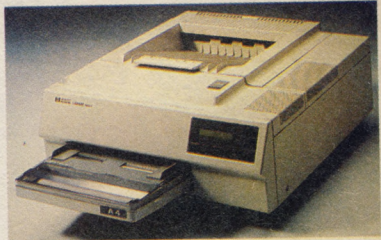
The world's longest running printer series. These 9 pin workhorses will go on and on. Now with 10% more speed to give 264cps in draft and a smart 54cps in correspondence quality. The FX1050 can deliver up to 272 characters per line in condensed print. Single button switching between continuous and single sheet paper feeding. Print buffer for up to 4 pages. £359.00 FX1050 £429.00
 FX850

NEC P2200

At last! 24 pin quality that everybody can afford, with NEC's renowned reliability to match. This little baby cruises along at 168cps in high speed, 140cps in standard and a really nippy 56cps in 24 pin letter quality mode. This printer should be on any discriminating buyers list. £289.00

HEWLETT PACKARD LASERJET SERIES II

SUPER VALUE



The quality of Hewlett Packard Lasers make them very popular. 8 page per minute, with the first copy out in 13 seconds. Works with all popular software at 300 dots per inch. Good crisp dense prints give a feel of quality to all your output. Ideal for producing business letters. Has a standard 512K RAM which can be expanded upto 4Mb for faultless full page graphics. Large choice of additional fonts for special output. Now with 12 months on-site maintenance at no extra cost, although we know from our large number of satisfied customers that you won't be needing it.

£1484 New Double Sided printing LaserJet IID.
 £2174 Automatic Envelope Feeder for LaserJet IID.
 £245

db PUBLISHER



True DATABASE PUBLISHING you have always dreamed about. Great for Price Lists, accounts, directories, reports and merged letters. Imports data from all popular databases, spreadsheets, word-processing and graphics packages. Flexible, user-friendly and very powerful. Prints on any HP compatible laser, Epson type printer or true typesetting equipment. Requires a 286 PC, mouse and EGA/VGA monitor. If you produce regular items involving numbers or data then don't dream any longer, call today. £395.

TANDON PCA-sl



Tandon computers now offer the best value and reliability around. The latest addition to their fast selling range is the Tandon PCA-sl. This surprisingly inexpensive slim-line machine is ideal for business, educational and home use. AT style, 12MHz processor, and plenty of room for future expansion. Choice of Hard Disk size and monitor (Mono, EGA or VGA) to suit your particular needs and budget. Standard 1.2Mb 5.25" floppy but we can add a second 3.5" 720K drive. 640K RAM, 102 key AT style keyboard.

Tandon PCA-sl single floppy Mono Monitor. £943
 Tandon PCA-sl 20Mb Hard Disk Mono Monitor. £1084
 Tandon PCA-sl 40Mb Hard Disk 14" EGA Colour Monitor. £1499

CALL 0727 37451

OVER 2,400 ITEMS TO CHOOSE FROM
 FULL AFTER SALES SERVICE
 CREDIT CARDS NOT DEBITED UNTIL DESPATCH

NATIONWIDE SHOWROOMS

NORTH LONDON • 99 PARK STREET LANE, BRICKET WOOD, ST ALBANS, HERTS AL2 2JA • (0727) 72790
 MANCHESTER • 85 WASHWAY ROAD (A56), SALE, MANCHESTER, M33 1TQ • 061-973 2513
 WEST LONDON • 304 KINGSHILL AVE, HAYES, MIDDLESEX • 01-841 8744
 BIRMINGHAM • 1046 COVENTRY ROAD (A45), HAYMILLS, BIRMINGHAM, B25 8DP • 021-772 5212

ALL PRICES EXCLUDE VAT & DELIVERY

SHOWROOM OPENING HOURS: Monday-Friday 9am-6pm Saturday 10am-5pm
 HEAD OFFICE: COMPUTER EXPRESS LTD • CAXTON CENTRE • PORTERS WOOD, ST ALBANS, HERTS, AL3 6XT • (0727) 37451 • FAX 0727 50819

POWER STATIONS



Amazing new machines offer computer, fax phone, touch and printer all

- The new wave computing in Ja



INCREDIBLE

Console piracy arrive

SECTIONS FOR Amiga • Atari ST • PC • PCW • Spectrum •

Win a £100 stack of software!

To celebrate the launch of Shopping Express, we're offering free advertisements to you, our readers. So you now have a superb, zero-risk way of selling your unwanted equipment or speaking directly to Britain's most active computer users.

We're especially keen to attract ads in categories which will benefit other readers and so we'll be awarding a selection of software worth over £100 to the best ad received in any of the following categories:

- **HELP OFFERED** (Just specify the areas of your computing expertise, eg. particular software packages and machines, together with address or phone.)
- **MINI-TIP** (see how good a tip can you fit into 30 words)
- **VRUS WARNING** (Found a bad one? Let others know.)
- **BUGS DISCOVERED** (Specify the software and the problem)
- **HUMOUR** (Must be computer-related and printable)

Now turn to the back section of this card and fill in your ad!

POWER STATIONS



Amazing new machines offer computer, fax, phone, touch screen

ABSOLUTE BEGINNERS

Your no-nonsense guide to computing begins today - page 14

3D WONDER

Why business graphics needn't be dull



page 49

STAR PRINTERS

- Star's new 24 pin reviewed page 12
- Three new low cost models on the way page 3

ALSO INSIDE EXPRESS

- PC expert systems
- The best in graphics
- Game pokes and cheats
- Terrific tech tips

Post your free ad today!

From: Offer closes September 20th, 1989

Name _____

Address _____

PLEASE NOTE

- No trade ads accepted. This service is for private individuals.
- Your advert will appear in the next available issue of New Computer Express - we can't guarantee a specific issue.
- We reserve the right to omit or edit adverts which are unsuitable for publication. We will not accept adverts which could encourage software piracy. Please sign this declaration. I believe my advertisement to be legal, decent, honest and true.

Signed.....

Affix stamp here

To: Classified Ads
New Computer Express
4 Queen Street

Bath
Avon
BA1 1EJ

and even win software!
reverse side.

BBC • MSX • Archimedes