Issue 132 • 18th May 1991 • 88p

**WIN £500 of AMIGA software** See page 58

# NEW COMPUTER EXPRESS

FIRST NEWS • FIRST REVIEWS • BEST BUYS • YOUR WEEKLY GUIDE

## AMIGA

## CDTV UPDATE

THE FIRST ADD-ONS AND TITLES EMERGE

## ATARI

## MIDI MAYHEM

ALL THE NEWS FROM THE UK'S TOP SHOW

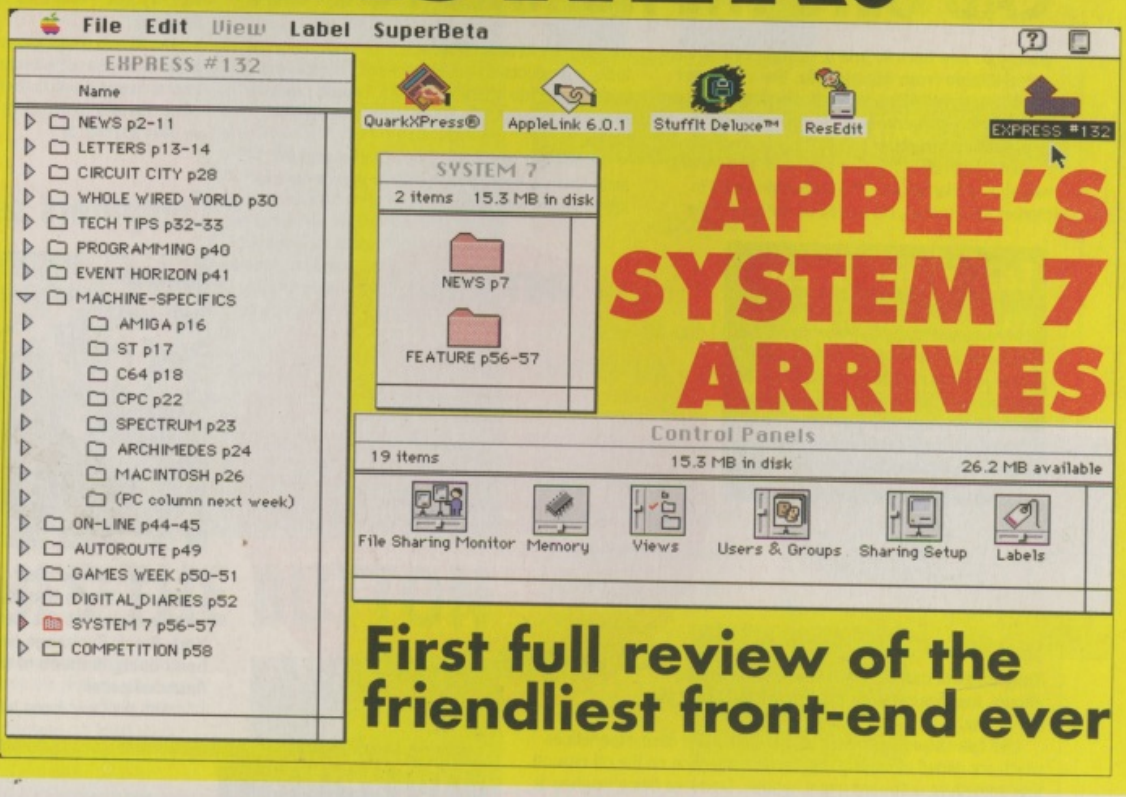
## GAMES

## PREDATOR 2

THE HUNT CONTINUES **PLUS** – A NEW TETRIS!

# WINDOWS SMASHER!

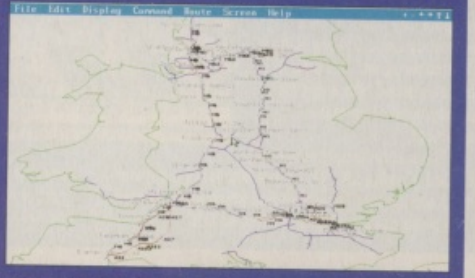
WORLD EXCLUSIVE SEE PAGES 7,56,57




## APPLE'S SYSTEM 7 ARRIVES

**First full review of the friendliest front-end ever**

## AUTOROUTE 4



IS THIS THE ULTIMATE PC ROUTE PLANNER? – p49

## DIGITAL DIARY

DO YOU NEED THE BEST IN ORGANISERS? – p52

9 770957 064028 20

future PUBLISHING Your guarantee of value

# Frontend

## CAD GETS THE HUMAN TOUCH

**What you see here is just a sample of the output available from *Mannequin*, the computer aided design (CAD) program which generates true human movement (first reported in *Express* last week).**

Ken Goodman is the vice president and general manager of HumanCAD, the company set up to market the product. He explained the gap in the market: "We created *Mannequin* because many of today's products do not fit the needs of individual customers. Too often customers tolerate products that are too small, too large, uncomfortable, or unsafe."

*Mannequin* allows designers to incorporate actual human figures into projects in order to create products with humanity. ■

## Easing disk-stress

A UK company called Psych-cess is distributin software called *Total Stress Management System* for PCs and Macs, which comes, of course, from the US. The company claims that it replaces the Uk's traditonal stress reliever ... "the pill bottle'. Price is £105.75. Phone 021-323 278, if you're not too stressed out that is. ■

## GET REAL! Free computers!

American multi-national AT&T is giving away fully equipped computer laboratories to 47 American colleges. This philanthropic gesture will cost the company a staggering $4.2 million.

AT&T takes charity seriously, having had an Equipment Donation Program since 1984. However, this system will only be supplied on an 'as needed' basis.

The new initiative will provide off-the-peg labs comprising 18 AT&T 6386SX/EL PCs linked via a local area network (LAN) to a host server, to selected educational establishments. Of course all the equipment will have AT&T plastered on it. ■

GET REAL!

## Show starters or stoppers?

**Telly addicts can now get transcripts of live shows, just hours after they go off air, sent via PC or fax.**

Live talk shows and newscasts are adrenalin filled experiences which are aimed at holding the viewer's attention on the off chance that something untoward might happen. David Ike being laughed at on Wogan, and Grace Jones physically lashing out at the late Russell Harty are just two fine examples! Now you can use your PC to pour over the goings on, and analyse the contents.

An American company called Comtec, is offering PC users, the chance to sign on to what it calls the Topic Alert service. You pay $95 a month and are linked into a database of scripts which date back to 1968.

The user is treated to daily alerts if a topic of interest has come up in shows which they have missed. The data can be automatically downloaded, via fax or PC.

For more information call: 0101 203 964 0096. ■

*• If the Americans have their way, you may be getting Tel on your fax!*

## Lucy in the Sky with Mindscape

If Pete Best owns an Amiga, a CDTV or a Nintendo Entertainment System (NES) he's probably kicking himself now. For those people who don't know, Mr Best was the man who was kicked out of the Beatles and replaced by Ringo. The reason he might be so narked is that Mindscape has bought the rights to 12 of the fab four's greatest hits for use on the teach-yourself-piano system, the Miracle.

The songs are: *Michelle, Here There and Everywhere, And I Love Her, She Loves You, (We All Live in a) Yellow Submarine, Strawberry Fields Forever, You've Got to Hide Your Love Away, Norwegian Wood, She Loves You, Hey Jude, Penny Lane,* and the druggy *Lucy in the Sky With Diamonds.*

The Miracle is a plug-in musical keyboard, developed in the United States as an interactive teaching aid for budding pianists. Plans are now afoot to extend it both to the PC and Amiga. A CDTV version is also in the offing. The NES version costs £249. For more information, call Mindscape on 0444 831545. ■

## Computers send dour Dow down

**If in doubt, blame the computer. That's exactly what 'experts' on the New York Stock Exchange have been doing in much of the financial press.**

With the Dow Jones falling with sickening regularity of late, a call has been going up of "It's the automated computer trading!". Makes you wonder what they blamed for the Wall Street Crash of 1929 – the ticker-tape machine, perhaps? ■

## LIVERPOOL RESOURCES

Liverpool City Council, once home of dynamic Del-boy Hatton, is in trouble again. This time it has been issued with a writ for non-payment for computer equipment.

The controversial council is accused of owing £9,137.72 to a Middlesex computer firm, Kalle Infotec. The equipment which was provided is still being used in council offices. An LCC spokesman said: "We will either take the matter to court or make an out of court settlement depending on what we see fit". ■

# SIMON SCORES ROYAL MEDAL

**The 18-year-old lad pictured here has just been awarded one of only 35 Royal Academy of Arts (RSA) medals given world-wide.**

His name is Simon Robinson, his bronze medal is for achievements in computer literacy and information technology. Not only does Simon have to cope with the vagaries of a PC at the Barnsley Youth Development Centre, he also suffers from Cerebral Palsy.

Simon did not even know that he was being nominated for the award. Terry Connolly, the centre's training manager, carried out that duty and said: "Simon's disability means that it takes enormous patience for him to key stuff into a computer".

Simon, obviously pleased to have received the award said: "It's brilliant!" ■

## Police point the finger at NEC

**Police units worldwide can now buy into the Fingermatrix system which has become a staple of US law enforcement agencies. NEC has agreed a marketing initiative which could see every detective from Charlie Chan to Inspector Morse, via Clouseau using the system.**

Fingermatrix is used by officers as they book suspects. The possible perpetrators place their digits on a scanner which then prints the image to an FBI scale card. The data is then digitised and sent to the central mainframe on which are stored millions of other prints. Not only can input be achieved directly, matching is also carried out via the computer.

Although no announcements have yet been made about a PC version of the system, parochial police forces around the world are waiting with baited breath.

Forces in the UK may also be able to link Fingermatrix into the Polnet system to which the Government is considering paying a £5 million grant.

Polnet is an on-line system used in Hampshire at the moment. The additional funding, to which local MP and computer crusader Michael Colvin is giving his full backing, would save the work of 400 policemen a year. ■

## GET REAL! It's a laugh

A computer system has been designed to help people suffering from Parkinson's disease to smile again.

Research has shown that smiling is the most important facial expression in any relationship. It is a sad fact that many sufferers from depression, Parkinson's disease, strokes and speech difficulties, find it difficult to smile.

The new system analyses video-taped images of people smiling – the patient is filmed and the data is taken from these tapes and incorporated into a mathematical model of the face held on computer. The model can then be re-structured to turn a non-smiling face into a happy one on screen.

When the patient is shown their image, all they then have to do is to copy it and they're smiling.

It's certainly a step forward from the old system... which involved attaching electrodes to the victim's face. ■

GET REAL!

# BUSH PUSHES THE BUTTON

**Just before US president George Bush was admitted to hospital for an irregular heart beat, he was learning how to turn a computer on.**

Unlike his wife, and First Lady, Barbara, who carries a computer with her wherever she goes, George is still getting to grips with the basics of digital technology.

*• Did the Super Mario Bros save the world from Dan Quayle?*

The new Whitehouse IBM PS/2 is the presidential tutor, lesson one being how to switch the machine on. Next up is getting to grips with *WordPerfect* 5.

Bush's long term plan is to get Whitehouse staff as computer literate as their predecessors were about tape recorders. So far it does not appear to be paying dividends. At a recent press conference, senior Whitehouse spokesman, Marlin Fitzwater, responded to a question about the Oval office PS/2 with a bemused: "What is a mouse?"

**STOP PRESS:**
As *Express* was going to print this week, we received a press release from Nintendo cashing in on George's recent spell in hospital. It stated: 'Game Boy relieves presidential stress – Fast!'. It continued: 'Nintendo's hugely popular hand-held video game system was one way to help the President recover after his heart-scare while jogging at Camp David'. ■

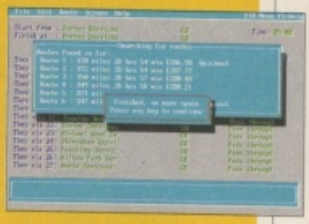
*• George Bush – Game Boy helped him get over his heart scare.*

dFrontendFrontendFrontendFront

# CONTENTS

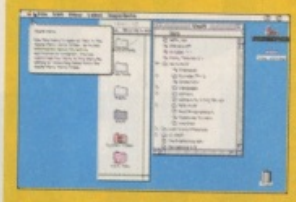
## REVIEWS

**The latest PC route planner to hit the streets**
*Autoroute Plus 4* explores some new territory – page 49



**Electronic Organisers muscle in**
Throw out your heavyweight Filofax and get yourself a lightweight digital organiser – page 52

**Is this the World's friendliest frontend?**
System 7 is finally here – page 56



## EVERY WEEK

**News** – pages 4-11

**What's new?**
A taste of all the best software and hardware – pages 11

**Games Week**
Hot tips and news, plus *Tetris*, *Predator 2* and *Switchblade II* reviews – page 50

**Competition**
Your third chance to be a winner in our £5,000 Amiga software giveaway – page 58

SHOPPING EXPRESS


| | | | |
|---|---|---|---|
| Letters | 13 | Circuit City | 28 |
| Amiga | 16 | Whole Wired | |
| ST | 17 | World | 30 |
| C64 | 18 | Tech Tips | 32 |
| CPC | 22 | Programming | 40 |
| Spectrum | 23 | Event Horizon | 41 |
| Archimedes | 24 | On-line | 44 |
| Mac | 26 | PD Column | 46 |

## Arch-aeology

*Arcventure* is a new software package for the Acorn Archimedes and A3000. The program gives its users the chance to explore an archaeological dig.

Heralded as a simulation, *Arcventure*, sets players the task of toothbrushing their way through a Roman villa in order to excavate some valuable 'finds'. The game doesn't end there, however.

Once an object has been found, it's off to digger HQ, a hut, to consult a computer. This machine will provide data on the object, and even reconstruct it on screen. It can provide this service for all but three finds – it has no information on these objects. If you discover one of these, you are sent back in time to the Roman Empire to find out about the object by talking to the people who inhabited the villa. Once all three objects have been discovered, you are awarded a certificate.

Price is £35.19. For more information, contact Sherston software on 0666 840433. ■

## They're the tops!

**The American based Software Publishers' Association has just published its list of top selling games for the PC.**

With MS-DOS-based machines growing in stature as a gamers' tool in the United States and Europe over the last year, the following list caused much interest. The Top 10 is as follows:

1) ***Eye of the Beholder*** Electronic Arts
2) ***Space Quest IV*** Sierra On-Line
3) ***King' Quest*** Sierra On-line
4) ***Wing Commander*** Origin
5) ***Death Knights of Krynn*** Electronic Arts
6) ***Sim Earth*** Maxis
7) ***Sim City*** Maxis
8) ***FlightSimulator*** Microsoft
9) ***Links*** Access
10) ***A-10 Tank Killer*** Sierra On-Line

## IBM stays in South Africa

**64.5 million IBM shares worth of voting power went behind a motion for the company to cut links with South Africa at its latest AGM.**

This figure only amounts to a meagre 16 per cent of the total voting potential and is the sixth vote in as many years aimed at taking Big Blue out of apartheid territory, where it carried out £41 billion of business last year.

Following the vote, IBM chairman, John Akers said: "We are proud of how we are conducting our business in South Africa. Apartheid is abhorrent to us". ■

## Virtually real future combat

*Cyber Fight* is the provisional title for a game that Electronic Arts reckons will be the first 'virtual reality' combat game for the PC.

Due in the autumn, *Cyber Fight* is a combat game in which contestants are kitted out in cybernetic suits. Using Gouraud shading technology for realistic graphics, the gameplay also accounts for gravity, friction inertia and elasticity.

It is expected to retail for £29.99. ■

### £99 price set for official launch of Sega's hand-held

# GAME GEAR HERE IN JUNE

**The battle for hand-held games supermacy has finally been joined by Sega with its Game Gear machine.**

Virgin Mastertronic, Sega's distributor in the UK and Europe has set a price of £99 for the Game Gear's June launch. Ideally it would have given it a price tag £20 lower, to compete with Atari's colour Lynx machine.

However, at the magical sub £100 price Sega is in direct competition with its arch rival, Nintendo, and its monochrome Game Boy.

The games to be bundled with the Game Gear will of course be licensed from Sega itself. They are as follows:

*Columns, G-Loc, Wonderboy, Super Monaco Grand Prix, Dragon Crystal, Psychic World,* and the critically acclaimed Disney licence, *Mickey Mouse.*

Whether or not Sega's great hope and proclaimed Mario-beater, *Sonic the Hedgehog* will find himself on the hand-held before the end of the year is highly unlikely.

Prices for the games will be either £19.99 or £24.99. Sega further claims that there will be 21 games out by the heavy buying period leading up to Christmas. This is more than likely as the company can call on the massive back catalogue of cartridges already released for the Mastersystem and Mega Drive. ■

• *The Game Gear – to be bundled with a host of Sega games.*

## Shoot-'em-up with a purpose

***The Executioner* is the first game from Hawk, a new label which promises "arcade games with more depth".**

The game is a sci-fi shoot-'em-up with elements of trading information gathering. As well as piloting a shuttle craft over alien terrain and blowing up enemy ships you also have to capture prisoners and collect supplies so you can fly to the next planet.

"There's actually a purpose behind blowing away everything in sight," said a spokesman for the company.

*The Executioner* will be available later this month at £25.99 for the Atari ST and Amiga. ■

## Activision returns

**Activision UK is dead. Long live Activision Europe.**

**Since the death of the UK branch, Activision's parent organisation has settled its European operation in Paris, and has just released six games for the ST, Amiga and PC.**

• **R-Type II:** *more mind shattering alien hunting.*

*R-Type II*, the keenly awaited follow-up to one of the greatest blasters ever played is set for a July release on the 16-bit machines. It will retail for £25.99.

*Hunter*, a 3D vector graphics adventure-'em-up has already received attention in the media and was due to be released before the demise of Activision Europe. It and *Deuteros* will now be available from August at £30.99 and £25.99 respectively.

*Beastbusters*, is an arcade-style game which includes both vertical and horizontal scrolling, end of level guardians, and one or two player modes. It will be in the shops from July at a price of £25.99 for ST and Amiga owners.

*Shanghai II -Dragon's Eye*, a puzzle game based around Maj-Jong which uses 12 different layouts taken from the Chinese calendar. Cost is £35.99 for the Amiga and PC and you can get your hands on it from September.

• **Battletech:** *colourful carnage in the space age.*

*Battletech - the Crescent Hawk's Revenge*, Activision joins forces with Infocom in this space-age, 256 colour 'epic' with 25 scenarios spread across five planets. Available from September for the PC at a price of £35.99. ■

Fees rise to £75 – 'almost Latin American proportions', says MP

# DATA REGISTRATION PRICE RISE SLAMMED

**Labour MPs have attacked the rise in the charge for registration under the Data Protection Act as unfair and counterproductive.**

The fee is due to rise by £19, from £56 to £77, on 1 June. Harry Cohen, Labour MP for Leyton in East London, claims that the fee will discourage registration since it has to be paid by any individual or company which stores personal information on a computer database. He also maintains that it is biased against small businesses and non-commercial organisations.

"It is in the public duty to register, so the fee should be kept at a minimum to encourage registration," he told *Express*. Cohen also raised the subject in the Commons earlier this month.

The registration fees are used to pay for the running costs of the office of Data Protection Registrar (DPR). The Registrar's office ensures that the provisions of the Data Protection Act are adhered to. Under the Act, individuals have the right to access any information about them which is held on an electronic database. The office is also responsible for investigating complaints relating to the act.

Like many other Labour MPs, Cohen believes it is wrong that you should have to pay to register and that it creates a situation which will lead to rapidly increasing fees. When the fee was introduced five years ago it was just £22. The forthcoming rise to £75 represents an increase of almost 350 per cent. "It is almost Latin American in proportions," said Cohen.

## PROSECUTION

The Registrar's office does not feel, however, that the new fee will deter large numbers of people from registering. "We have been prosecuting people increasingly and more regularly, but the rise doesn't have much to do with it," says marketing manager Diane Bown-Wilson. "We've existed for a number of years now and the honeymoon period is over. People should be fully aware of the Data Protection Act by now."

She also points out that the fee covers a three year registration period: "That's just £25 a year, less than you would pay for a magazine subscription."

## BIASED UNIFORM FEE

Cohen also feels that a uniform fee is biased towards large organisations, such as ICL, for which £75 is virtually insignificant. However, £75 for a small business or social club is a much larger chunk of their spending. Also, every school which holds a database will have to pay, and the accumulation of schools across the country will add thousands of pounds on to the education budget.

Registrar Eric Howe is sympathetic, but points out that this method of funding his office is actually laid out in the 1984 Data Protection Act. "Changing the way we are funded is a matter for ministers," he says.

Howe actually proposed a simplification of the payments system in 1989 which would have meant that only larger companies and organisations which dealt with "sensitive" information would have to pay. Similarly, a Home Office report last year concluded that an alternative method of funding the office should be found. So far the politicians concerned with changing the law have ignored both.

Data Protection Act 1984

CHAPTER 35

ARRANGEMENT OF SECTIONS

PART I

PRELIMINARY

Section
1. Definition of "data" and related expressions.
2. The data protection principles.
3. The Registrar and the Tribunal.

*• The Data Protection Act: claimed to be unfair to schools and small businesses.*

## EUROPEAN DIRECTIVE

Howe cannot see the situation changing until at least 1994. This is because of the European Directive on Data Protection which is currently passing through various Commons committees at the moment and will not be finalised - until January 1993. Its outcome will probably have effects on the Data Protection office, and Howe believes this will prevent any immediate changes taking place.

*Express* attempted to contact MPs on both the Government, and Liberal party benches this week to ascertain the level of support, or otherwise, which Mr Cohen is likely to receive.

At the time of going to press we had received no responses to our persistent telephone calls to the offices of Michael Colvin MP or the Right Honourable Paddy Ashdown – both who are known to take a keen interest in computer-related matters. We did, however, receive an official statement from the Home Office which merely states that the increased fee was necessary to meet the Registrar's costs.

Meanwhile, Cohen is set to bring up the subject in Parliament again when the new European Directive on Data Protection is debated in the Commons next month. ■

*•Bruce Everiss: Organiser of the All Formats Fairs.*

## Fun at the fairs

**The dates and venues of the next three *All Formats Fairs* have been announced. The fairs, which have proved to be popular with both 8 and 16-bit enthusiasts, as well as the occasional PC, and curiosity driven Mac users, will go ahead in the following places:**

**18 May – New Horticultural Hall, Greycoat and Elverton St, Westminster, London.**

**9 June – National Motocycle Museum, Coventry Rd, Solihull, Birmingham.**

**22 June – New Horticultural Hall**

**The organisers claim there will be 'Thousands of bargains and savings for all computer users'.** ■

## Businesses should compete for IT students, says report

**Computer firms should be able to award degrees and compete for students the same as universities, according to a report from the Institute for Economic Affairs.**

Written by Sir Douglas Hague, an academic at the Manchester Business School, *Beyond Universities* claims that students training for jobs in the "knowledge business" gain better experience from learning in a live, competitive situation. It suggests that many colleges and universities are bogged down in academic tradition and do not reflect the new high-tech age.

"The best preparation for becoming a scholar is now not necessarily a post in a university," says Hague.

He also says that many firms offer training schemes more innovative and relevant to the IT industry than universities, and that unless educational establishments move out of their "academic bunkers" they will become obsolete. ■

## Graphs the easy way

**Even the most artistically inept PC user will be able to produce professional looking charts, diagrams and documents thanks to *Graph-in-a-Box*.**

Publisher Affiliated Software reckons the package is the easiest to use business graphics software in the world. It has data capture functions which allow statistics to be taken from other files and transformed into presentation graphics.

There are 15 chart types and nine fonts which can be printed out or exported to other Desktop Publishing and word processing packages. Graph-in-a-Box costs £250 for the single user version and £950 for the network version for up to five users.

Contact: Affiliated Software on 0273 606125. ■

*• Money for old chips. Could you cash in on HP?*

## PC trade in on HP

**Hewlett Packard is offering trade-in deals on old PCs. The company will give up to £330 to purchasers of its Vectra series computers on receipt of any other PC.**

**The offer will run until the 31 July and covers the following machines: the Vectra QS/16S (£3640.15), QS/20 (£3979.72), and the 386/25 (£4915). In the case of the 386/25, you will receive the full £330 no matter whether you hand in a PC1512 or a Compaq 386.**

**The trade-in, however, does not extend to the new Vectra 486SX which Hewlett Packard is soon to launch.** ■

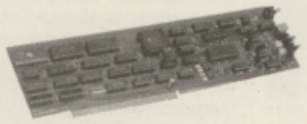
# LANs slide

Nearly three working months a year are lost due to failures in Local Area Networks (LANs) according to a report published this month.

Consultancy firm, The Networking Centre surveyed 66 companies throughout the UK. It discovered that the average LAN crashes 20 times a year with over fours hours of 'downtime' wasted each time.

Even the company itself was stunned by the results. It did however, refer to an American survey carried out by Infonetics, which had produced very similar conclusions. Following criticisms of the survey, The Networking Centre's senior consultant, Clive Semple said "I find the figures hard to believe myself". ■

# Sound buy for the Amiga



*• The AD2105 from SunRize. It offers 12-bit sampling and SMPTE time codes.*

An upgrade of the acclaimed *Audiomaster III* sample editor is among the new range of powerful audio peripherals for the Amiga from Sunrize.

*Audition 4* is an advanced 8-bit sample editor which adds to the features all ready available on *Audiomaster III*.

Now you can record direct to floppy disk, save executable sounds and use real time filters. The program is also more compact than its predecessor, taking up half the amount of memory space, but also quicker.

Also in the range is *Studio 16* which turns an Amiga 2000 or 3000 into a professional digital audio workstation capable of recording hours of music to hard disk synchronised with a time code.

The final package is *Perfect Sound 3*, an 8-bit stereo sampler which connects the Amiga to a CD player, radio or microphone via the computer's printer port. Bundled software allows you to record and edit any sound and you can control the left and right channels individually.

All these products will be available in the UK through HB marketing from next week. Pricing has yet to be announced, but they are currently retailing in the US for around $100 each.

Hardware add-ons are also on the horizon with the AD2105 12-bit sampler card which makes use of *Studio 16* software.

The AD1016 completes the range. A 16-bit card it offers MIDI in/out and SMPTE compatibility.

For more information call HB Marketing on 0753 6860000. ■

## Holograms and rainbows combine to create new chip

# LIGHT FANTASTIC!

**Scientists working at IBM in the United States have discovered a polymer with potentially the same qualities as fibre optic systems.**

The four scientists, W E Moerner, Stephen Ducharme, J Campbell and Robert J Tweig, have been working on the project at IBM's Almaden research and developement centre in San José.

The polymer's constituents factors are derived from materials found in the photoreactive cells of photcopiers and laser printers. However, a new, and as yet unnamed, epoxy also enters the equation. The combination of these ingredients produces the revolutionary polymer which possesses the highly sought after photorefractive (PR) qualities only previously found in crystal-based systems.

The polymer's qualities allow it to act as a 'net' which captures the electronic patterns formed as laser beams cross within it.

The information which is caught in this net behaves in a similar way to a hologram. The potential for data storage goes far beyond this simple analogy however. The IBM team explained to the Materials Research Society meeting in April that up to 100 holograms, each of which can contain one million bits of data, could be stored on one miniscule area of the polymer. Their estimate was that this slice would measure only 2mm in diameter.

*• The PS/2 486: IBM is now developing technology which will make the 80486 look pedestrian*

While the commercial applications of this new technology are still five to ten years away, it is thought that IBM is allready making feasability studies into possible large scale production.

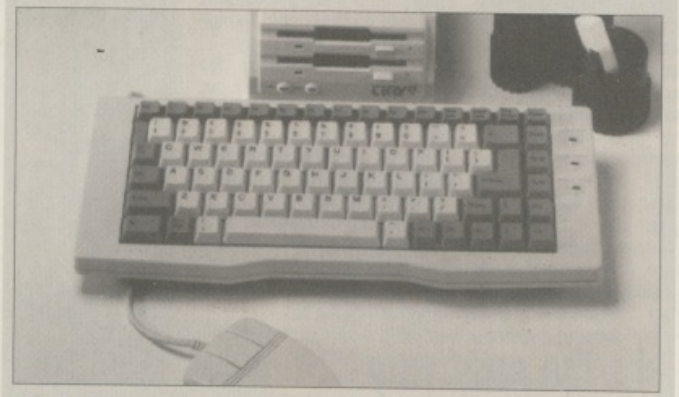
The long term effects of this potentially low-cost, high powered storage and data transmission media can only be imagined. IBM's discovery comes at the same time as developers at Texas Instruments demonstrated a chip which uses light instead of conventional electrons to hold and transmit data. TI's discovery came out of an attempt to combine two previously incompatible systems - silicon, and gallium arsenide (GA).

The new chips are called Optoelectric Integrated Circuits (OEICs). Each one makes use of eight GA infra-red light emitting diodes (LEDs) combined with CMOS-based silicon circuitry. The ability to use light for the transference of data has allowed the developers to bridge the previously unbridgeable gap between GA and silicon, and to actually speed up the rate of data interchange.

The basic process which led to this discovery was invented in the laboratories of Texas Instruments as far back as 1988. It was then called 'co-integration'. The company hopes that this advance in chip design will enter the commercial sphere within the next ten years.

The combination of IBM's new polymer, and Texas Instruments' gallium arsenide/silicon light bridge could well bring indefinable benefits to users in years to come. ■

# Smallest PC Ever



*• The Tiny PC : Is it a palmtop or a desktop?*

**A new computer company has launched itself into the marketplace with what it claims to be the world's smallest desktop computer.**

**The Tiny, from Tiny Computers Limited, has a footprint about the size of an A5 piece of paper. It has an 81-key keyboard and the graphics are CGA and Hercules compatible. It comes with a TV PAL modulator so that it can be linked to a television as well as a standard monitor. It is available in a variety of configurations from the 10MHz TC1 with a single floppy drive for £299 to the 12MHz TC3 with a 40Mb hard disk and floppy drive for £599.**

**Tiny Computers Limited can be reached on 0737 779511.** ■

# Secure-IT

Businesses can now have their computer systems checked by government approved experts, for a fee.

The consultants are known as Commercial Licensed Evaluation Facilities (CLEFs). And have been appointed by the Department of Trade and Industry (DTI) together with the Communications Electronics Security Group (CESG). Companies will have to supply the CLEFs with details of installed computer security systems so that future threats, and the correct defence against them, can be properly evaluated.

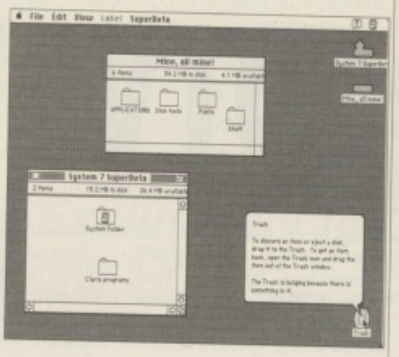
The DTI hopes that the CLEFs will eventually be able to build up a catalogue of certified security products. The project has taken two years to develop and brings the UK in line with other European countries.

At the time of going to press the DTI had not confirmed price, nor even a pricing scale for the CLEF service.

For more information call the UK IT Security and Evaluation and Certification Scheme on 0443 821877. ■

Apple's lastest operating system is widely acclaimed

# SYSTEM 7 LAUNCHED



The Macintosh's new operating system and front end, System 7, is now available from Apple Centres at price of £40.

May 13 saw the simultaneous worldwide launch of the eagerly awaited O/S, which has been in developement for over two years. System 7's eventual public release follows numerous delays which Apple has blamed on "technical difficulties".

System 7 was designed by Apple's software engineers at its Cupertino, Californian HQ.

The basic WIMP (Windows Icons Mouse and Pointer) interface which is the hallmark of the Macintosh has been retained, with a 3D look added for users of colour machines.

The upgrades to the operating system extend far beyond cosmetics however. Refinements have been made to networking, font/typeface installation, application launching. Context sensitive help has also been added. These changes extend to all Mac computers from the top of the range IIfx, down to the entry level Mac Classic.

One area which is expected will be heavily influenced by System 7 is that of Windows 3.

According to Arlette Cox of Microsoft who spoke to *Express* this week: "I must make it clear that with Windows and the Mac operating system, we do not compete against Apple. In fact the release of System 7 gives Apple a great opportunity to compete with us", in terms of future improvements to Windows, Ms Cox has this to say: " The way in which System 7 totally hides the operating system from the user is obviously impressive. I would like to see Windows picking up on some of the graphics improvements to System 7. Generally, though, I think this is going to be a good year for Microsoft in the Mac world. We have nine planned before Christmas. And yes, all of our product upgrades for the Mac will be compatible with System 7 devices such as Publish and Subscribe."

Applehas in fact stipulated that any new software developed for the Macintosh range will have to contain System 7 compatible devices. The two major examples of such System 7-friendly options are the context sensitive Balloon Help system, and the innovative Cut&Paste upgrade - Publish and Subscribe.

In terms of future developments, it is expected that minor upgrades to System 7 will be forthcoming before the end of the year. These will appear as System 7.01, .02, and so on, up until the release of 7.1 - the first major enhancement sometime in 1992. Apple has not stopped there however; statements made by the development team make it clear that System 8 is even now in the planning stages. ■

## System 7: the upgrades and innovations detailed

**System 7 comes with n obvious changes to its predecessor. While you can read the full, world exclusive review in this week's Express, here are the details:**

**• Macs with memory management chips can now make use of virtual memory. Essentially this means that a Mac with an 80Mb hard drive can convert that 80Mb into useable RAM. This does not apply to the Mac Classic, SE, and Plus.**

**• Publish and Subscribe takes over from Cut&Paste on the desktop. This is a 'live' system which can be shared by applications, and automatically updates data. All Macs.**

**• Balloon Help. This interactive system is context sensitive. Apple has stipulated that all new software developed for Macintosh computers must be able to use Balloon Help. All Macs.**

**• Process Manager is the replacement for the previously optional Multi-Finder background application. It allows pseudo-multitasking to be carried out. All Macs.**

**• Built-in networking. Previously users would have to buy additional software to make use of the Macintosh's LocalTalk system. System 7 does not need additional software. All Macs.**

**• Apple Menu'. At the top left hand side of the Mac screen is an Apple symbol which acts the icon for the Apple Menu. System 6's Apple menu could only launch desk accesories such as the calculator. System 7 allows lauching of any application. All Macs.**

**• File organisation. The files within desktop folders can be viewed by clicking on a button rather than opening the folder itself. All Macs.**

**• Cosmetic changes. A 3D look has been given to the desktop. Not mono Macs such as the Classic, SE and Plus.**

**• Font installation: previously, loading new typefaces for use in Macintosh-based applications such as Quark *EXpress* and Aldus' *Pagemaker*, entailed installing them using *Font/DA Mover*. System 7 acts in an intelligent manner, automatically installing the fonts.**

**For the world exclusive review of System 7 turn to page 56.**

# Massive Mac screen makes its debut

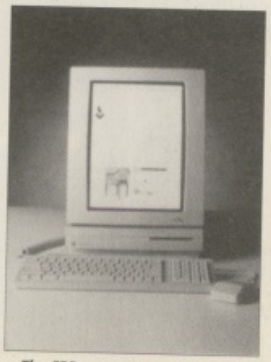
The new version of Radius' A4-sized Full Page Display (FPD) monitor has hit the market thanks to the success of the new Mac Classic and LC.

The monochrome Radius FPD can be pivoted for use in both landscape and portrait modes. It provides 78 dots per inch (dpi) resolution compared to the 72 dpi available as standard on the Mac Classic.

A whole A-4 page can be displayed in its entirety without the need for scrolling, with text large enough to read easily. The new model is specially designed to suit the needs of Classic, LC and Si users, but will also support the rest of the Macintosh range.

Featuring a non-glare screen and an optional tilt and swivel base, the FPD comes with RadiusWare display utility software. The original FPD was released in 1986 to accompany the MacPlus and SE, but was withdrawn as their popularity declined. The FPD for the Classic retails at £899 while the LC version costs £959.

Models for the machines in the Macintosh range - the Si, SE, IIcx, and IIfx - cost up to £1208. Radius can be contacted on 081 200 8282. ■



***• The FPD monitor: an A4 page can now be shown on the Classic.***

# System 7 to Excel

The first batch of System 7-friendly software has also been announced with Microsoft leading the way.

Its *Excel* spreadsheet has been upgraded to version 3, and according to Microsoft, to fully implement the new Excel, users will "require System 7".

A major change, is that 2Mb as opposed to 1Mb of RAM is now required to run *Excel*.

Price is £345, although a free upgrade is available to users who bought the spreadsheet after January this year. For more information contact Microsoft on 0734 500741. ■

# Full motion Macintoshs

**A new CD-ROM based encyclopedia has been launched for the Mac. *The Dictionary of the Living World* is claimed to be the first CD to arrive in the UK which uses full motion video. 20 video clips are included on the CD. Users can also edit and add entries.**

**For those many Mac users without access to a CD-ROM drive, there is *The Dictionary of the Living World Lite*, on floppy disk. It contains the full text of the CD-ROM version, as well as 1,000 black and white photographs. Price has not been set on this product as yet.**

**Price for *The Dictionary of the Living World.* is £205.62. The UK distributor for this product range is Kimtec (0202 888873). ■**

# Classic costs

After claiming that sales of the Mac Classic have sky rocketed in the past three months, Apple is now predicting a drop in profits.

In fact sales of the Classic and the other low-cost Macs appear to have a great deal to do with the fall in profits.

Apple is blaming the losses on the fact that a larger percentage of its sales have been taken up by low-end machines, rather than the pricier IIcx and IIfx.

The weakness of the dollar in Europe is also quoted as a factor in the financial fall.

However, Apple is quick to point out that actual volume of sales of its machines are still very healthy.

It quotes an 85 per cent increase in sales in the first and second quarters of 1991 compared to the same period last year.

"The lower priced products succeeded more than we imagined and the product mix is moving towards the low end and the profit margins there are slimmer," explained Christopher Escher of Apple public relations.

Apple's bad news follows on from IBM's statement, made last month, that it lost money for the first time in its history.

This was also partially blamed in the fall off in sales of its high-end products such as mainframes, and a bad dollar exchange. ■

# NIBBLES

## School wins CDTV

A comprehensive school in County Armagh has won a CDTV as the first prize in Commodore's Business Education Challenge. Members of the winning team from Lismore Comprehensive had to prepare and execute a marketing plan for their school. The school is the first to receive a CDTV, which was officially launched last month.

## HP-in court

The Adamax Corporation has filed an antitrust suit against the Open Software Corp and its sponsors, including Hewlett Packard. The company is accusing them of acting as an illegal cartel conspiring to fix software technology and set price ceilings in other markets.

## Portable Olivetti

Olivetti will be setting up 20 'Portable Centres' to market its new range of portable and notebook computers launched this month. The centres will be staffed by Olivetti trained sales assistants. Prices for the new portables range from £1,119 to £3,199.

## The big screen

Mitsubishi has launched a very high definition, 35 inch monitor. Designed for presentation uses it reduces distortion caused by the curve at the edges of the screen by automatically correcting pixel shapes at those areas. Compatible with most PC, PS/2, Macintosh II and Unix-based workstation high-resolution graphics cards, the monitor will cost about $2,000 when released in July.

## Grey Gold imports

Grey imports of Golden Image software have entered the UK following supply problems the company had earlier this year. Golden Image is refusing to provide any form of help, advice or warranty to anyone who buys these illegal copies. Many of the grey imports are not the UK versions of the software.

## LaserFax

Hewlett-Packard has launched the LaserJet Fax Accessory, a stand alone device which allows faxes to be printed out on any laser printer. It sits between the PC and the printer, and if the printer is not on it stores up incoming pages in a buffer that can hold up to 13 pages. A 1Mb memory upgrade allows storage of up to 60 pages. It retails for $1,895 in the US. ■

CDTV's launch is quickly followed by add-ons galore

# CDTV: THE EXTRAS

**Some three weeks after the launch of the £599 Commodore Dynamic Total Vision (CDTV), more details are emerging of the optional extras being made available for the system.**

In line with Commodore's marketing policy, which is designed to appeal to general high-street consumers rather than computing enthusiasts, the add-ons will be known as 'accessories'. Heidi Halliday, Commodore UK's marketing assistant, told Express," We're calling the add-ons 'accessories', they are peripherals but they're known as accessories because CDTV isn't a computer". To further consolidate the product's positioning as a household device, Commodore is also reputed to be spending £6 million on a press and TV advertising campaign.

Jonathan Anderson, Commodore's retail marketing manager, confirmed that a range of accessories will be available by September.

First up will be an infra-red mouse, codenamed the hamster -'because it hasn't got a tail', closely followed by an infra-red trackball, with connections for joysticks, and an infra-red keyboard. Prices are as yet unconfirmed. By the end of the year, the company hopes optional floppy drives and printers will be available, although as yet, the CDTV specification doesn't allow for hard disk connection. But as Anderson added," You will be able to do all the things you can do on your A500 as long as you add a floppy drive and keyboard".

He also intimated that connectivity software for networking groups of CDTVs together for use in schools is in the pipeline. A built-in genlock will be also be offered, as an authorised fitment, along with a personal memory card drive. This will allow users to load and download data from credit-card sized wafers each capable of storing up to 512k of code. These memory cards will comprise both ROM and RAM versions, thus opening the possibility of releases of applications in card format. 64k, 256k and 512k versions will be offered which will enable users to save preferences, game positions and scores. Using the cards, the operator will also be able to switch off CDTV and resume an application at the point left simply by switching on and re-inserting the card.

*• CDTV: Q. when is an add-on not an add-on?- A. When it's an accessory.*

The £5 million advertising campaign, scheduled to begin in the run up to Christmas will be accompanied by the catch-phrase, "That's one way of looking at it".

The campaign will take the form of two adverts, 'Mirror' and 'Picture' which will stress the machine's high quality graphics possibilities. A further £800,000 will be spent on advertising in colour supplements and specialist press. Details of the firm's TV advertising plans have yet to be decided. ■

# US chip chat offends Japan

**A statement made by the chairman of the US Senate finance committee, Lloyd Bentsen, has produced a storm of protest in Japan.**

On a visit to Semtech, the US government funded semiconductor project, Bentsen claimed that seven Japanese firms were keeping advanced semiconductor information from US companies.

He then went on to say that American chip manufacturers, such as those involved in the Semtech project, were not receiving valuable data relating to processing semiconductor wafers, due to a Japanese strategy of world domination.

Bentsen continued by accusing the seven Japanese companies of inflating prices charged to American companies, by up to 30 per cent compared to those charged in Japan.

Reaction from Japan has been swift and distinctly angered. The Electronic Industries Association of Japan (EIAJ) called Bentzens claims "ridiculous".

Hitachi, one of the firms named by Senator Bentsen, stated: "If we did receive an order, we would provide the equipment". It backed up this statement by saying that no such order had ever been received. ■

# Amiga animates Edinburgh 1991

**This year's Amiga Animation exhibition and competition is to be hosted by the Amiga Centre Scotland from August 11 to 31.**

**The 1991 event is fourth of its kind to be run. Last year's final exhibition of the winning entries featured 11 different categories, and 38 pieces of work. The eventual champion animator was Eugene Messina with his *Main Video*.**

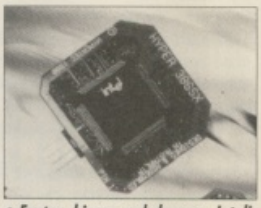
**While Messina's work was widely accepted as being of excellent quality, and the obvious winner, the general standard of entries was poor, with amateurish attempts mixing in with corporate videos. Amiga Centre Scotland is looking forward to a healthier selection this time around.**

**If you would like to take part in what has become an international event, it coincides with the Edinburgh Festival, then your entries should be received by July 31. Send them to the following address:**

**Fiona Shivas, Animation Competition, Amiga Centre Scotland, 4 Hart Street, Edinburgh, EH1 3RN Telephone 031 557 4242, or fax 031 557 3260.** ■

*• A screen from Main Video, 1990's animated Amiga masterpiecee*

# Intel's next generation



*• Faster, bigger and cheaper. Intel's 486 upgrades are announced.*

A 66MHz version of Intel's 486SX chip, nicknamed Igor, is rumoured to be near its release date. And it's the fastest yet.

The 486SX chip which was the star of last month's Which Computer Show, and which is already being used as the heart of PCs from IBM, AST and Hewlett Packard, runs at 20MHz. The new version beats its predecessor in terms of speed and the number of instructions it can carry out - 55 million per second (MIPs), compared to 16.

A 50MHz version of the chip has been demonstrated to the press, and is scheduled for release in June this year. Intel has also showed basic plans for a massive 100Mhz version of the chip.

This will be the first true test-bed for Intel's eagerly awaited, and inevitable, 586 processor which is widely believed to be timetabled for a 1993 launch. ■

# The New 1 Meg Amiga From Digicom

**Following The Huge Success Of Our F-19 Digistar Offer,We At Digicom Are Proud To Present The Meanest Pack Available For The Amiga A500. This Unbeatable Deal Now Includes Commodore's Screengems Pack PLUS the A501 RAM/Clock Upgrade Plus Our Very Own Exclusive New Arcade Smash Hits Pack And The Chart Topping 1 Megabyte Version Of Kick Off 2!**

**Includes: Amiga A500 Computer 512K Keyboard PLUS A501 512K RAM/Clock Expansion Fitted To Give 1 Meg Memory Total ● Built-in 1 megabyte DS/DD 3.5" Disk Drive ● Multi-Tasking Operating System ● Latest Kickstart And Workbench 1.3 ● Superb 4096 Colour Graphics ● Speech Synthesis ● 4 Channel Digital Stereo Sound ● Notepad Word Processor ● Commodore Mouse Plus 3 Owners Manuals ● Amiga Basic Program Language ● T.V Modulator And All Connecting Leads And Cables**

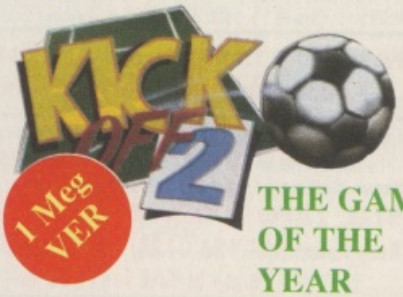
**Plus This Great Software : Shadow Of The Beast 2 ● Days Of Thunder ● Back To The Future 2 ● NightBreed ● Deluxe Paint 2**

## Plus Exclusively to Digicom

**Bring The Atmosphere Of The Arcade To Your Home With The Arcade Smash Hits Pack From Sega,Incorporating Five Of The Most Exciting Games Around !**

Thunder Blade · Alien Syndrome · Out Run · Shinobi · After Burner

***Plus :* A High Quality Microswitched Joystick, Amiga Tailored Dustcover, 10 Blank Disks And Disk Storage Box, Mouse Mat And.....**




**THE GAME OF THE YEAR**

**Notice : The Memory Upgrade Supplied With This Offer Is The Official Commodore A501 Ram Expansion Worth £99.00 ANY Alternative Expansion Unit Will Invalidate Your Warranty**

## *Complete Package Price Only £399.00*

**1 Meg Amiga Screengems Pack (As detailed in the above offer) Plus The Superb Philips CM8833Mk2 Multipurpose Colour/Stereo Monitor**
**Free Amiga/8833 Lead And Monitor Dust Cover** £628.00

**1 Meg Amiga Screengems Pack (As detailed in the above offer) PLUS Philips CM8833Mk2 (Colour/Stereo Monitor) Star LC200 9 Pin(Colour Printer)**
**Free Printer Dust Cover & Lead** £828.00

## The New Amiga 1500 Is Here !

The Ultimate Personal Home Computer Designed To Cover Every Computing Requirement,From Business To Leisure And From Design To Education

Includes : 1500 CPU with One Megabyte of Memory :
Separate Keyboard : Additional Disk Drive
Optional IBM Compatability
9 Expansion Slots Plus This Great Software
*THE WORKS PLATINUM EDITION*
*DELUXE PAINT 3*
*THEIR FINEST HOUR*
*BATTLE CHESS*
*SIMCITY+*
*TERRAIN EDITION*
*POPULOUS SPECIAL*

**1500 System Only £679.00**
**1500 System With Philips 8833Mk11 £909.00**

1500 System With Commodore 1084SD Colour Monitor And 52MB Autoboot Hard Drive Only £1249.00

## HOW TO ORDER

By Phone:
Call Our Credit Card Order Line
And Quote Your Credit Card Details To Our Helpful Sales Staff. We Accept ACCESS, EUROCARD, VISA, MASTERCARD, AMEX, BARCLAYS CONNECT, SWITCH, and LOMBARD CREDITCHARGE.

By Mail:
Simply Write Down Your Order
And Post It To Us With A Personal Cheque, Postal Order,Bankers Draft Or Building Society Cheque Made Payable To "Digicom Computer Services Ltd".
(Personal Cheques Require Time To Clear Before Despatch)

**All Prices Include VAT And FREE Delivery**

Next Day Courier Delivery At £5.00 Extra

Visit Our Showroom Open Mon-Sat 9.00am-5.30pm

# DIGICOM

36-37 Wharfside,Fenny Stratford,Watling Street
Milton Keynes MK2 2AZ

Wharfside Is Opposite The Bridge Pub On The A5 Watling Street

Prices And Specifications Are Subject To Change Without Notice. E&OE

Phone Our 24 Hour Hot Line
**(0908) 378008**
8 Lines Open
Fax (0908) 379700
All Major Credit Cards Accepted

**☆ Digicom Offers You ☆**
- ☆ Free Catalogue (With All Orders)
- ☆ Regular Newsletters And Special Offers
- ☆12 Month Guarantee On All Product
- ☆ 30 day Replacement Of Faulty Product
- ☆ Technical Helpline
- ☆ All Product Tested Before Despatch
- ☆ Price Or Product Match

# Byte Syze

## Byte Syze - Nybble The Prices On Those Hard To Find

| | | | |
|---|---|---|---|
| Amiga A500 Basic Pack | £319.00 | 1500 Pack No Monitor | £675.00 |
| Amiga A500 1Mb Screen Gems Pack | £359.95 | 1500 Pack + 1084D Monitor | £895.00 |
| Intro To The Amiga Video | £9.99 | A590 20Mb Hard Drive | £289.00 |
| Midi Interface 1 in, 2 out, 2 Thru | £25.50 | A590 20Mb Hard Drive + 2Mb | £369.00 |
| Cumana CAX354 3.5" DSDD Switch/Port | £69.95 | 1Mb Ram For A590 | £47.50 |
| Commodore C64GS - Game + Joysticks | £94.50 | Amstrad GX4000 + Game, 2 pads | £95.50 |
| Atari Lynx (no game/PSU/Lead) | £75.00 | Sega Megadrive (UK) + game | £179.00 |
| Atari Lynx (PSU/Leads, No Game) | £95.00 | Sega Megadrive (JAP) | £135.00 |
| Atari Lynx (game + PSU + Leads) | £122.00 | Jap/UK Megadrive Convertor | £16.95 |
| Lynx Games from | £28.00 | Megadrive Games from | £29.00 |

### AMIGA/ATARI

| | | | |
|---|---|---|---|
| Mouse/Joystick Switches Auto | £17.50 | Joystick Extension leads (3m) | £2.99 |
| Mouse/Joystick Switches Manual | £15.50 | Monitor Sharer Scart Switched | £14.75 |
| Mouse/Joystick Extension Leads Pair | £3.99 | Monitor Leads Scart | £6.75 |
| 4 Player Adaptor | £4.99 | Parallel Printer Leads | £3.75 |
| 3" Disk Drives 1Mb | £67.95 | Midi Leads 3M | £2.50 |
| Contriver Replacement Mice + Mat | £21.95 | Dust Covers | from £3.95 |
| Naksha Mouse | £24.95 | Philips TV Tuner For Monitor | £68.99 |
| Marconi TrackBall | £42.95 | Atari Mono/Col Monitor Switch | £19.99 |
| 5 Watt Stereo Amp + Speakers | £39.99 | Konix Speedking Joystick A/F | £9.99 |
| Premiere Control Center | £42.99 | Konix Navigator Joystick A/F | £11.59 |
| 25 Bulk 3.5" DSDD disks inc. labels | £9.50 | 10 KAO Branded 3.5" DSDD disks | £5.75 |
| 10 Unbranded (KAO) coloured 3.5" DSDD disks inc. labels, 2 each of 5 colours | | | £4.75 |

## Many More Items for Acorn, Amstrad, Atari, Commodore and Spectrum Computers

P & P £1.00 for leads/covers/switches/software, £2.50 on disks/drives/hardware.
Including VAT at 17.5%. Courier available for £7.95
Cheque (Card no on reverse) or Postal Order with order, payable to:-

**BYTE SYZE, 23 Porter Close, Rainhill, Merseyside, L35 6PY**
**Ansaphone 051 426 0138; Enquiries 1700 to 1900.**
**Phone or SAE for FULL list.**

---

BACK TO SCHOOL

# Your computer is the only teacher which YOU CONTROL!

**Whatever your age, whatever your subject - let your computer help you learn.**

Subjects include ...

**French, German, Spanish, Italian, English**
History, Geography, Science, General Knowledge,
Football, First Aid, Sport, England, Scotland,
Natural History, Junior **Spelling and Arithmetic**

Available for most popular home & business computers

*Kosmos are specialist producers of Educational Software designed to help you enjoy learning from your computer. Our programs even allow you to add your own lesson material.*

**Write or telephone for a FREE 20-page BROCHURE**
of our Educational & Leisure software
**Please state your computer type**

Kosmos Software Ltd, FREEPOST (no stamp needed)
DUNSTABLE, Beds. LU5 6BR
Telephone 05255 3942 or 5406

Access VISA

---

## MEGADRIVE

| | |
|---|---|
| UK Megadrive + Alt. Beast | £149.95 |
| JPN Megadrive + game + Free headphone | £129.95 |
| Japanes Game Adaptor | £9.95 |
| JPN Game Adaptor free headphones | £14.00 |
| Arcade Power Stick | £35.00 |
| Joy Pad | £14.00 |
| SG Jetfighter | £14.95 |
| Scart Lead | £14.00 |
| Stereo Lead | £8.95 |

## NEW GAMES

| | |
|---|---|
| B1 Mini Run | Call |
| Celtics vs Lakers | £35.00 |
| Devil Hunter | £35.00 |
| Fantasy Soldier III | £35.00 |
| Gynoug | £30.00 |
| James Pond | £38.00 |
| J.M American Football | £30.00 |
| Kageki | £33.00 |
| Magical Hat | £24.00 |
| Midnight Resistance | Call |
| PGA Tour Golf | £38.00 |
| Sonic Hedgehog | Call |
| Super Airwolf | £32.00 |
| Veritex | £33.00 |

## SPECIAL OFFERS

| | |
|---|---|
| Battle Squadron | £28.00 |
| Dangerous Seed | £24.00 |
| DJ Boy | £19.00 |
| ESWAT | £19.00 |
| Heavy Unit | £24.00 |
| Hell Fire | £19.00 |
| Mickey Mouse | £24.00 |
| Shadow Dancer | £22.00 |
| Strider | £27.00 |
| Volfield | £28.00 |
| Whip Rush | £16.00 |
| Wonderboy III | £23.00 |

## SPORTS AND SIMS

| | |
|---|---|
| Buster Douglas Boxing | Call |
| Super Volley Ball | £33.00 |
| Ringside Angels | £33.00 |
| Super League Baseball | £33.00 |
| Super Monaco GP | £33.00 |
| Super Real Basketball | £33.00 |

## NINTENDO

| | |
|---|---|
| Nintendo Action Set | £94.00 |
| New Advantage | £37.00 |
| Nes Max Turbo | £26.00 |
| Python 2 Joystick | £9.50 |
| Cart Cleaning Kit | £9.99 |
| Bayon Billy | £37.00 |
| Black Manta | £35.00 |
| Double Dragon | £37.00 |
| Double Dragon II | £37.00 |
| Mega Man II | £38.00 |
| Paperboy | £38.00 |
| Pinbot | £37.00 |
| Probotector | £37.00 |
| Snake Rattle Roll | £37.00 |
| Solar Jetman | £38.00 |
| Stealth ATF | £37.00 |
| Super Mario II | £38.00 |
| Super Off Road | £37.00 |
| World Wrestling | £37.00 |

**CALL FOR ALL SECOND HAND SWAPS AND GAMES**

## FAMICOM

| | |
|---|---|
| Famicom + 2 Joy Pads + 2 Free Games | £299.00 |
| F-Zero | £38.00 |
| Final Fight | £37.00 |
| Gradius III | £37.00 |
| Pilot Wings | £39.00 |
| Populus | £39.00 |
| Big Run | £44.00 |
| Super Mario World | £37.00 |
| Hole In One Golf | £37.00 |
| Ultraman | £39.00 |

**PC ENGINE**
**hand held**
**£245**
**Including Game**

## GAMEBOY

| | |
|---|---|
| Gameboy + game | inc P&P £65.00 |
| Gamelight | £9.99 |
| Game Pack Carry Case | £7.99 |
| Hard Carry Case | £9.99 |
| Compact Carry Case | £23.95 |
| Balloon Kid | £19.00 |
| Bases Loaded | £24.00 |
| Bubble Bobble | £19.00 |
| Chase H.Q. | £19.00 |
| Double Dragon | £19.00 |
| Fortress of Fear | £19.00 |
| Ghostbusters II | £24.00 |
| Helanky Alien | £14.00 |
| Jeopardy | £24.00 |
| Kung Fu Master | £24.00 |
| Maru's Mission | £19.00 |
| Ninja Boy | £19.00 |
| Power Mission | £19.00 |
| Revenge of Gator | £19.00 |
| Robocop | £24.00 |
| Snoopy | £19.00 |
| Spiderman | £19.00 |
| Tasmania Story | £19.00 |
| Teenage Mutant Ninja Turtles | £24.00 |
| WWF Super Star | £22.00 |

We also buy and part exchange used cartridges. Many more items for other consoles and computers in stock please phone for more details and ask for ADAM or PETE or call in to the shop

## LYNX

| | |
|---|---|
| Lynx Console + power supply + California games | £117.99 |
| Lighter Power Adaptor | £11.95 |
| Power Supply | £12.99 |

GAMES FROM £21.95

All prices are correct at time of print and may be subject to change without prior notice.
Post and Packaging £1 per order and £5 per console.
Trade enquiries contact Pete.

---

# KC's Computer Emporium

**37 Pinfold Gate, Loughborough**
**Leics, LE11 1SG**
**TEL (0509) 211799 FAX (0509) 881600**

**AMIGA 500 ASTRA PACK £349**
Includes 10 Games: Datastorm, Dungeon Quest, Grand Monster Slam, E-Motion, Kid Gloves, Powerplay, RVF Honda, Shufflepuck Cafe and Tower of Babel.

**AMIGA SCREEN GEMS**
**1 meg £384.95 1 meg**
Includes Days of Thunder, Shadow of the Beast, Nightbreed, Back To The Future II and Deluxe Paint
PLUS 20 free additional games

ALL AMIGA PACKS INCLUDE NEXT DAY DELIVERY AND VAT
ADD £1 FOR ALL OTHER ORDERS FOR P&P
LATEST GAMES AVAILABLE AT 30% OFF RRP

## MONITORS

| | |
|---|---|
| Philips 8833 MKII | £249 |
| Commodore 1084S | £259 |

Both include cable

## DISKS

| 3.5" DSDD | | 3.5" DSHD | |
|---|---|---|---|
| 10 | £3.60 | 10 | £9.90 |
| 50 | £17.50 | 50 | £47.50 |
| 100 | £34.00 | 100 | £90.00 |
| **5.25" DSDD** | | **5.25" DSHD** | |
| 10 | £3.10 | 10 | £4.90 |
| 50 | £14.25 | 50 | £24.00 |
| 100 | £24.50 | 100 | £45.00 |

## GAMES

| | |
|---|---|
| U.M.S. II | £20.95 |
| Swiv | £17.50 |
| Pop Up | £14.00 |
| Lemmings | £17.50 |
| Super Monaco GP | £17.50 |
| Awesome | £24.50 |
| Darius Twin | £44.00 |
| Actriser | £44.00 |

## BOXES

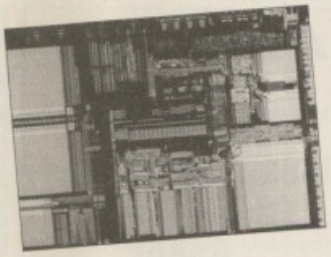
| | | | |
|---|---|---|---|
| 3.5" | 10 caps | | 95p |
| 3.5" | 40 caps | | £4.65 |
| 3.5" | 80 caps | | £5.75 |
| 5.25" | 10 caps | | 95p |
| 5.25" | 50 caps | | £4.65 |
| 5.25" | 100 caps | | £5.75 |
| 3" | 20 caps | | £3.95 |

A page of news aimed specifically at people who don't wish to waste time searching for new product releases and updates. From now on this page will reflect all of the most up-to-date hardware and software launches, from 486SX PCs to modems, from keyboards to CD-ROM drives, in an at-a-glance style.

Each piece of information has been carefully examined for both newsworthiness, and information value. We will give you the low down on price, technical specifications, and availability as the news comes in. Expect the unexpected, tomorrow's standards will appear here first. Please note that, to the best of our knowledge, all prices quoted are inclusive of VAT.

# A chip off the new block

**PRODUCT:** RISC chip
**NAME:** AM29030 and AM29035



A strange choice for the news page you might think, but we know that many of our readers are interested in the very heart of their machines, and also in what could be the next big thing. These new Reduced Instruction Set Computer (RISC) chips offer the developer, and keen enthusiast if necessary, the chance to design state-of-the-art machines.

Even now Apple, NeXT and Acorn are working to make machines based on RISC architecture a standard worldwide.

Not only do the chips offer all the benefits of reduced instruction technology, they also come with a 4 to 8K on-board cache for instructions. Again, in the words of our resident technical expert: "This gives the cache some kicking space!"

**Price:** 16MHz = £52. 25MHz = £84. 33MHz = £105.
**Availability:** The chips will begin shipping in bulk from September
**Target users:** Developers and hardware manufacturers – with specific attention being given to imaging controller devices (such as those used in the NeXt machines) and bitstream manipulators
**Contact:** 0483 755030
**Perceived competition:** None

# A star is born

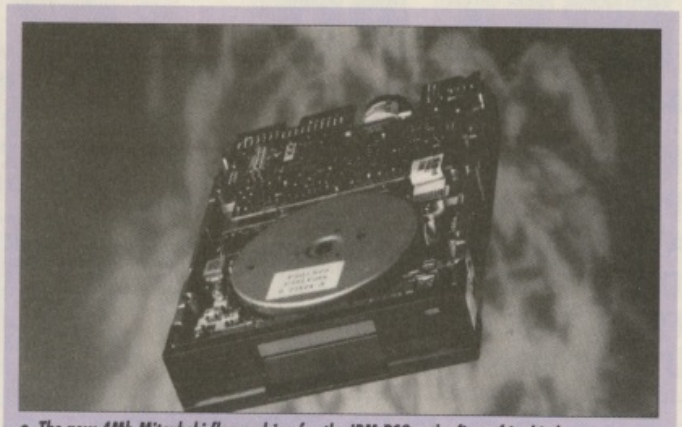
**PRODUCT:** Printer
**NAME:** Spectrastar

This colour film and wax transfer printer makes use of clay paper to produce high quality full colour pages. It makes use of a RISC processor, and has full Postscript compatibility.

The three colour ribbon which you will require for the best output results costs £120, and will provide up to 340 pages. Add-ons planned for the printer include a 6Mb RAM upgrade which will take the machine to a substantial 32Mb.

An internal hard drive, and 35mm camera attachment are also promised in the near future.

**Price:** £6,900.
**Availability:** General Parametrics and other reputable printer dealers.
**Target users:** Desktop publishing pre-press. High quality presentations.
**Contact:** 081-897 3646
**Perceived competition:** The nearest rival is Techtronics. Although, according to the manufaturers of the Spectrastar, the competition does not match up in terms of speed and data formats.



*• The new 4Mb Mitsubshi floppy drive for the IBM PS2 – the first of its kind.*

# Drive with attitude

**PRODUCT:** 3.5-inch disk drive (internal) **NAME:** Mitsubishi MF356C

Compatible with IBM's PS/2 PC, this drive is a high density, 4Mb version. In effect this provides 2.88Mb formatted. The ferrite magnetic drive heads used in the drive are claimed by the company to offer a maximum data transfer speed of one Megabit per second, from the 80 cylinders and 160 tracks which are provided for storage. It measures 101.6mm (width) X 25.4mm (height) X 146mm (depth), and is downwardly compatible with standard 1 and 2Mb drives in both read and write modes.

A spokesman for Mitsubishi's public relations company in the UK, told *Express* that this drive was a "new industry standard".

**Price:** £90
**Availability:** Now
**Target Users:** Original Equipment Manufacturers (OEMs), Value Added Retailers (VARs), End Users (by the end of August).
**Contact:** 0707-276100.
**Perceived competition:** Both Sony and Citizen are working on similar products.

# Space Age

**PRODUCT:** Local Area Network (LAN) outstation
**NAME:** Space Station

While this product is pitched as a VGA slave terminal for a LAN system, according to *Express*' technical editor Keith Pomfret, it has everything needed to make it a standalone 286/386SX PC. It looks exactly like a standard PC 102 key keyboard with no system box. What makes it different is the fact that the disk drive and expansion ports are mounted on it.

The standard unit comes with 1Mb upgradable to 4Mb. It comes with an external disk drive port, two serial (9-way D-type) ports, 1 parallel (25-way D-type), and a half sized 16-bit slot. Not only is the user unencumbered by a large footprint system case, the Space Station is also said to be exceptionally quiet. External floppy drives are already on-line, and a hard disk is in the pipeline.

**Price:** £593 for 286 without floppy drive (£684 with). £1,071 for 386SX (£1,163 with floppy drive).
**Availability:** Now available 'off the shelf'. Prior to this it was on test with both Ethernet and Arcnet systems.
**Target users:** Small network users, corporate clients. This a recommendation from the company itself. Read *Express* issue 139 (on the shelves on 6 July) for a full review.
**Contact:** Plus 5 Peripherals on 0483 755030.
**Perceived competition:** Small footprint PC workstations.

# Ion Age

**PRODUCT:** PC expansion board for use with Canon Ion still video camera.
**NAME:** Ion PC Kit

This package groups the much vaunted Canon Ion still video camera with a three quarter sized 16-bit board and all the necessary software required to process the photographs using your PC. To use the card, you will require a 286 PC or upwards, with 640K RAM, running DOS 3 or above. The kit allows you to take high quality photographs and develop them almost instantly, and convert the images into standard graphics formats such as TIFF and PIX. Once stored on a floppy or hard disk, the graphics can then be imported into desktop publishing applications.

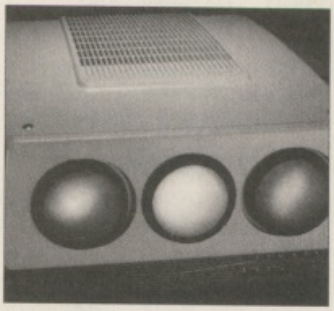
Peripherals planned for this product include a set of tele-converter lenses, a film adaptor, and major software releases which we believe will include compatible products from Aldus and Precision Software.

According to a spokesman for Canon, the PC Ion Kit offers a new way into the graphics workplace because: "Everyone can get text into documents. Now everyone can do the same, as easily, with pictures".

**Price:** £1,169
**Availability:** Estimated at the beginning of June, from Canon directly or from specialist PC retailers.
**Target users:** Desktop publishing, image processing. In the long term, graphics libraries which will place PC compatible images in the realms of the public.
**Contact:** 081-723 3173
**Perceived competition:** There is none, to the best of our knowledge.

# The bigger they come

**PRODUCT:** 15-55 KHz data projector
**NAME:** NEC GP3000



A massive projector for use in meeting rooms, the GP3000 provides a clear RGB image of 300" high by 60" wide. It offers both EGA and VGA compatibility, with interfacing achieved via five, 9-way, D-type inputs. Both S-VHS and PAL standards are catered for, which means that the user is not limited to using the device with a computer. Ideally, a multimedia set-up could be achieved with this technology.

**Price:** £10,875
**Availability:** Now
**Target users:** Seminar and exhibitions managers.
**Contact:** Anna Valley Displays: 0264 356581.
**Perceived competition:** Barco is also producing projectors on this scale. However, according to Anna Valley: "Barco isn't a complete solution".

# VIRUS FREE PD

## Amiga Public Domain Software

OVER 1500 PD DISKS AVAILABLE
PD SOFTWARE HELPLINE
THOUSANDS OF SATISFIED CUSTOMERS
OVER 100 DISKS ADDED EVERY MONTH
MOST ORDERS SENT WITHIN 24 HOURS
ALL DISKS DISTRIBUTED VIRUS FREE

**BUY ANY TEN PD DISKS AT £2.00 EACH AND PICK ANOTHER 5 FREE!!!**

## OVER 1500 PD DISKS CATALOGUED

### PD STARTER PACK 3

**Only £5.00 inc. p&p**

Essential Utils 1
The Bad Bart Dub Mix
Frantic Freddy
Master Virus Killer
Catalogue Disk

### CLIP ART Vol. 2

*Another 3 great disks full.*
**Only £5.99 inc**

### Official AMOS PD Disks Now Available.

### AMOS Licenceware. £3.50 a disk

| | |
|---|---|
| LPD1 | Colouring Book |
| LPD2 | Arc Angels Maths |
| LPD4 | Thingamajig 1 Meg |
| LPD5 | Jungle Bungle 1 Meg |
| LPD6 | Pakadu + Sprites |
| LPD7 | 4 Way Lynx 1 Meg |
| LPD8 | Work + Play 1 Meg |
| LPD9 | Amos Assembler |
| LPD10 | The Word Factory |
| LPD11 | Go Getter 1 Meg |
| LPD12 | Hypnotic Lands 1 Meg |
| LPD13 | Jigmania 1 Meg |
| LPD14 | Play It Safe 1 Meg |

### Games Galore Volume 1-4

Contains over 30 PD games spread over 4 disks. Including Drip, Amoeba, Chess, Yahzee, Tic-Tac-Toe Sky Fight, Welltrix, Asteroids, Ping Pong and loads more.

**Only £5.00 inc**

### GAMES

| | |
|---|---|
| 843 | METAGALACTIC LLAMAS |
| 1064 | LETTRIX (GREAT) |
| 1020 | MASTER OF TOWN |
| 1204 | WET BEAVER TENNIS |
| 849 | THE HOLY GRAIL |
| 850 | BREAKOUT CON KIT |
| 830 | QUIZMASTER |
| 670 | MONOPOLY |
| 595 | CAVE RUNNER |
| 1209 | WACKO IN WONDERLAND |
| 832 | AGATRON GAMES |
| 1466 | RETURN TO EARTH |
| 1440 | MEGA GAMES Vol. 1 Disk 4 |
| 1421 | BIONIX II |
| 531 | BLIZZARD |
| 530 | PACMAN |
| 509 | PARADROID |
| 1207 | FRANTIC FREDDY |
| 505 | DRIP |
| 255 | FLASCHBIER |
| 856 | XENON 3 ETC |
| 117 | MORIA RPG |
| 154 | TRACK RECORD 1 MEG |
| 534 | GAMES DISK 1 |
| 1179 | CHESS ETC |
| 1184 | MASTERMIND ETC |

Full details available by request

### UTILITIES

| | |
|---|---|
| 659 | ESSENTIAL UTILS 1 |
| 1206 | MANDLEBROT MAKER |
| 1208 | DATABASE WIZARD |
| 1078 | ESSENTIAL UTILS 2 |
| 1099 | PRO TRACKER 1.1 |
| 1202 | RSI DEMO MAKER |
| 1146 | ICON MAGIC |
| 1151 | C-LIGHT |
| 1156 | DRIVER GENERATOR |
| 1368 | SPECCY EMULATOR |
| 1310 | MVK 21 |
| 1469 | A BRIDGE |
| 1465 | SLIDESHOW MAKER |
| 1445 | CLOUD & FRACTALS |
| 1422 | DEMO MAKERS |
| 1399 | SCENE GENERATOR |
| 1311 | DISK IMUNE |
| 1229 | THE RIPPERS GUIDE |
| 1165 | AUDIO UTILS |
| 1162 | HOME UTILS |
| 1156 | DRIVER GENERATOR |
| 923 | PRINTER DRIVERS |
| 901 | VIRUSCOPE |
| 1470 | MED V3.0 |
| 671 | RIM DATABASE |
| 613 | 202 UTILITIES |
| 380 | TRS UTILS 10 |
| 381 | TRS UTILS 11 |
| 334 | LE' COPIERS |

### Adult disks

100's to choose from. Including Games, Slideshows & Anims

### Do the Bartman

A 3 DISK VERSION OF THE No.1 HIT SINGLE
ONLY £3.00 inc P&P

### MASTER VIRUS KILLER 2.1

Can now detect 124 Viruses/Bootblocks

### EXCLUSIVE WARE CROSSED SYSTEM

MEGA FAST SHOOT EM UP
*SILKY SMOOTH SCROLLING, DIGITIZED SFX & SPEECH, PUZZLES AND MORE.*
*1 Meg Needed.*
*EXCLUSIVE TO US*
*Only £3.99 inc P&P*
*Crossed System is NOT PD*

### Blank 3.5" Disks

Only **40p** each

### ZX SPECTRUM EMULATOR

*Now you can run Spectrum software on the Amiga*

Access **Catalogue Disk Available at £1.00 sent FREE with all orders** VISA

*Send Cheque, or Postal Order to:*

**VIRUS FREE PD (Dept NCE), 23 Elborough Rd, Moredon, Swindon, Wilts, SN2 2LS, England.**
**Tel: 0793 512321 Fax: 0793 512075**

All disks £2.00 each unless stated. Prices include P&P in UK. Minimum order of 3 Disks,
Overseas orders welcome, but please send Euro cheque or Bankers draft with order and add £3.00 towards P&P.

# SHOPPING EXPRESS

CONTENTS


AMIGA ..... 16
ST ..... 17
C64 ..... 18
CPC ..... 22
SPECTRUM ..... 23
ARCHIMEDES ..... 24
MAC ..... 26
CIRCUIT CITY ..... 28
WHOLE WIRED WORLD ..... 30
TECH TIPS ..... 32
PROGRAMMING ..... 40
THE EVENT HORIZON ..... 41
EXPRESS ON-LINE ..... 44
THE PD COLUMN ..... 46


# EXPRESS MAIL

**Write and tell Haydn Fitz-Williams what you think! Reach him at: *Express Mail*, 30 Monmouth Street, Bath BA1 2BW. Sorry, no personal replies, even with an SAE and remember, only SOME letters win a fiver!**

## Errr..sorry?

I JUST thought I'd write and tell you how much I've enjoyed the C64 column over the past few weeks - it really has been splendid! Please give my thanks to the person responsible for such an informative interesting and entertaining column.

*Errr...Andrew Roberts, Merseyside*

**THANKS ERRR...** Doubtless we'll be receiving similar communiqués from Jason Holborn, Ian Wrigley, Andy Hutchinson, Rod Lawton, Robin Alway, Ken Coumarin and, of course, Paul Rigby once the PC column makes its long-awaited reappearance.

## Post-piracy

I KNOW that £20-30 is a lot to throw at a new game, especially if you ain't too certain of the quality of what you're getting. But is pirating the stuff REALLY worthwhile? Presumably you people have acquired a fair amount of programming experience, plus a bit of business acumen through successfully flogging the fruit of your labours...

Are you really utilising these skill to your advantage? I suspect not. Sure, it's fun, but is it a profitable exercise? Maybe now, but will it be any good when you get out into the big, bad and prohibitively expensive Real World, with all its hassles and obligations?

I used to crack software myself, back in the days when all the games were on tape and I wanted to get them onto disk. I learned a lot about assembly language and how my machine worked from looking inside other people's code. But now, through doing a Degree course in Computer Science, I've graduated (sorry 'bout that pun) to bigger and better things. I've learnt about REAL programming, and about REAL computers, and with luck I'll get meself a Degree and go find me a REAL job. Believe me, some of you may think that breaking through a sophisticated game protection system on your home computer is a major achievement, but compared to designing, implementing, testing(!) and maintaining a BIG application running on a BIG machine, and doing so as part of a team, it's pretty miniscule.

I suggest you invest your effort into putting your skills to a more profitable use. Piracy doesn't help anyone in the long run, especially the actual pirate.

*Alan Ralph, Watford, Herts*

**COULDN'T AGREE** more myself. But while one day the pirates may grow up and get to grips with the real world, there'll be others waiting to replace them. I'm increasingly beginning to think that the only way to stop piracy is to stop releasing games on floppy disks. Methinks that economics will dictate CD format only games releases within five years. 'If you can't stop the prying fingers, lock the till'. But the next letter would seem to suggest another problem.

## The real world

WHERE DOES the majority of pre-release software come from? A lot of games come from developers. *Rainbow Islands* was given to us a whole year before its release, but most come from any of three places.

1) Duplicators - duplicating can take weeks. We have contacts working in such places who give us a copy as soon as they come in. This gives us the game up to 3 months before release.

2) Distributors - as above, but the people we have work in these places get us anything up to two weeks before release.

3) Shops - Slightly slower here with a few exceptions explained below. Different countries have different release schedules. We get games from shops in America, Australia, France, Italy – all over the world. France is a good place for shop releases, especially Paris.

For an industry which runs solely on the exploitation of gullible young programmers' talent, the only people truly hit by piracy are the grey-suited money men who run these companies.

Good games always sell and make programmers money only if they are on a royalty deal but 90 per cent of titles are purely and simply bad conversions from arcade machines, where the sound and graphics are just copies and ported and then glued together with awful quick coding. The only cost for this sort of production is the licence fee and the serial lead to port the code from the ST to the Amiga.

I hope this isn't too bleak for you 'cos this is the way it is and the way it will stay. No protection can't be cracked.

*One of Many, Leicester*

**WELL IT** seems I'm wrong already about uncopyable CD being the solution. If two of the main sources of pirated games are developers and duplicators, which I can well believe they are, it would appear any master code will be distributed irrespective of its final format. Also it looks like we're dealing much more with organised crime here rather than just some schoolboy cracking and swapping.

Reading between the lines, I reckon there's under the counter payments changing hands – programmers taking the profit directly from pirates and cutting out their publishers who will have already paid them an advance and some form of monthly salary. Not a lot more one can say really is there?

## HOW TO GET RICH BEYOND YOUR WILDEST DREAMS...

*• This overhyped little yellow jerk could make you one million pounds very easily. All you need is one Woolworth's shop, £1,999,000 in spare cash and a helluva lot of sticky tape.*

**1** I've actually developed one of those 'get rich quick with your computer' jobbies that really does work!

All you have to do is to go down to your local Woollies and buy the Bart Rap single for £1.99. You then stick the cover over your monitor with sellotape and play the record, thus saving yourself at least £1.01 on buying the three-disk public domain sampled version.

If you do this 1,000,000 times you will make the amazing sum of £1,010,000 – enough to put every other scam to shame and make you very rich indeed.

*Ivor Bigwun, Bristol*

**2** Here's a great idea for turning all the time you spend in front of a monitor into a foolproof way of becoming an overnight multi-millionaire. All you do is coat your disks with sodium so they'll spontaneously combust when in contact with the drive's read'/write heads and destroy the contents of your house. Then you sue the disk manufacturers pleading loss of property, health and sanity. Simple eh?

*John Symes, Victoria Hospital Burns Unit, Worksop, Notts*

**ERRR...YES.** Do any other readers have simple, yet wonderful loot attraction utilities to offer?

## A Poser

SOMETHING to investigate ?
1) NCE 130, 2 May 1991, page 55, column 2, paragraph 2.
"Then we chanced on a stroke of luck. The Saab driven by John Gold turned out to be registered to an Elizabeth Grant-Muller, resident in Queens Road."
2) *Computer Weekly*, 2 May 1991, page 6.
"Police 'guilty of systems abuse'. Police officers are still abusing the Police National Computer.. holds confidential information .. registration data on every motorist." Discuss.

*Gavin Syme, Edinburgh, Scotland*

## Oh no!

"*NEW COMPUTER EXPRESS* STAFF IN SHOCK POLICE BRIBERY CASE!"
Read all about it in this week's *Sunday Sport*!

*Steve Browne, Kingston, Surrey*

**A GOOD** point on which to start a debate, but *Express* didn't use 'inside sources' to ascertain the registration information in question. The real data is public domain and can be gleaned quite legitimately – with a little ingenuity. I don't want to print the details though – we'd start getting complaints from private detective agencies left, right and centre.

## Big piles

I WOULD first like to say that *NCE* is very good value for money and is very informative. I don't know if other readers experience this, but I find it difficult to throw the mag away when I have read it, so I have a pile about two feet high !

*James Smith, Stockport, Cheshire*

WELL...just how big are other readers' piles? Send in photographs and we'll print the largest ( **Are you sure? - Ed**)

## Shuttle shock

IN ISSUE 130 I was outraged by an article for Virgin's shuttle simulator or rather the photo and the caption for it. It's disgusting that your magazine should treat such a disaster so lightly after taking such a moral stance on pirating software to totally ruin what little ( I can see we're heading for one of the longest sentences ever to grace these pages here - H F-W) credibility you had by making fun of the shuttle disaster. I, for one, am absolutely disgusted with NCE

*Ian Hurst, Wigan, Lancs*

**OK, OK**. I agree the caption was in bad taste. I suppose I also went over the top last week by printing all those crap jokes about the shuttle disaster. But then some people find black humour funny. Mind you, others would say it's merely the pitiful response of a sensitive mind to horrors too massive for it to fully comprehend. Take for example,...err.. no you better not.

## Sam update

I'VE HAD a talk on the phone to Alan Miles about what you said last issue. He says that not only is what you said complete rubbish - you've had a SAM for ages - but also when SAM computers were canvassing you a couple of weeks ago (and proving that the MIDI problems were non-existent by demonstrating their sequencing software) and were asking you to write a column on the SAM in preference to them continuing with the SAM hotline, *NCE* actually asked them if they could name a reviewer - and you were ( no -this is definitely the longest sentence ever to grace these pages -H F-W) saying that they were forcing you to use their people to review the Coupé in the first place!

*Simon Cooke, Sale, Cheshire*

**BILGE**. Firstly, we were given a SAM for review ages after the original launch and when it arrived it didn't work. Secondly, Alan Miles is the one who's talking rubbish. Thirdly, the editor asked Alan to suggest a columnist from the various user groups and fanzine circles he knew of and fourthly, *Express* decided not to run a column because it wouldn't generate enough interest. Think about it – I just can't see why they should want to pass over a hotline which they claim brings in 1,000 calls each week at a rate of 33p and 44p a minute.Can you?

## PC Plodding

FURTHER to your request for multiple sightings of PC's on television, I feel sure I must win loadsa dosh as I have spotted literally hundreds of PC's during the course of the last month. The TV programs were *Inspector Morse, Taggart, Prime Suspect, The Bill, The Chief, 10 O'Clock News, 9 O'Clock News, 6 O' Clock News*. As well as PC's I spotted Sergeants, Inspectors and (I think we get the picture – H F-W)

*D.Macwibblewobble, Sutton, Surrey*

## A droid writes

IF HUMAN intelligence is so superior then how come you manged to spell my county wrong? Anyway, my digital image scanning is obviously superior to what passes for sapien observational abilities because I seem to be the only being to have noticed my soul bro' DARYL on the box over Easter, playing not one, but two games simultaneously on an Atari 8-bit (*Firefleet* and *Missile Command*). It's nice to know that at least somebody has taste

*The Android, Rhyl, Clwyd*

**WELL SPOTTED** Me ole' droidy chummy, but answer me this - how can anyone, irrespective of their degree of digital consciousness, play one game simultaneously? Don't tell me - he has the same game playing on two or more machines right?

## Betamax 2?

WHAT'S ALL this fuss being made about CDTV? Everyone who is anyone realises that as soon as Sony gets its marketing people into gear and its CD-I product fully developed, Commodore's attempt at multimedia will vanish into the realms of Betamax and Video2000

*Martin Firbanks, Kircaldy, Scotland*

**OK** Martin but just remember Betamax was a Sony format won't you?

## Just send cash

WHEN YOU unceremoniously dumped all of the 8-bit columns, I like many of the other thousands of 8-bit readers, stopped taking your purile rag. Several months later I have to hold my hand up and be counted. The XE now lives in the cupboard under the stairs with the tent and kayak that we never use and an Amiga takes pride of place on the desk.

Your abrupt 8-bit halt left me first angry and then determined to do something about it. Time doesn't stand still so I'm now a 16 (or was that 32) bitter. Without *Express*'s help I would still be in the dark ages

*Jack Sproston, Winsford Cheshire*

## WRITE A LETTER AND WIN A GAME SHOCK

WE'RE NOW in our fourth week of giving away free full price games to the best letters we receive and our first winners should be receiving their prizes right now. This week there's another five top titles to be won, so you should actually get round to specifying the game you'd like to win should you write the greatest letter ever received in the history of *Express* (this week).

So here's the five top digital delights for this week :

- AMIGA - EMPIRE SOFTWARE'S incredible space trading shoot-em-up *Megatraveller 1*
- ATARI ST - VIRGIN'S riotous *VIZ* -
- COMMODORE 64 - IMAGE WORK'S *Passing Shot*
- AMSTRAD CPC - ZEPPELIN'S *Jocky Wilson's compendium Darts*
- PC - Infogrames' *Welltris*

So get writing on anything under the sun and win yourself a free game!

**THANKS** Jack, should you, or any other reader, wish to remunerate any of the *Express* team members for their enlightened advice, just a cheque to *NCE* Editorial, Commodore UK, Maidenhead, Berks.

## DIY VR sims

IF EVERYONE who read *NCE* took notice of what you say, we'd all be using Workstations, Virtual Reality Simulators and 3D Laser Holography for entertainment.

Get a life. People don't have the cash or the desire for these Ferraris of the digital world. Stay with bread and butter subjects. We don't want expensive toys to look at. We want realistic things to buy and make.

*Stuart Kennett, Halifax, Yorks*

**OK**, we'll do a Circuit City special on DIY virtual technology in the near future just for you...

## On-line mail

Own a modem? Then squirt us a letter. *Express* has its own conference on CIX. Why not give this on-line service a ring on 081-390 1244 and talk to us direct! You can also leave E-mail for us on Prestel and Micronet - get in touch on 011112623, or on Telecom Gold

# BCS Base Computer Services Ltd

## ★ OFFER BASE PRICES ★

## Complete Systems

| | NO MONITOR | MONO | 14" SVGA |
|---|---|---|---|
| 286-12 | 450 | 535 | 732 |
| 286-16 | 475 | 561 | 758 |
| 386SX-16 | 609 | 695 | 892 |
| 386-25 | 759 | 845 | 1042 |
| 386-33 | 985 | 1071 | 1268 |
| 486-25 | 1459 | 1545 | 1742 |

**ALL SYSTEMS INCLUDE:-**

- ★ CO PROCESSOR SOCKET, 1MB RAM
- ★ 2 x SERIAL, 1 x PARALLEL + 1 x GAME
- ★ 1:1 INTERLEAVE HARD + FLOPPY CONTROLLER
- ★ 44MB 28MS HARD DISK
- ★ 1.2MB OR 1.44MB FLOPPY DRIVE
- ★ DESKTOP CASE
- ★ 102 KEY KEYBOARD
- ★ 12 MONTHS RETURN TO BASE WARRANTY

## Upgrades/Options

| | Price £ |
|---|---|
| Extra Megabyte of RAM | +50 |
| Extra Floppy Drive | +55 |
| Slim Line Case (200W PSU) | +25 |
| Mini Tower Case (200W PSU) | +25 |
| Full Tower Case (220W PSU) | +75 |
| Desktop Case + Speed Display | +15 |
| 84 Mbyte 20Ms Seagate Hard Disk | +100 |
| 124Mbyte 19Ms Seagate Hard Disk | +165 |
| Serial Mouse | +25 |
| MSDOS 3.3/4.01 | +38/55 |
| Co-Processors | £ CALL |

## 081 851 5314

## Mother Boards

| | |
|---|---|
| 286-12 WITH 1MB, EXP UPTO 4MB | 110 |
| 286-16 WITH 1MB, EXP UPTO 5MB | 135 |
| 386SX-16 WITH 1MB EXP UPTO 8MB | 260 |
| 386 25 WITH 1MB EXP UPTO 8MB | 450 |
| 386 33 WITH 4MB EXP UPTO 16MB | 750 |
| 486 25 WITH 4MB EXP UPTO 64MB | 1120 |

## Peripherals

| | |
|---|---|
| 1.2M Floppy Drive | £46 |
| 1.44M Floppy Drive | £46 |
| 44 Mbyte Seagate (ST157A) drive (28ms) | £149 |
| 84 Mybyte Seagate (20ms) HDD | £250 |
| 124 Mbyte Seagate (19ms) HDD | £315 |
| Higher Capacity drives | £CALL |
| IDE 2FDD/2HDD with Cables | £15 |
| IDE 2FDD/2HDD + 2S + 1P + 1G | £25 |
| AT 1/0 Card (2 Serial, 1 Parallel, 1 Game) | £12 |
| Dual Display Card (Monochrome, CGA, 1P) | £19 |
| Monographic Card (Hercules, 1 Parallel) | £12 |
| 8 Bit Super VGA Card (256k) | £39 |
| 16 Bit Super VGA Card (256k) | £53 |
| 16 Bit Super VGA Card (512k) | £68 |
| 16 Bit Super VGA Card (1024k) | £89 |
| Mono Monitors | £75 |
| Colour VGA | £195 |
| Super Colour VGA (1024x768, 0.28 dot pitch) | £215 |
| Multisync Monitor 1024x768 | £279 |
| XT/AT 102 Clic keyboard | £29 |
| NE 1000 Ethernet Card | £78 |
| XT/AT Case (3x5.25, 1 x 3.5) 200W | £68 |
| Mini Tower (200W PSU) | £90 |
| Full Tower (220W PSU) | £159 |
| Mouse | £25 |
| Printer Cable | £5 |
| Printers | £ CALL |
| Various Drams/SIPPS/SIMMS | £ CALL |

## SPECIAL OFFER

### 20Mb Hard Disk

### £89.00

THE
MONSTER
STEREO CARTRIDGE

**Stereo sound on ANY ST?
Don't make me laugh.**

The **MONSTER STEREO CARTRIDGE (MSC)** plugs into the printer and monitor ports of your ST and provides your ST with stereo sound when necessary routines are used.

Once you purchase the cartridge, all the necessary phono leads are provided, so you are able to connect your computer immediately to your hi-fi.

**Just look at what the MSC offers:**

★ ALL sound played through your hifi/stereo monitor
★ 100% compatible with ALL existing software.
★ All necessary leads supplied
★ Monitor through port provided.
★ Leaves your already crowded cartridge port free.
★ Sound output in 8 bit resolution.
★ Stereo sound on TCB TRACKER V1. 1m.
★ Audio Sculpture music played in stereo.
★ Samples played through the MSC can be up to 80% faster.
★ Play samples up to 175khz! (CD quality only 48khz).
★ Amiga samples played in stereo.
★ 100's of PD demos already have stereo sound.
★ Existing games already supporting the MSC
★ Most major software houses are supporting the MSC
★ Demonstration software and replay routines included.

**At only £24.99,** the MSC is a real bargain that can't be missed. However, we also offer the following packages.

**Monster Stereo Cartridge.....£24.99**
**MSC + TCB Tracker.....£35.00**
**MSC + Wings Of Death.....£35.00**
**MSC + Tracker + Wings of Death...£42.50**

mph COMPUTER SPECIALIST
10 CHANDLERS CT
EATON
NORWICH
NORFOLK
0603
503382

# AMIGA

**AMOS COMPILER IMMINENT**

Fans of Mandarin's wondrous games creation package AMOS will be pleased to learn that the compiler will be with us in a matter of days.

To be published under the new Europress Software banner (phone 0625 878888), the compiler promises to turbo charge your AMOS programs, typically doubling their speed. Speed isn't the only advantage, however. Because your AMOS programs will be turned into super-fast machine code, there's no need for the old and trusty RAMOS runtime system, therefore allowing you to produce programs that are truly stand-alone.

At the recent European Computer Trade Show, Europress was also showing off the first real extension for the AMOS language, in the shape of the much talked about AMOS 3-D. It's been previewed more times than the CDTV (which is really going some), but it seems that we may well finally get a chance to add true 3-D graphics to our AMOS programs.

The package (which comes complete with a dedicated 3-D object editor) claims to allow anyone to produce games like *StarGlider* in AMOS. Personally, I'll believe it when I see it.

**JAGGIE-FREE FONTS**

Zen Computer Services has launched a new package which is sure to be of special interest to anyone involved in desktop video on the Amiga. Called *Antia* (great name lads), it's a powerful font enhancement utility that smooths out the jaggies on standard Amiga bitmapped fonts, therefore making it ideal for producing professional looking video titles.

Just like the font scaler utility distributed with many Gold Disk products, *Antia* can produce up to nine different scaled down versions of any standard Amiga font, antialised using four brightness levels. This also automatically converts the fonts to colorfont format, so you'll need a colorfont-compatible package like EA's *DeluxePaint 3* if you wish to use them.

The package allows you to produce point sizes up to an impressive 300, although this kind of operation will require large amounts of memory and processing time. Zen recommends a processor accelerator and at least 1Mb of RAM, though these are not a necessity. *Antia* is available now from Zen for just £40. You can reach the company on 061 793 1931.

**SUPER ECS SOON**

If you thought the Enhanced Chip Set was the bees knees, then you're in for a shock – Commodore is already working on a vastly enhanced chip set that will push the Amiga's capabilities still further. OK, most of us still don't have the current ECS (come on Commodore, get your act together), but that's no reason for Commodore to rest on its laurels. No siree, Commodore's research and development people really seem to be getting down to some serious work.

During an interview published in a well known UK monthly Amiga magazine, Commodore's head-honcho, Irving Gould, revealed that a new chip set is in the works. When questioned about its capabilities, he went on to add that the new chips would add 'more icing on the cake', including such things as extra colours (let's face it, the Amiga needs them) and even more chip RAM (would 4Mb be too much to ask?).

Exact specification-type details were rather lacking (Gould himself admits that he is no techie), but he assured us that Commodore is committed to 'staying with the state of the art'.

**BOOKS FOR BOFFINS**

If you're after a good read that will teach you a thing or two about your Amiga, then look no further than a couple of home-grown books from prolific book publisher, Bruce Smith Books (phone 0727 41243).

Bruce has pulled together some of the most experienced and certainly some of the most knowledgeable Amiga journalists around, including such well known names as Mark Smiddy, Phil 'Snouty' South and Paul Andreas Overaa. Those of you who study the monthlies will have no doubt seen work from these writers; they contribute on a regular basis to such publications as *Amiga Format*, *Amiga Shopper* and *Amiga User International*.

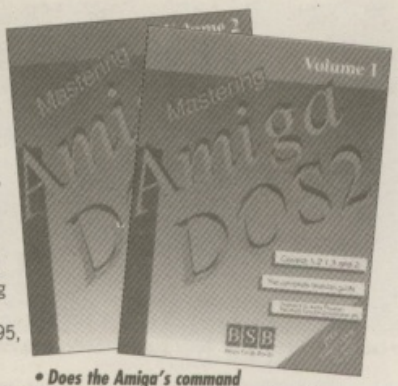
## GAMES FOR JUST £3!

**If the recession is finally starting to bite, then take comfort in the news that Prism Leisure has launched a new range of 16-bit budget software. OK, nothing special so far, but the good news is the price of the games– just £2.99. Just think, you can now buy commercial games software for the same price as PD software!**

**As you'd expect, none of games offer particularly ground breaking material, but there are a few bargains to be had. Initially the range consists of 16 titles, all of which were previously sold for considerably more than their new asking price. These include such classics as Kevin Toms' (what ever happened to him?) *Football Manager*, Anco's *Mouse Trap* (a great little platform game), *Frost Byte* (yet another platform game in the *Manic Miner* mould), *Karting Grand Prix* (a very cheap and cheerful *SuperSprint* clone), *Las Vegas* (a fruit machine game) and *Plutos* (a totally naff vertically scrolling shoot-'em up).**

**Hopefully more companies will follow Prism's lead, with more (and hopefully better) software being made available at what is undoubtedly a remarkable price. With leisure software having such a short shelf life, it seems only logical that software companies can maximise the sales potential of a particular product by re-releasing it into the budget sector. It is tempting for these companies to sell budget titles at the current £10 price level, but (while being cheap for 16-bit software) this is still a far from ideal price.**

Many of Bruce's Amiga specific publications are very much still 'in the pipeline', but two have already been released. Both written by Mark Smiddy, they are *Mastering AmigaDOS* volumes one and two. Volume one costs £21.95, but you can also obtain a free diskette which is packed full of useful utilities and source code for many of the examples given in the book (saves the old typing fingers, don't you know). The second volume costs just £17.95, but it's just as thick as the first (over 300 pages!).




***• Does the Amiga's command line interface confuse you? If so, then the Mastering AmigaDOS series of books is for you.***

Volume one starts off with an introduction to AmigaDOS, looking at such subjects as how directories are structured, how to move around a disk and a basic introduction to the fine art of working with AmigaDOS commands. The DIR command gets a damned good going over, with successive commands receiving pretty much the same treatment. Then it's on to such subjects as the AmigaDOS Shell, wildcards, file protection, environment variables and a lot more besides.

Volume two (which was actually written before volume one) is a complete reference to the AmigaDOS command set that covers both 1.3 and 2.0 of the Amiga's operating system. Everything is laid out in a clear, no-nonsense fashion that will allow you to find out what you need to know in a matter of seconds.

I've seen a fair number of AmigaDOS references guides in my time (indeed, I've got a shelf full of the damned things) but none go as far as these two books. A lot of it may seem rather too techie at first, but as your skills progress, these books will continue to be a valued source of reference. Whether you're just starting out with AmigaDOS, or you're a seasoned CLIer, the *Mastering AmigaDOS* series is a recommended purchase.

**Jason Holborn**

# ST

**MIDI MUSIC SHOW**

Anyone who took a stroll around the second MIDI Music show, would be left in little doubt of the ST's dominance of the MIDI market. On practically every stand at the show an ST could be seen controlling synthesisers, hardware controllers, drum machines and sequencers. This dominance is all the more impressive when you realise that only two other machines were on show on the stands: a lack lustre PC and a lonely Amiga games machine.

There was a gorgeous array of new software and hardware launched at the show. In fact, nearly all the stands had some new package on show for the first time. *Express*'s sister magazine *ST FORMAT* was sharing a stand with Atari itself. On the stand was the first public showing of the brand new Mega STE. This was running version three of *C-Lab Notator*, which was in turn, controlling a Yamaha SY-77 synthesiser. What's more, the Mega STE was multi-tasking via C-Lab's Softlink package. This was a timely reminder to the few Amiga owners who showed up, that the ST can multi-task just as well as any other 16-bit machine.

The boys on the Audio Visual Research stand were demonstrating what could well be one of the best

PROGRAMMERS FOR MOST MA-
AMIGA ATARI IBM/PC
PANZA BOXING 16.99 16.99 ROAD & CAR 19.99
PGA TOUR GOLF 16.99 16.99 PGA TOUR GOLF 16.99
U.M.S.2 19.99 19.99 U.M.S.2 24.99
POWERMONGER 19.99 19.99 TACON 2 29.99
SWIV 16.99 16.99 LINKS 29.99
SUPERCARS 2 16.99 16.99 4D BOXING 19.99
GODS 16.99 16.99 FLIGHT SIM 4 34.99
PRO TENNIS 2 16.99 16.99 SIM EARTH 27.99
SPEEDBALL 2 16.99 16.99 TEST DRIVE 3 19.99
A.D.S 16.99 16.99 SILENT SER 2 24.99
THESE ARE JUST A FEW OF THE TITLES IN STOCK WITH U.S.
PRICES.
WE ALSO STOCK HAR
GUINES
AMIG
PANZA BOXING 16.9
PGA TOUR GOLF 16.9
U.M.S.2 19.9
POWERMONGER 19.9
SWIV 16.9
SUPERCARS 2 16.9

pieces of hardware of the year. This [illegible] between [illegible] and [illegible]. The latter [illegible] ...ware. The [illegible] ...ware has been modified so that it now operates at 64 times over-sampling on input and four times on output. At £300 this is a professional sampler at a ridiculously low price. AVR is on 0582 457348.

The School of Audio Engineering was touting its ST-based MIDI courses. This company, which has been around for 14 years, specialises in guiding students through the murky waters of MIDI, via hands-on experience. There are three MIDI courses: basic, intermediate and advanced The former deals with such subjects as "principles of MIDI" while the advanced course covers things like "interfacing pre-MIDI equipment". Prices start at £75. Telephone 071 609 2653.

Intersound is an Italian company which has just released a package called *Sample Tools*. This program enables you to keep a database of some 18,000 samples. Snippets of the sample itself can be played back through a monitor and the whole wave can be edited in-memory. The program works with S-1000, W-30, S-550, S-330 and S-50 samplers, making it extremely flexible. Intersound is in Italy on 0039 01/1-884646.

**GAJITS UPDATE**

Gajits, producer of the *Sequencer One*

the show. In fact, nearly all the stands had some new package on show for the first time. *Express*'s sister magazine *ST FORMAT* was sharing a stand with Atari itself. On the stand was the first public showing of the brand new Mega STE. This was running version three of *C-Lab Notator*, which was, in turn, controlling a Yamaha SY-77 synthesiser. What's more, the Mega STE was multi-tasking via C-Lab's Softlink package. This was a
covers things like "interfacing pre-MIDI equipment". Prices start at £75. Telephone 071 609 2653.
Intersound is an Italian company which has just released a package called *Sample Tools*. This program enables you to keep a database of some 18,000 samples. Snippets of the sample itself can be played back through a monitor and the whole wave can be edited in-memory. The program

**HIGH QUALITY DISKETTES**
PIN NUMBERED QUALITY DISKETTES 100% CERTIFIED AND GUARANTEED 100% ERROR FREE. MANUFACTURED AND QUALITY ASSURED BY AN INTERNATIONAL BRAND NAME

3 1/2 DS DD 34p EACH
RED, WHITE, BLACK, YELLOW, ORANGE, GREEN
ORDERS OVER 100 RING FOR PRICE
3 1/2 DS DD 31p EACH

3 1/2 DS HD 60p
5 1/4 DS DD 20p
5 1/4 DS DD COLOURED 25p
5 1/4 DS HD 37p

31/2 PLASTIC LIBRARY 51/4 CASES EA 78P
**STORAGE BOXES**
31/2 40 cap ...£3.70 31/2 80 cap .. £4.10
51/4 50 cap ...£3.90 51/4 100 cap £4.30

EURODATA
12A QUAKERS YARD
ADAM AND EVE ST
MARKET
HARBOROUGH
LEIC LE16 7LT
TEL: 0858 433992

LIFETIME GUARANTEE . ALL PRICES INCLUDE LABELS & ENVELOPES. ALL PRICES EXCLUDE VAT.
ORDER NOW WITH POSTAL ORDER OR CHEQUE MADE PAYABLE TO EURODATA, OR TELEPHONE YOUR ORDER USING MASTERCARD & VISA. SUBJECT TO AVAILABILITY
ADD £3.20 P&P

RING FOR MEMOREX BRANDED PRICES

Access VISA

LOWEST PRICES FOR HIGHEST QUALITY

**MUTANT SOFTWARE**
UNIT 4, 15, BENNETT RD,
READING,
BERKSHIRE
RG2 0FX
(MAIL ORDER ONLY)

PHONE 0734 756121
PHONE 0734 756121

PHONE OR SEND CHEQUES/P ORDERS FOR TH E VERY BEST IN HOME ENTERTAINMENT.WE STOCK AMIGA, ATARI & A GREAT RANGE OF IBM PC GAMES FOR THE HOME.
WE OFFER YOU A SERVICE SECOND TO NONE, FIRST CLASS DELIVERY, GREAT ADVICE, DEFINATE DATES FOR RELEASES, 24HR DELIVERY IF IN STOCK, & MOST OF ALL, COMPETIVE PRICES.
WE ALSO STOCK HARDWARE & PERIPHERALS FOR MOST MACHINES.

| | AMIGA | ATARI | | IBM/PC |
|---|---|---|---|---|
| PANZA BOXING | 16.99 | 16.99 | ROAD & CAR | 9.99 |
| PGA TOUR GOLF | 16.99 | 16.99 | PGA TOUR GOLF | 16.99 |
| U.M.S.2 | 19.99 | 19.99 | U.M.S.2 | 24.99 |
| POWERMONGER | 19.99 | 19.99 | TACON 2 | 29.99 |
| SWIV | 16.99 | 16.99 | LINKS | 29.99 |
| SUPERCARS 2 | 16.99 | 16.99 | 4D BOXING | 19.99 |
| GODS | 16.99 | 16.99 | FLIGHT SIM 4 | 34.99 |
| PRO TENNIS 2 | 16.99 | 16.99 | SIM EARTH | 27.99 |
| SPEEDBALL 2 | 16.99 | 16.99 | TEST DRIVE 3 | 19.99 |
| A.D.S | 16.99 | 16.99 | SILENT SER 2 | 24.99 |

THESE ARE JUST A FEW OF THE TITLES IN STOCK WITH U.S. PRICES. WE ALSO STOCK HARDWARE & PERIPHERALS FOR MOST MACHINES.

★ ATARI ST ★ ATARI ST ★ ATARI ST

**A brilliant offer for readers of New Computer Express!**

# Devpac ST 2

**FROM HISOFT ONLY £44.95**

Devpac ST version 2 is widely regarded as the most powerful assembly language development system for the Atari ST. It incorporates a debugger, stand-alone assembler and a fast linker

**IT INCLUDES:**

➢ **GenST** Assembler is a high-performance, full-featured, two-pass Motorola standard macro assembler at up to 75,000 lines per minute. It has multiple modules and sections, repeat loops and macro calls that may be nested as deeply as memory allows.

➢ **MonST** Debugger is an advanced symbolic monitor, debugger and disassembler. Now in addition it can offer multiple window display, full expression evaluator, up to 22 significant characters in symbols, viewing of source files and conditional breakpoints.

➢ **Example Files** of a wide variety including a full GEM type windowing application and an example desk accessory.

The package comes complete with an extensive ring-bound manual plus notes on the various operating system levels and debugging strategies.

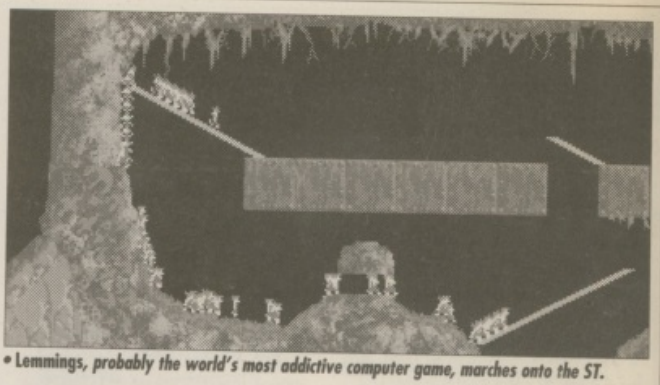
**Order now by phone from the NCE mail order service or send the coupon to our FREEPOST address.**

**HOTLINE NUMBER**
**0458 74011**

DevpacST 2 version 2
Complete Assembler/Debugger System for the Atari ST Computer

SAVE £15

**Yes, I would like to order a copy of Devpac ST 2**
**Name** .....
**Address** .....
.....
**Tel No** .....
**I would like to pay by Access Visa Cheque PO**
**Please debit my credit card**
**No** .....
**Expiry Date**.....**Tel. No** .....
Send & make cheques payable to Future Publishing, FREEPOST, The Old Barn, SOMERTON, Somerset. TA11



• Lemmings, probably the world's most addictive computer game, marches onto the ST.

date is pencilled in for the autumn.

The team also launched *The Hit Kit*, a new music composition program which helps a novice to create drums, bass, arpeggio patterns or even complete pieces of music. Gajits are on 061 236 2515.

Plasmec has single handedly revolutionised hard disk recording by releasing a very budget version of this popular record/playback medium. The Adas system works with any size ST and can be used in conjunction with C-Lab's or Steinberg's sequencing software. The basic package costs £839 for the hardware and controlling software, while the Dat I/O board costs £359. DAC, the British distributors of the package, is on 0784 462175.

Digital Muse was demonstrating *Virtuoso* and *Prodigy* its two revised modular sequencing programs. *Virtuoso*, the more expensive package, is a multi-tasking sequencer which can operate up to 99 tracks. Muse is on 071 586 3445.

**DON'T BE A LEMMING**

After a slight wait for the ST version of this game (ironic smile) Psygnosis has released *Lemmings* to an eager ST community. If you haven't heard about this highly original game, then a brief synopsis might be in order.

The idea of the game is to guide a hundred or so lemmings safely to a gateway. On the way there are a number of hazard, such as big drops, flames, water and spikes. The lemmings aren't directly under your control. However you can tell individual rodents to perform tasks, such as re-directing the traffic, exploding (yes really), digging and parachuting. Thus you can chivy your lemming army to the gateway at the end of the level.

*Lemmings* plays like a dream. It really is a frantic game, which has deprived me of more than a few hours of precious sleep. You see a side-on view of a landscape which can be scrolled left and right via the mouse, then little furry chaps start dropping from the skies and you're left frantically sticking traffic warden lemmings on patrol. On occasion the screens look so simple that you think you'll get it right first time, but trying to get these blimmin' lemmings to do anything right is like trying to direct the traffic around the Arc de Triomphe.

Completing a tricky level of *Lemmings* is comparable to passing your driving text. The worst (that is if your a busy person) aspect of the game is its addictive quality. This is a side of games design which is all to often left to pot-luck. If you're taking some exams in the near future, don't buy this game.

**DON'T BE A LLAMA**

A little foot-note. If you turn to the Public Domain section of this great organ, you'll discover a review of a shareware game called *Llamatron* by Jeff Minter. Having received this game myself I can only say, go out and buy it yesterday. When programmers like Jeff get so discouraged by the whole computer games industry that they have to resort to shareware, you know there's a problem.

Apart from the game's massively addictive qualities, it's a gem. Smooth, rapid graphics, crisp samples and gnarly humour make this an all-time classic.

**Andy Hutchinson**

# C64

**ASHES TO ASHES?**

Recently, it seems that a week cannot pass without a 'controversy' in the world of the C64. This week, it is the rumours of a price cut for the C64GS, which, if true, could only quicken the demise of the 64.

Looking at the situation realistically, could Commodore have dominated the console market with the GS? Technically it has the edge over the Sega, but having been launched on the back of another machine's successes it pails in comparison. Don't rush out and sell your GS right away – the price cut will undoubtedly increase the user base (and popularity) tremendously, but if other consoles go from strength to strength, the GS only has a couple of years left to live. If and when it does disappear, it will not have been in vain – it stirred up interest in cartridges, which will no doubt prolong the life of the 64 (even if they are too expensive by half). It all appears to be doom and gloom at the moment, but I look at the situation another way – when the Spectrum market disappears, THAT'S the time to start worrying.

**A GOOD WHINGE**

I received an interesting and lengthy letter from Paul Copley this week – thanks, Paul! He had some very strong points to make about Commodore, the demise of the 64, and the ubiquitous

GS. His letter dwells on the subject of the cartridge/cassette/disk struggle, and highlights that the price of disk drives should be brought down in order to inject some life into the machine (and indeed to provide the cartridges with some sort of 'competition'). He also states that if Commodore continues to attract programmers from the C64 to the Amiga, there will be few reputable programmers left and subsequently the quality of software will deteriorate rapidly. Eventually, he adds, the C64 market will consist solely of budget games and will ultimately 'stagnate'.

Valid points, Paul, but there are hundreds of competent programmers/artists/musicians out there just waiting for their big break. I wouldn't worry about software standards just yet.

Finally, he gave a few suggestions on how to improve the column – rest assured, I've taken some of your thoughts on board. If you have something to get off your chest, or if you have any other ideas, criticisms and the like, jot them down and send them to; Andrew Roberts, *New Computer Express*, 30 Monmouth Street, Bath, Avon, BA1 2BW.

**A TO Z PART 2**

Alright, you've been desperately counting the days for this week's column so here it is... the final part of the A-TO-Z of essential games!

**N** – *Nebulus* (Hewson) Probably the most original game concept ever, this cutesey platform game cum shoot-'em-up provides lasting entertainment. Frustrating, but fun.

**O** – *Octpolis* (English) This was labelled a *Sanxion* clone when first released, but the similarities are only minor. The game also boasts a challenging (and technically excellent) vertical stage, adding to the immense playability.

**P** – *Parallax* (Ocean) Sensible Software always delivers the goods; fast and furious action across five superb parallax backdrops. There are also some neat puzzles in there, but what really shines is the epic 15 minute soundtrack – awesome!

**Q** – *Quedex* (Thalamus) Possibly the only decent game beginning with a 'Q', this 10 stage puzzle game is a tough test of skill and co-ordination. Silky graphics and bouncy music accompany the taxing gameplay.

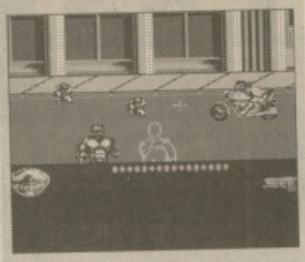
**R** – *Retrograde* (Thalamus) The largest collection of superweapons ever seen! The seven levels combine frantic horizontal stages with tricky vertical ducts, each one followed by a gargantuan mothership. Original graphics... funky music... a superb shoot-'em-up.

**S** – *Slap Fight* (Imagine) Quite unusual; the graphics are adequate, the sound annoying, but the game itself is totally compelling! Fans of the arcade original will love this conversion. It's difficult, even unfair in places, but keeps you hooked for weeks.

**T** – *Tetris* (Mirrorsoft) Other clones of this utterly splendid concept (*Welltris*, etc) come nowhere near to matching the genius of this game. Stunningly simple gameplay is the key to its lasting interest.

**U** – *Up 'n Down* (US Gold) One of my all time favourites... seriously! It is a truly 'lovely' game, with quaint graphics and a hilarious tune. Difficult to track down, but if you've got it – hang on to it. A classic!

**NAME THAT TUNE**



**Here's a little poser for you. What's the connection between *Robocop* and a washing machine? Putting aside any lewd comments about mating habits, the actual answer is that the music which accompanies the latest Ariston washing machine advert is the music from the title sequence of the *Robocop* game. Don't ask me why. Just send in your suggestions on the back of a used £20 note.**

**V** – *Vendetta* (System 3) An interesting *Ninja* variant boasting some wonderful Dokk graphics. The racing stages serve to enhance your enjoyment, while the puzzles are well paced. Oh, and who can forget the incredible intro? I nearly did!

**W** – *Wizball* (Ocean) This game seems to defy definition – is it a shoot-'em-up, or a puzzle game? Who cares? It is original and fun. A whole host of player combinations, original (and colourful) graphics, plus some beautiful Galway tunes. They don't make 'em like they used to... pity.

**X** – *Xevious* (US Gold) Underneath the appalling aesthetics hides a really playable game (honestly). It is faithful to the arcade original right down to the last blade of grass, but lets itself down as a full-price game.

**Y** – *Yei Ar Kung-Fu* (Imagine) The first game from the reputable Collier/Wahid/Galway trio, the game is frustrating beyond belief! If you persevere, there is a thoroughly entertaining game in there somewhere. Graphics are accurate (and move FAST), and the Jarre title screen tune is brilliant.

**Z** – *Zak McKraken* (US Gold/Lucasfilm) I'm lost for words. The amount of detail in this game is incredible. A superb, if bizarre storyline, detailed graphics, instant playability and hysterically funny. Disk only, but worth it just to see the exploits of those stupid Alien Mindbenders!

So there you have it – 26 of the best C64 games ever. Of course, it's all a matter of opinion and personal taste, but I have tried to include a vast assortment of software to please all of you. If you're not happy with my choices, drop me a line and say so.

**COMING SOON**

Finally this week, a few things to look out for over the coming weeks... *Navy Seals* has finally surfaced, having been held back (supposedly) as a result of the Gulf Conflict. It's in the shops now and what a stonker of a game it is.

*The Famous Five* from Enigma Variations is a very poor book-to-game conversion, so steer well clear.

From Demonware comes *GEM'X*, a fast and fun arcade/puzzle game, featuring some scantily clad girlies (fnarr, fnarr!).

NEW Wave SOFTWARE

For Example

A Fantastic P.D. Company with a FREE Catalogue Disk!!

- Ever wanted a P.D. company to take things seriously? Like their own fully machine coded catalogue disk with great music and intro's included.
- Ever wanted a P.D. company with its own Demo group? With self releases like the NEW-WAVE mega demo!
- Ever wanted a P.D. company with its own Bulletin Board system? (Online files)

If so, LET'S PARTY COZ NEW-WAVE is here

(no hidden extras)

Blank disks £7.00 for ten labelled and boxed disks!!

£1.99 (free catalogue)

Because of the huge response we have slashed the prices, even Freddy would be proud at £1.99 a disk

Blank disks £7.00 for ten labelled and boxed disks!!

AMIGA

In stock we have thousands of demos, musak programs, graphic slides, animations, utilities, mega demos, shareware and coming soon, licenceware.

If you would like to join our demo group, ring or send demos of graphics, musak and code.

NEW WAVE, PO Box 199, Manchester M1 1JE
Tel: 061 839 5378. Fax: 061 839 5379. BBS: 061 839 5381.
Orders outside the UK send for details.

IMPORTANT NOTICE

DOWLING COMPUTERS

ARE NOW ADVERTISING BI-WEEKLY.
THIS IS IN ORDER TO GIVE YOU, THE CUSTOMER, THE BEST POSSIBLE PRICES.
SO RESERVE YOUR COPY OF NEXT WEEK'S ISSUE, NOW!

Mon-Fri 0480 403222
Sat 0480 403304

UNIT 3, FORGE CLOSE, LITTLE END ROAD, EATON SOCON, CAMBS

**BEST PRICES MAIL ORDER – 0903 700714 – 10.00AM TO 12 MIDNIGHT**
**PHONE US NOW FOR THE BEST PRICES, THE BEST SERVICE AND THE BEST SUPPORT.**

# ATARI

## ST Accessories

| | |
|---|---|
| SM124 Mono Monitor | £109.99 |
| Megafile 30 Hard Disk | £399.00 |
| Megafile 60 Hard Disk | £529.95 |
| External 3.5" Disk Drive | £69.00 |
| Golden Image Hand Scanner | £199.00 |
| Forget-Me-Clock II | £19.95 |
| ST Monitor Switch Box | £14.95 |
| STE Stereo scart lead | £12.99 |
| STFM scart lead | £12.99 |
| STE Stereo MKII 8833 lead | £12.99 |
| STFM MKII 8833 lead | £12.99 |
| Joystick/Mouse extension lead | £4.99 |
| Replacement Mouse lead | £3.95 |
| Standard Parallel lead | £5.95 |
| Internal PSU for STFM/E | £100.00 |
| Replacement ST keyboard | £100.00 |
| Mouse Mat | £3.50 |
| 2 x Midi cables | £6.99 |
| 14 pin din plug (ST disk drive) | £2.30 |
| 14 pin din socket (ST disk drive) | £3.00 |
| 13 pin din plug (ST monitor) | £2.00 |

## Hard Drives

*** NEW * NEW ***

We are now *official stockists* of the latest in high quality / low price ST hard disk drives from Protar. All Protar hard disk drives come with a full 12 month REPLACEMENT warranty (no lengthy repairs!), a DMA through port, device number switching and *Protar hard disk drives are the only manufacturer with the ATARI COMPATIBILITY seal of approval.*

*** PHONE NOW ***

Phone us today for prices. Hard disk sizes ranging from *20MB to 440MB* including removable tape streamers.

## ST Software

| | |
|---|---|
| Mastersound Sampler | £34.99 |
| Metacomco ST Basic Language | £7.95 |
| NeoDesk 3 relacement desktop | £32.99 |
| First Word Plus - word processor | £59.99 |
| Timeworks DTP software | £74.99 |
| Vidi ST video digitising hardware | £94.99 |

## ST Software Packs

*For contents of the ST software packs - see the listing of ST computer ranges on the opposite page or phone us for details.*

| | |
|---|---|
| Discovery Pack Software | £17.50 |
| Extra Pack Software | £39.99 |
| Turbo Pack Software | £24.99 |
| Tenstar Pack Software | £29.95 |
| Power Pack Software | £34.99 |
| Curriculum Pack Software | £39.95 |

## ST Midi Software

| | |
|---|---|
| Gajits Sequencer One | RLNG |
| Dr.T Tiger Cub | RLNG |
| C-Lab * *ALL PACKAGES* * | RLNG |
| Steinberg * *ALL PACKAGES* * | RLNG |

## TT

*The amazing 32Mhz TT030 is now available in the following configurations :*

| | |
|---|---|
| 2mb ram, 40mb h/disk | £1699.99 |
| 4mb ram, 40mb h/disk | £1999.99 |
| 8mb ram, 40mb h/disk | £2199.99 |
| Hi res colour monitor | £440.00 |
| 19" Hi res mono monitor | RLNG |

## Mice

| | |
|---|---|
| Contriver 5-in-1 | £21.00 |
| Contiver Trackball | £29.99 |
| Golden Image Optical | £RLNG |
| Logitech ST | £29.95 |

# PRINTERS

## ACCESSORIES & RIBBONS

All of our printers come with a parallel cable to suit Atari ST, Amiga and all standard PC etc (other cables available at extra cost - ask for details). All printers carry a full 12 months warranty. We only sell genuine UK stock - we do not offer inferior "grey imports".

## CITIZEN

* 2 YEAR WARRANTY *

***SPECIAL OFFER!*** *All Citizen Swift 9,24 and 24X printers come with a FREE colour kit and colour ribbon until the end of May 1991.*
***SPECIAL OFFER!*** *For a limited period only we are offering a CITIZEN PRINTER STARTER PACK with all Citizen printers. The pack comprises of : 3.5" disk full of printer drivers for the ST, Amiga & PC; 200 sheets of fanfold tractor feed paper; 200 fanfold tractor feed address labels; 5 tractor feed envelopes all for only £12.99 on top of the price of the printer*

| | |
|---|---|
| Citizen 120D + (9-pin) | £139.00 |
| Citizen Swift 9 (9-pin) *FREE COLOUR KIT* | £199.00 |
| Citizen 124D (24-pin) | £209.00 |
| Citizen Swift 24 (24-pin) *FREE COLOUR KIT* | £299.00 |
| Citizen Swift 24X (15" 24-pin) *FREE COLOUR KIT* | £399.00 |

*CITIZEN RIBBONS*

| | |
|---|---|
| 120D / Swift 9 Black Ribbon | £4.50 |
| 124D / Swift 24 Black Ribbon | £4.50 |
| Swift 9 / Swift 24 Colour Ribbon | £16.00 |
| Swift 24X Black Ribbon | £7.50 |
| Swift 24X Colour Ribbon | £18.00 |

*CITIZEN ACCESSORIES*

| | |
|---|---|
| 124D / Swift 9 & 24 Semi Auto S/Feeder | £39.99 |
| 124D / Swift 9 & 24 Automatic S/Feeder | £79.99 |
| Swift 9 & Swift 24 Colour Kit | £34.99 |
| Swift 24X Colour Kit | £39.99 |
| Swift 24 Font Cards (6 different) each | £35.00 |

## star

***TELESALES (0903) 700714***
***10.00AM TO 12 MIDNIGHT***
***MONDAY TO SATURDAY***

| | |
|---|---|
| Star LC10 Mono (9-pin) | £155.00 |
| Star LC200 Colour (9-pin) | £220.00 |
| Star LC24-10 Mono (24-pin) | £215.00 |
| Star LC24-200 Mono (24-pin) | £260.00 |
| Star LC24-200 Colour (24-pin) | £295.00 |
| Star XB24-10 Mono (24-pin) | £475.00 |
| Star XB24-15 Mono 15" (24-pin) | £600.00 |

*STAR RIBBONS*

| | |
|---|---|
| Star LC10 Black Ribbon | £3.50 |
| Star LC10 Colour Ribbon | £5.20 |
| Star LC200 Black Ribbon | £5.00 |
| Star LC200 Colour Ribbon | £10.00 |
| Star LC24-10 Black Ribbon | £4.75 |
| Star LC24-200 Black Ribbon | £7.50 |
| Star LC24-200 Colour Ribbon | £11.00 |

## Other Printers .....

| | |
|---|---|
| Canon BJ10E Portable Bubble Jet | £289.00 |
| Hewlett Packard Desk Jet 500 | £459.00 |
| Panasonic KXP 1124i (24-pin) | £279.00 |

*ACCESSORIES*

| | |
|---|---|
| Canon BJ10E Sheet Feeder | £59.99 |
| HP Desk Jet Epson FX Emulation Card | £59.99 |

*RIBBONS / INK*

| | |
|---|---|
| Canon BJ10E Ink Cartridge | £19.99 |
| HP Desk Jet Ink Cartridge | £14.99 |
| Panasonic KXP 1124i Ribbon | £9.00 |

**LASER PRINTERS & PLOTTERS AVAILABLE ON REQUEST – PLEASE RING US WITH YOUR REQUIREMENTS**

# AMIGA

## Accessories

| | |
|---|---|
| 512K Ram upgrade with clock | £29.99 |
| A590 20Mb Hard Disk | £284.95 |
| External 3.5" Disk Drive | £65.00 |
| Golden Image Hand Scanner | £199.00 |
| Amiga Stereo scart lead | £12.99 |
| Amiga Stereo MKII 8833 lead | £12.99 |
| Standard Parallel lead | £5.95 |
| Mouse Mat | £3.50 |
| 2 x Midi cables | £6.99 |

## Software

| | |
|---|---|
| Mastersound Sampler | £36.95 |
| Deluxe Paint version 3 | £64.95 |
| Vidi Amiga video digitising | £99.99 |
| Astra Software Pack | £29.95 |

## 8833 MKII Colour Monitor

*The Philips 8833 MkII is the perfect colour monitor for ST and Amiga owners. With its stereo sound and super quality picture it really shows off the full capabilities of the STE and the Amiga. The Philips 8833 MkII also comes with 12 months on site warranty FREE!*

| | |
|---|---|
| 8833 with STFM cable | £249.99 |
| 8833 with STE cable | £249.99 |
| 8833 with Amiga cable | £249.99 |

# LYNX

## Games Console

*The Atari Lynx is a superb full colour hand held games console using plug-in cartridge games. The Lynx can be used with either batteries or a mains power supply unit. All our Lynx machines come with instructions and mains power supply unit.*

| | |
|---|---|
| Lynx Console | £95.00 |
| Lynx Console (with free California Games cartridge) | £117.50 |
| Carrying Case | £14.99 |
| Carrying Pouch | £11.99 |
| Car Power Adaptor | £9.50 |
| Sun Visor/Scratch Shield | £6.99 |
| Mains Power Supply | £14.99 |

ALL GAMES £19.99 EACH :

| | |
|---|---|
| Blue Lightning | California Games |
| Chips Challenge | Electrocop |
| Gates of Zendocon | Gauntlet III |
| Klax | Miss Pacman |
| Paper Boy | Rampage |
| Road Blasters | Robo Squash |
| Rygar | Shanghai |
| Slime World | Xenophobe |
| Zarlor Mercenary | |

# ZY FI

## Stereo Speakers

*ZY FI amplified stereo speakers are suitable for the STE, AMIGA & SEGA MEGADRIVE. They come with a power supply and offer full range stereo sound for only* **£37.50** *including VAT + delivery*

# ATARI ST PACKS

ALL ATARI ST PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS CARRY A FULL 12 MONTH WARRANTY. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES.

| | 512k | 1mb | 2mb | 4mb |
|---|---|---|---|---|
| **ATARI STE STANDARD PACK.** consists of the computer with mouse, tv lead, manual and all connecting leads etc. The Standard Pack is supplied with NO software. | £299.00 | £329.00 | £359.00 | £439.00 |
| **ATARI STE DISCOVERY.** consists of the Standard Pack and STOS, First Basic, NeoChrome and 4 games (Carrier Command, Space Harrier, Outrun, Bomb Jack) | £309.00 | £339.00 | £369.00 | £449.00 |
| **ATARI STE TURBO.** consists of Standard Pack and STOS, Basic, Hyper Paint II, Music Maker II, 8 games (Indiana Jones, Impossible Mission II, H.K.M. Super Cycle, Outrun, Dragons Breath, Anarchy & Blood Money) | £319.00 | £349.00 | £379.00 | £459.00 |
| **ATARI STE TENSTAR.** consists of Standard Pack and Asterix, Chess Player 2150, Driving Force, Live + Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Squeek and Trivial Pursuit II | £319.00 | £349.00 | £379.00 | £459.00 |
| **ATARI STE POWER.** consists of Standard Pack and 20 top selling arcade games (for individual game titles see the black box on the bottom left of this page). | £319.00 | £349.00 | £379.00 | £459.00 |
| **ATARI STE EXTRA.** consists of Standard Pack and Kuma word processor, database, spreadsheet & business graphics as well as First Basic, Hyper Paint, STAC Adventure game designer and Prince game. | £329.00 | £359.00 | £389.00 | £469.00 |
| **ATARI STE CURRICULUM.** consists of Standard Pack and also 3 levels of educational software (from 5 yrs to 50 yrs !!!), a word processor, a spreadsheet, a database, HyperPaint and Music Maker II software. | £339.00 | £369.00 | £399.00 | £479.00 |
| **520STFM STANDARD.** consists of the computer with mouse, tv lead, manual and all connecting leads etc. The Standard Pack is supplied with NO software. | £239.00 | | | |
| **520STFM DISCOVERY.** consists of the Standard Pack and STOS, First Basic, NeoChrome and 4 games (Carrier Command, Space Harrier, Outrun, Bomb Jack) | £249.00 | | | |
| **520STFM TENSTAR.** consists of Standard Pack and Asterix, Chess Player 2150, Driving Force, Live + Let Die, Onslaught, Pipemania, Rick Dangerous, Rock n Roll, Squeek and Trivial Pursuit II | £259.00 | | | |
| **520STFM POWER.** consists of Standard Pack and 20 top selling arcade games (for individual game titles see the black box on the bottom left of this page). | £259.00 | | | |
| **520STFM EXTRA.** consists of Standard Pack and Kuma word processor, database, spreadsheet & business graphics as well as First Basic, Hyper Paint, STAC Adventure game designer and Prince game. | £275.00 | | | |

## ATARI STE RAM KITS

DIY 1 KIT – 520STE to 1MB
( 2 x 256K cards ) £29.99
DIY 2 KIT – 520/1040 to 2MB
( 2 x 1MB cards ) £99.00
DIY 4 KIT – 520/1040 to 4MB
( 4 x 1MB cards ) £179.00

ALL RAM KITS ARE SUPPLIED WITH INSTRUCTIONS. PLEASE CHECK YOUR STE CONFIGURATION BEFORE ORDERING

# AMIGA PACKS

ALL AMIGA PRICES INCLUDE VAT AND UK DELIVERY. ALL PRODUCTS ARE UK STOCK AND CARRY A FULL 12 MONTH COMMODORE WARRANTY. PLEASE RING US BEFORE ORDERING TO CHECK STOCKS AND CURRENT PRICES.

| | |
|---|---|
| **AMIGA A500 BASE PACK** A500 computer, mouse, tv modulator, manuals, Workbench, etc supplied 'bare' with no games software * STOCKS VERY LIMITED - SO HURRY * | £299.00 |
| **AMIGA A500 1MB PACK** A500 computer with extra 512K ram expansion, mouse, tv modulator, manuals, Workbench, etc supplied 'bare' with no games software. * OUR RAM EXPANSIONS *DO NOT* INVALIDATE YOUR WARRANTY * | £325.00 |
| **AMIGA A500 ASTRA PACK** A500 512k computer, mouse, tv modulator, manuals, Workbench, etc supplied with 10 great software titles (see A500 1MB ASTRA pack below for details) | £325.00 |
| **AMIGA A500 1MB ASTRA PACK** Amiga A500 computer, 512K Ram expansion with clock and battery back-up, mouse, tv modulator, manuals, Workbench etc disks, plus the ASTRA 10 games pack including the following games : Datastorm, Dungeon Quest, E Motion, Grand Monster Slam, Kid Gloves, Powerplay, RVF Honda, Shuffle Puck Cafe, Soccer and Tower of Babel | £350.00 |
| **AMIGA A1500 PACK** A1500 1Mb RAM (expandable to 9Mb) computer with 2 x 3.5" 880k disk drives built in, mouse and the following software : Platinum Works, Deluxe Paint 3, Populous, Simm City, Battle Chess, Their Finest Hour (Battle of Britain) and 2 books : "The A-Z of Computer Jargon" and "Getting the most from your Amiga" | £655.00 |

## IT'S BACK !! – THE POWER PACK !!

Due to massive customer demand, we are proud to announce that we now have further stocks of our best selling Atari ST software pack comprising of.....

Afterburner, R-Type, Gauntlet 2, Super Hang On, Space Harrier, Star Glider, Overlander, Super Huey, Pac Mania, Nebulus, Eliminator, Predator, Xenon, Bombuzal, Bomb Jack, Double Dragon, Black Lamp, Out Run, Star Goose and Star Ray.

All of the above games are available in the Power Pack Software pack for only (STOCKS LIMITED - SO HURRY) –

**£34.99** – thats less than £1.75 each !

(requires double sided internal disk drive)

*IF YOU WISH TO PLACE AN ORDER THEN PLEASE SEND YOUR CHEQUES, BANKERS DRAFTS, POSTAL ORDERS, CASH ETC. TO :*

**BEST PRICES (DEPT NCE), UNIT A, GRAFTON PLACE, WORTHING, WEST SUSSEX. BN11 1QX**

*OR USE YOUR ACCESS OR VISA AND RING OUR TELESALES ORDER HOTLINE AT ANYTIME BETWEEN* ***10.00 AM AND 12.00 MIDNIGHT,*** *MONDAY TO SATURDAY, AND SPEAK TO ONE OF OUR FULLY TRAINED STAFF ON :*

VISA Access

# (0903) 700714

All prices include 17.5% VAT and free UK delivery (average 4 – 5 days) unless otherwise stated. All prices / specifications / special offers are subject to change without notice. Goods usually despatched same day when cleared payment is received before 2pm. Personal cheque clearance takes 7 days. Please make cheques/P.O's out to BEST PRICES. Mail order only. No callers please.

*ADD £7.00 INC VAT FOR NEXT WORKING DAY UK DELIVERY FOR ORDERS PLACED BEFORE 2 PM*

**BEST PRICES MAIL ORDER - OUR TELESALES LINES ARE OPEN FROM 10.00AM TILL 12 MIDNIGHT - MONDAY TO SATURDAY**

# PCS INTERNATIONAL PD

THE NORTHWESTS BIGGEST PD LIBRARY
33 CHAPEL GREEN ROAD HINDLEY WIGAN WN2 3LL
**0942 521577**
SUPPLIERS OF AMOS, AMICUS, FISH, TBAG, SD-DISKS, SNAG, AMIGOS AND PCS PD. **AMIGA ONLY!**

Access VISA

**AMOS 1-197 NOW AVAILABLE**
**THIS IS JUST A SMALL SELECTION**
APD 151 Understanding Amos
APD 153 Missile Command
APD 156 Ripers Music Disk
APD 160 Amos Quizmaster
APD 176 Database Master
APD 178 Mastermind & Pair Up*
APD 179 Tuned In
APD 180 Dungeon Delver (2)*

**BUSINESS**
PCB 1 Amibase 3.76
PCB 2 Quickbase
PCB 3 Textplus 2.2
PCB 4 Bankin
PCB 5 VC Spreadsheet
PCB 6 Rim Database
PCB 7 Med Wordprocessor
PCB 8 Hyperbase
PCB 9 Appointment Calendar
PCB 10 Household Inventory

**DEMOS**
PCS 200 Amazing Tunes II (3) 4.00*
PCS 216 The Bartman Collection (5) 6.00
PCS 258 Iraqi vs USA
PCS 254 Budbrain Collection (3) 4.00
PCS 231 Phonoma Engma
PCS 232 Robocop Digi Movie
PCS 233 War of the Worlds Music
PCS 234 Freddy Krugar Samplers
PCS 235 Home and Away and Bread Theme Tunes
PCS 236 Electric Youth (2)
PCS 237 Red Dwarf Slideshow
PCS 240 Total Recall The Demo
PCS 241 Star Trekin (2)
PCS 244 Jarre Collection (4)
PCS 248 Miami Vice
PCS 249 Turtles Demo

**Modem users, you can contact us on Telecom Gold 74: MIK 3311**
**Prestel 942521577**

**AMOS LICENSEWARE**
LPD 1 Colouring Book
LPD 2 Arc Angels Maths
LPD 4 Thingamajig
LPD 5 Jungle Bungle*
LPD 6 Pukadu
LPD 7 4 Way Lynx
LPD 8 Work and Play*
LPD 9 Amos Assembler
LPD 10 The Word Factory
LPD 11 Go-Getter
LPD 12 Hypnotic Land*
LPD 13 Jigmania*
LPD 14 Play It Safe*
LPD 15 Shapes and Colours
LPD 16 Reversi 2*
LPD 17 Dogfight*
LPD 18 Touchstone*

( ) Denotes the number of disks
* Requires 1Mb or more
PD Swappers wanted on a one to one basis
Now Available
AMOS 1-197
AMICUS 1-29
FISH 160-470
TBAG 1-46
SD-DISK 1-40
SNAG 1-17
AMIGOS 1-11

**PCS PRICES**
UK 2.00
Europe 2.50
R.O.T.W. 3.00
Amos Licenceware 3.50
Public Domain Cat 1.00
or free with orders of 3 or more disks

Credit cards accepted with orders of 5 disks or more. All disks sent within 48 hours and include P&P and VAT

£1000 REWARD

FOR INFORMATION LEADING TO A PROSECUTION & CONVICTION

THIS CAMPAIGN IS ORGANISED BY ELSPA

**ANY INFORMATION ON PIRACY SHOULD BE PASSED TO F.A.S.T. (THE FEDERATION AGAINST SOFTWARE THEFT)**

**TELEPHONE 0386 833501**

**PIRACY IS THEFT**


*Hero Quest* is one of this year's better RPGs. It doesn't follow the plot of the original board game exactly, making it a refreshing challenge for even the most ardent role player.

Last but not least is *Predator 2*, an out and out blast in the mutated tradition of *Operation Wolf* – loadsaviolence. Fans of the film will simply adore it, and rightly so, it's great entertainment.

**Andrew Roberts**

# CPC

**AMSTRAD CHOPS SENIOR POSTS**

The big news this week is Amstrad's announcement that 37 of its staff are to be made redundant. The majority of these, 31, will take effect at the company's Brentwood headquarters, while the rest of the jobs will go at various other sites around the country.

Big names on the way out include the managing director of the Amstrad UK division, Barry Young, and Peter Roback, Amstrad's software and peripherals product manager. Roback was the leading light behind the GX4000 and Plus machines, although his departure is not being attributed to the poor performance of these machines in the shops over Christmas.

Amstrad is blaming the general economic recession for the redundancies, pointing out that many other companies have had to make similar cuts. Amstrad's main board, headed by Alan Sugar himself, will now take over UK operations.

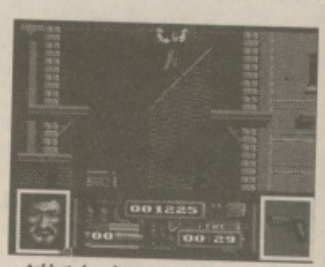
Meanwhile, there's some speculation at the moment about possible new deals involving the GX4000 and its software. Keep watching this space!

**NAVY SEALS**

A game about terrorism in the Middle East probably isn't in the best possible taste, but since when have software publishers been bothered with taste? Besides, Ocean's latest cartridge game is a licence of a film. What, you've never heard of *Navy Seals* the film? I'm not surprised. It went down like a lead balloon in the States, and there are apparently no plans to put in on general release over here.

The film followed the exploits of a band of American special forces types, a bit like the SAS. SEAL actually stands for Sea, Air and Land, and is nothing to do with those black rubbery things they have zoos.

There are six levels to the game, each taking place at a different location.



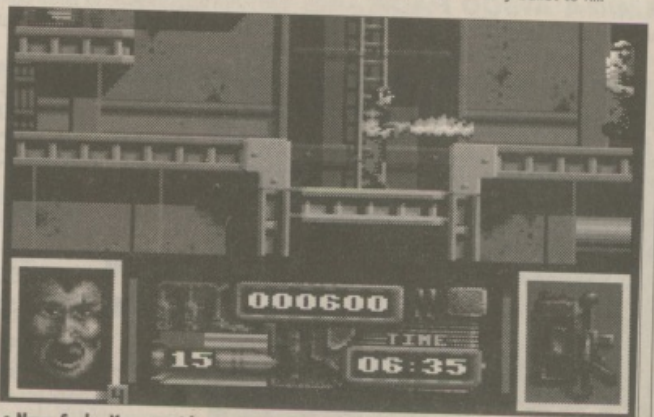

*• Athletic bunch, aren't they? Don't fall off, or you'll be going home in a bin-liner...*

It's pretty standard platform/shooting action stuff, but the console hardware has been used to really good effect to provide excellent, atmospheric backgrounds, smooth scrolling and interesting detail. Your main job throughout is to explore each level and plant bombs on top of crates packed with stolen military hardware. There's not much of an art to this – in fact, you simply have to walk past a crate to plant your explosives. Your main job is going to be timing leaps and dodging enemy fire. One good thing is that once you shoot one of the enemy, he doesn't reappear if you revisit that section later. Just as well, as the game is tough enough as it is.

What makes the game all the tougher is that you are up against a strict time limit. Even on level one it is extremely tight, so you're looking at a game that's going to last you a long, long time, just as long as you don't give up with frustration.

You control a five-man team as you embark on your quest to save the hostages (ah yes, we'd forgotten about those, hadn't we? Ahem...). These five men effectively make up your store of lives. When one pops his clogs the next takes over.

Your men are all very athletic, swinging like overdeveloped gibbons from platform to platform, and generally looking hard as nails, but it only takes one hit from an enemy bullet to kill




*• Navy Seals: You can pick up extra weapons from crates lying around the levels. Here, you've found yourself a juicy little flamethrower...*

them. And falling too far from a platform curls up their (very tough) toes too.

That, basically, is about it. *Navy Seals* looks excellent, it plays well and it's presented beautifully. If only it wasn't so difficult! Either Ocean's play-testers are too good, or I'm getting old. (Don't answer that.)

**TRAITOR!**

This letter from Phil Morley of Peterborough is a bit outrageous, but I'll put it in anyway because there may be something in it for all you Amstrad owners out there...

"This is your last chance, lovely 6128 owners (one of whom I used to be). I have mountains of 6128-specific magazines chock full of gripping 6128-specific info piled under my bed awaiting the knacker's yard – *Waccis, Amstrad Computer Users, Amstrad Actions* (a veritable tome) and mucho books at knock-down prices.

"Their salvation will be anyone offering 50p or thereabouts a copy – buy in bulk, save money. The men in bright orange overalls will come to take 'em away soon, as the mice have no room for their wrestling matches under my bed.

"All jokes aside, I have an enormous database of 6128 subjects, so if any of your discerning readers has a specific query I can probably find a mag with an article covering it.

"I will send a list to anyone who phones me or writes to me. I now own a PC and can be found lurking in the pages of PC Plus."

Well there you go! Want any old mags? Looking for an article on some weird and wonderful Amstrad-related subject? You can reach Phil at: 11 Kingfisher Road, Wittlesey, Peterborough PE7 1YF, or call him on 0733 204534.

**GARFIELD GETS A POKE**

Well, he does in *Garfield's Big Fat Hairy Deal*, anyway. Garret Flynn from Milford supplies this tape cheat to stop the furry feline falling asleep:

```
1 'GARFIELD'S BIG FAT HAIRY
DEAL
2 'BY GARRET FLYNN 1.1.91
3 '(TAPE) STOPS HIM FALLING
ASLEEP
4 '
10 DATA 21,f4,21,11,f4,01
20 DATA 01,00,03,ed,b0,21
30 DATA 94,be,22,5f,02,c3
40 DATA f4,01,3e,c9,32,ac
50 DATA 1e,c3,f0,0a
60 MEMORY &1FFF:MODE 1
70 FOR addr=&BE80 TO &BE9B
80 READ byte$:POKE
addr,VAL("&"+byte$)
90 NEXT addr
100 LOAD"garfield",&21F4
110 CALL &BE80
```

**Rod Lawton**

# SPECTRUM

**PACHYDERM PACKAGE**

CodeMasters can always be relied on for cute and sickeningly cuddly budget games featuring wacky characters we all grow to love (ahem) so it was no surprise to receive *CJ's Elephant Antics*, the company's latest bid for £2.99 fame and fortune.

CJ the elephant is a nicely drawn fellow who you have to guide back to his native Africa through the usual baddie-infested screens. Luckily anyone blocking your way can be dispatched with a well aimed peanut fired by CJ, although that still leaves a variety of hazards to threaten our long nosed mammal friend, including some rather nasty spikes.

For plot reasons I'd rather not have to explain, each level is set in a different country and the graphics, which employ nice splashes of colour throughout, reflect this. Also worthy of a mention is the two player mode; you each control a pachyderm and work in cooperation.

*CJ's Elephant Antics* has a compulsive 'just one more go' factor as you work out how to get by seemingly impossible obstacles. Basically it's cheap, cheerful fun and I reckon CJ the elephant should be the star of a fair few cheapos to come.

**SD FOR PLUS D**

Fabulously rich types who own Plus D or Disciple disk systems for their Speccy should check out SD Software's catalogue. As well as Uni-DOS, the ROM replacement package I've told you about loads of times before, the company also has a veritable cornucopia of kit available on disk for Plus Ds.

First off there's *IBU*, a supposedly 'intelligent' disk copier for £4.90. Designed for use with GDOS, IBU main claim to cleverness is that it can manage incremental copying. This means that when backing up disks only files that have changed since the last back up are copied. This reduces the number of tiresome disk swaps needed.

SD also sells *File Convertor*, a specialist program that converts MDRV files into BASIC, CODE, OPENTYPE or DATA type ones. You can use it to convert Tasword MDRV and OCP assembler files. It costs £5.30.

*Hackers' Workbench* (£9.90) is a utility that allows you to examine, list, alter, move, print, clear, disassemble and generally mess about with 48k/128k snapshots. Sounds rather good and is apparently a boon for the experienced programmer.

## HELTER PASSWORDS

**A few weeks back I raved on about Audiogenic's very cute and, more to point, very difficult *Helter Skelter* game. Luckily a kindly and talented Spec-chum has already managed to find the passwords for the game and sent them in for the benefit of rubbish games players everywhere.**

**Kes Bloor of Staffs tells me that the passwords for *Helter Skelter* are, in order: KICK, TOUR, DALI, TOAD, DRUM and JOKE.**


DONCASTER Amtek

*Computer Enthusiasts Serving Computer Users*

Tel: 0302 771046 or 329669
7 Days a week

**AMIGA SYSTEMS**

| | |
|---|---|
| Amiga A500 | £309.99 |
| **Expanded (1 Meg) Amiga Systems** | |
| A500 S/Gems | £374.99 |
| A500 Class of 90's | £524.99 |
| A500 First Steps | £524.99 |
| **A500 " Add Ons and Add Ins"** | |
| Amiga AToncе emulator | £184.99 |
| KCS PC Emulator | £220.00 |
| 1.3 Rom Upgrade | £32.99 |
| 5.25" External Drive | £84.99 |
| 52Mb A500 Trumpcard | £439.99 |
| **Amiga A1500 "The Family Choice"** | |
| A1500 With Software | £665.99 |
| A1500 S/W Col Mon | £909.99 |

A1500 S/W Mon 52Mb hard disk and 8Meg expansion board (2Megs)
**£1389.99**
A1500 S/W Mon 32Mb HD XT Bridgeboard and 5.25" Drive
**£1239.99**
**Phone For Our Special Desktop Video Packages**
**A3000 Systems P.O.A.**

**Acorn Systems**

We can supply a full range of Acorn products at a price to suit your pocket....
Phone for details!!!

**PC Compatibles**

**!!Proven PC's at Incredible Prices!!**
Eg Complete systems
3.5" 1.4Mb Drive
40Mb Hard Drive 1Mb Ram
16 bit VGA card, Colour SVGA Monitor
102 Key U.K Keyboard
Mini Tower case
2HD/2FD 2 Serial 1 Parallel
**16 Mhz 286 Price £699.99inc**

**Spring Specials**

Quantum 52Mb SCSI HD £229.99
Controller for A1500/B2000 £139.59
Buy both for £362.00
!!!Canon Bubblejet £283.99!!!
! Intra Multiscan VGA Mon £314.99!
Our Professional Software range P.O.A.

All prices include VAT at 17.5% and U.K. Postage
12 Months Warranty on all hardware
Send Cheque/Postal order to:-
Amtek, 10 Torne View, Auckley, Doncaster DN9 3PQ
Prices may be subject to variation. Discounts available for bona fide Educational and Government Departments.

**COMPUTERWISE BRIGHTON**

**ATARI 286AT IBM COMPATIBLE COMPUTERS AT LOW LOW PRICES**

| | RRP | OUR PRICE |
|---|---|---|
| ABC 286/8 + 30Mb Hard Disk No Monitor | £799.00 | **£399.99** |
| ABC 286/8 + 30Mb Hard Disk Mono Monitor | £898.57 | **£449.99** |
| ABC 286/8 + 30Mb Hard Disk EGA Colour Monitor | £999.00 | **£549.99** |
| ABC 286/8 + 30Mb Hard Disk VGA Colour Monitor | £1099.00 | **£649.99** |
| PC4/12 + 60Mb Hard Disk No Monitor | £998.23 | **£699.99** |
| PC4/12 + 60Mb Hard Disk VGA Mono Monitor | £1097.80 | **£799.99** |
| PC4/12 + 60Mb Hard Disk VGA Colour Monitor | £1297.80 | **£899.99** |
| PC4/12 + 60Mb Hard Disk Super VGA Colour Monitor | £1397.80 | **£999.99** |

**ALL THE ABOVE MACHINES COME WITH 12 MONTHS ON-SITE MAINTENANCE**

**PAYMENTS:** Please make cheques payable to Computerwise Brighton. Access, Visa and Switch also taken. Please allow 10 days for delivery.

Please add £8.00 for delivery and VAT at current rate to all quoted prices.

We will refund 100% of your money if the machine supplied is not as stated.

We are authorised dealers for Amstrad, Atari, Citizen, Commodore, Philips, Sega, Star and many more.

A large selection of software and peripherals always in stock.

**As a retail shop we are open 10am to 5.30pm Monday to Saturday so order by**
**PHONE: 0273-674626 OR FAX: 0273 684383**
**Or call at:**
**44 George Street**
**Kemptown, Brighton**
**East Sussex BN2 1RJ**

Access VISA

dataplex

Access VISA

**DATAPLEX COMPUTERS LTD.**

129 Bath Road, Slough, Berkshire, SL1 3UW
Tel: 0753 35557

19 High Street Old Town Swindon, Wilts
Tel: 0793 488448

SHOWROOM open: Mon - Fri 9.30 - 5.30 Saturday 9.30 - 4.30
MAILORDER Consumables £1.50 Hardware £8.00
Prices excluding VAT

**AMIGA A500 HARDWARE**

Amiga A500 Screen Gems + 1 Meg Pack ....£309
Amiga A500 Screen Gems Pack + free disks + 10 extra games pack....£345
Amiga A500 1 Meg Class of 90's ..£459
Amiga A500 1 Meg Class of 90's (First Steps) ....£459
Amiga A1500 Computer ....£549
Amiga A1500 + 1084S monitor ....£759
Amiga A1500 + Philips CM8833 MKII...£725

**SPECIAL OFFER**

While stocks last
Amiga A500 + TV Mod + Mouse + system disk + manuals....only £269

**ATARI COMPUTERS**

Atari 520STFM discovery pack includes 4 games....£240
Atari 520 STE Turbo Pack includes basic STOS and 7 games + Joystick....£310
Atari 1040 STE extra pack includes ST Words, ST Calc, ST Basic, ST Graphics, Hyper-Paint, STOS, 1st Basic, Print Game....£399

**AMIGA/ATARI DRIVES**

1 Meg 3.5" internal....£49
1 Meg 3.5" external....£60
1 Meg 5.25" external....£90

**ACCESSORIES**

512K Ram + clock ....£39
Joystick....£10
10 Blank disks in library box....£8
Mouse Mat....£3
Amiga/Atari Mouse ....£29

**MONITORS**

Philips CM8833 MK II Colour Monitor + FREE Lead....£189
Commodore 1084S ....£199
SM 124 (Atari) ....£99

**PRINTERS**

Star LC10 Mono ....£129
Star LC200 Colour (9 pin)....£180
Star LC24 200 (24 pin) ....£210
Star LC24 200 Colour....£245
Panasonic KXP1124i + lead ..£239
Panasonic KXP 1123....£180
Panasonic KXP1624....£329
Citizen 120D + ....£120
Citizen Swift 24 + Colour Upgrade ....£259
Citizen Swift 9 + Colour Upgrade ....£185
Epson LX400 ....£126
Epson LQ400 (24 pin) ....£199

**LASER/INKJET PRINTERS**

PLEASE CALL FOR PRICES


## MORE CHEAP DISKS

**Another supplier of cheapish 3 inch disks has been located. Thanks to Bill Hayball of Kent for telling me about Once Bytten (Tel 0474 567964) which sells the required slabs of plastic at reasonable prices. You can get 10 3 inch disks from them for £7.50 or 50 for £32.50. Good luck with the word processing, Bill.**

All these Plus D/Disciple utilities are available from SD Software, 70 Rainhall Road, Barnoldswick, Lancashire BB8 6AB. Members of INDUG can get sizeable wadges off if they quote their membership number and there are also some SAM specific things on offer. The usual SAE will get you more details.

### THE PRICE IS WRONG

I've just re-established contact with Mark Harris, formidable hacker and a faithful old regular to this column. He wants to moan about software retailers and since Ester Rantzen and Lyn Foulds-Wood weren't available he decided to write to me instead.

The problem started when he ventured into a well-known high street store to check out the Speccy stuff on offer: "I was shocked and bloody well disgusted I can tell you!" he says.

"They were trying to sell full price games which they've had for ages (one of them predated the Plus 2) for between £10.20 and £11.20. They even had the cheek to put another 5p on budget games. Now granted the VAT has gone up but I still don't think it's right to put it on old games, especially budget ones that have got the RRP printed on the cover."

"To me WH Smith's mode of business stinks of profiteering (ie legalised piracy)," he reckons. He goes on to praise Software Plus, an independent shop in Canterbury, for its low prices which are non VAT adjusted.

Although I don't think I'd go quite that far, Mark has a valid point. Maybe it's best to stick to smaller independent shops when buying software. Generally I have found that the service is better, the range is wider and, as Mark found, the prices are cheaper. Support your local independent computer shop!

### MIG POKE

More opportunity for you to cheat this week with lots of pokes kindly provided by Alan Jones. He's come up with a routine for *MIG 29 Simulator* which you'll need to type in, save for posterity, RUN and then start your game tape from the beginning to get working. Thanks Alan.

```
10 REM BY ALAN JOHNS
20 REM MIG 29 SIM
30 CLEAR 65482: LET T=0: LET
W=0
40 FOR F=65483 TO 65513: READ
A: POKE F,A
50 LET T=T+W*A: LET W=W+1:
NEXT F
60 IF T58836 THEN PRINT FLASH
1; OVER 1;; INVERSE
1;"ERROR"; INVERSE 0; FLASH
0; OVER 0;" IN "; FLASH
1;"DATA": STOP
70 DATA 243,49,0,0,221,33,0
80 DATA 64,17,220,191,62,255
90 DATA 55,205,86,5,49,0,0
100 DATA 212,203,255,62,36
110 DATA
50,213,167,195,196,193
```

**Robin Alway**


# WE MUST BE MAD

Due to massive bulk buying and low cost advertising we can offer you high quality European manufactured disks at these extremely low prices

**3.5" DSDD DISKS 31p INC VAT + LABELS**

250 + @29p each; 500 + @ 28p each; 1000 + @ 27p each
ALL DISKS CERTIFIED 100% ERROR FREE

**SONY 3.5" 38p DSDD BULK**

3.5" DSHD .....65p
5.25" DSDD .....19p
5.25" DSHD .....36p

| | | | |
|---|---|---|---|
| 100 Capacity Disc Box | 3.75 | 50 Capacity Disk Box | 3.25 |
| Mouse Pockets | 1.50 | Mouse Mat | 1.75 |
| Printer Stand | 3.75 | Amiga Dust Cover | 2.50 |
| Posso Box | 15.00 | Atari Dust Cover | 2.50 |

Amiga 512K RAM Expansion with clock ....32.00
Amiga/Atari External Drive ....59.95

**THIS MONTHS SPECIAL OFFER** 200 3.5" DSDD DISKS + 2 x 100 CAP BOXES **64.95**

Please add £2.85 p&p/next day £7.50. Cheques/POs to
PLC COMPUTER SUPPLIES (Dept NCE)
11 Meakin Avenue, Clayton, Newcastle, Staffs ST5 4EY.

TELESALES HOTLINE 0782 212970

Access VISA


# ARCHIMEDES

### MIG 29

Domark has released the Archimedes version of *Mig 29 Fulcrum*, its successful PC and 16-bit game. But any Arc gamer will feel a twinge of familiarity as the game unfolds. This is no straight conversion of the Amiga code: the Arc game is closer to being *Interdictor III* than you might think.

In form it's a standard flight simulator, giving either an easy-to-fly plane or a close simulation of the latest Soviet fighter, the eponymous Mig 29. Packaging is good, with a chunky manual that helps with software protection too; you have to type in a word picked at random to fire up the game. Having an unprotected disk is a boon, as you can put the lot on a hard disk if you want.

Once loaded, you can choose one of several missions; photograph a submarine, blow up an oil rig, escort a group of enemy fighters out of Soviet airspace and so on. But sitting on the runway is where the deja vu sets in. The game code is written by Simis, author of Clares' *Interdictor*, and *Mig 29* contains the same 'core' of routines.– the aircraft model and the display system – as its predecessors. There's new scenery, obviously, and new performance data for the plane.

The controls are complex, spread between mouse and keyboard, and given that the game is so much like *Interdictor*, a closer mapping between the two might have been a good idea. *Mig 29* follows the original Amiga control layout, which means there's nothing to do with the Select button on the mouse (the Amiga has a two-button mouse). It would have been better if you could use the mouse to control the engine revs, rather than using the '+' and '–' keys.

Although there's a points table for different pilots as they complete each mission, there's no way to save the game with a mission half finished. The cockpit display is more 'flashy' but less informative than *Interdictor*'s, but then again, it tells you all you need.

The two games are both based on the same simulator code, so there are only minor differences in crucial things like the amount of ground detail and the frame rate. The scenery is the same green carpet plus pyramidal hills.

So why is *Mig 29* a much better game than Clares' *Interdictor*? A complex question, but here are the answers. There is a particular excitement of 'flying' a real plane;

## THANKS FOR THE MEMORIES

**It's often said that the human memory can only bear seven things in mind at once. For A3000s and 410s, even that could be a gross over-estimate. Unless you do nothing other than play *Mad Professor Mariarti*, you need that extra memory. And now is definitely the time. Even Acorn itself has reduced its memory prices.**

**Upgrading an A3000 to 2Mb has never been cheaper: it should cost you less than £70 from any number of well-known suppliers. The eight chips for a 410 can be had for as little as £55, though your thumbs don't half hurt when you plug them in.**

*Interdictor*'s model is fictitious. The adversary aircraft in *MiG 29* are real too – the Harriers look remarkably like Harriers and take off vertically, Mirages fly very fast and low over the desert, and so on. The scenario is better: there's a variety of missions, which are given a little background and context in the manual, so you know why you're fighting off strange Chinese fighter planes over the Great Wall.

There's also a couple of new ingredients. The missile targeting system in *MiG 29* is more complex: you have to 'lock on' the air-to-air and air-to-surface missiles before firing. Enemy planes often get away, too. In *Interdictor*, when the chime for missile lock goes off, you know you're going to hit your target.

The enemy pilots in *MiG 29* are a lot more unpredictable than those in *Interdictor* who have very poor tactics; you can often predict exactly what they are going to do.

*Interdictor* only gives you 'out of the cockpit' views, but *MiG 29* adds a really spectacular 'chase plane' view and the view from the control tower. You can also sneak a peek at what your opponent can see, and get a 'Stormin' Norman' missile's eye view as it streaks towards its target.

*Mig 29* shows just what *Interdictor 2* could and should have been. With a 'save' facility as well as the pilot's score table and a better control layout, it would have been near perfect. As it is, Domark still has a deserving winner on its hands. If you like flight sims at all, go out and buy *Mig 29*. It's almost worth the £40 you'll have to pay!

Domark is on 081-780 2224.

**LASER PRINTER UPDATE**

Calligraph and Computer Concepts both continue to upgrade the printer driver software for their respective standard resolution (300dpi) direct drive laser printers. Both the latest versions show minor speed improvements.

Computer Concept's Laser Direct remains faster overall, particularly with its 'quicktext' software option. It is slicker too, with printing 'in the background' so that you can get on with something else while your printer's still churning away.

Calligraph's machine has always lead on the 'natty features count', and one important new one is the quality of the grey scales. The current software gives you a choice between more greys (64 is normal), or better quality grey tones at the expense of fewer greys. Choose 16 greys – perfect for printing sprites – and the quality of the printing comes close to Computer Concepts' Laser Direct hi-res.

The original price difference, which had made Calligraph's machine such good value, has all but disappeared. Both cost close on £1,150 inclusive. My choice would still be the Computer Concepts version. But if you're a *First Word Plus* junkie, or if you have a network, it could be time to look at Calligraph's Arclaser. Its Epson emulation allows it to be used from BASIC or *First Word Plus*. Computer Concepts is adding a similar feature to its driver too, but Calligraph does have the lead. On a small network, the Arclaser can be shared by several Archimedes: although printing ties up the network completely for a few seconds, you don't need any extra software. Computer Concepts' network printing demands a copy of its PostScript clone ShowPage (around £200) on the Arc with the printer.

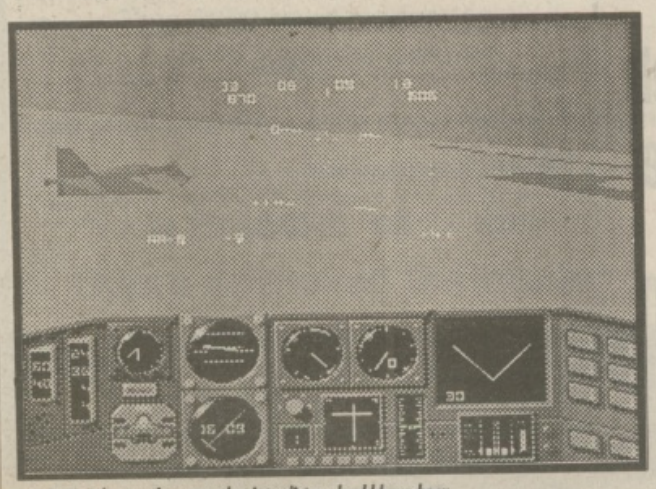
At the current prices for these 300dpi machines, Computer Concepts Laser Direct Hi Res podule (£470 inc VAT) plus a Canon LBP-4 (with a street price about £800 if you shop around a bit) looks to be a real bargain. For just a tad more, you might as well treat yourself to 600dpi.

Calligraph is on 0223 461143, Computer Concepts is on 0442 63933.

**NEXT WEEK**

A look at what's new at the Computer Shopper show.

**Ken Coumarin**



• MiG 29 Fulcrum: *the game that* Interdictor *should have been.*


# Atari ST Owners!

**Put Power into your cartridge port**

*Ultimate Ripper!*

**The cartridge your ST has been waiting for!**

- ***Breaks into any ST program***
- ***Fits easily into the cartridge port***
- ***Powerful Tool for all Atari ST users***

Whether you are a programmer, games player, or just curious about the workings of your Atari ST, the Ultimate Ripper gives you the power that you need.

***Just look at the features...***

• Breaks into any program • Read Memory • Search Memory • Print Memory • Disassemble • Disassemble to Disk • Edit Memory • Search For Graphics • Search for sprites • Edit screen configurations • Set up colour palettes • Alter plane configurations • Load & Save Screen Displays • Run external TOS programs • Load TOS Programs • Load & Save graphic screens • Low Level Disk Editor • Disk Analyser • Examine formats • Format analyser • File Editor • Directory editor • Formatter • Break & Restart function • Search for infinite lives • Look for music • Play music • Load & save music • Search for soundtracker music • Search for Sound Samples • Programmers Calculator built in • Many more features • Updates available with new software • Full support for STE sound & Graphics

## The Ultimate Ripper

is available ***only*** from

**POWER COMPUTING**

***Ultimate Ripper.....£39.95***

***Price includes VAT and delivery. All of our products carry a 1 year warranty***

The Ultimate Ripper may be ordered by postal mail order or by telephone

We accept Access and Visa

**POWER COMPUTING LTD**

*Unit 8, Railton Road, Woburn Rd. Ind. Estate, Kempston, Bedfordshire, MK42 7PN*

**0234 843388 / 840234**

(5 lines)

We accept credit orders by telephone on the above number or by fax on 0234 270133

We reserve the right to change prices and product lines without notice

The Ultimate Ripper is sold on the understanding that it is not used to contravene the 1988 Copyright Act.

** Now Available - Full Colour Product Directory £1.49 with free utility disk! **

***DEALER ENQUIRIES WELCOME - PHONE OR FAX FOR QUANTITY PRICING***

# MACINTOSH

**OOPS!**

A bit of a cockup, I'm afraid. In the March 16 issue of *Express*, I wrote a feature on Apple's two new printers. Unfortunately, I got a bit wrong. The TrueType typefaces Times and Helvetica, which are bundled with the printers, were not created by Bitstream. They were, in fact, designed by Linotype. Furthermore, Times and Helvetica are registered trademarks of Linotype AG and/or its subsidiaries.

Thanks to Sarah Winthrop of Linotype-Hell for pointing that out.

**RUMOURS...**

So, what's been happening this month? Well, the new Camelot Computers catalogue was pushed through the door, for one thing. For those who don't know the company, Camelot specialises in shifting software and hardware at low prices. To do that, much of the software is 'grey' imported from the States, which means that getting support from the manufacturers is sometimes a little tricky. On the other hand, if you're not bothered about support and upgrades and things, they often manage to get stuff out of the door fairly quickly. Anyway, back to the catalogue. It's just a small point, but surely when you're photographing your Mac IIsi for inclusion in the catalogue, you'd do well to have a better image on the screen than the floppy disk with a flashing question mark which normally means that something nasty has happened to your Mac...?

And, of course, System 7 is finally with us. After more than two years of development, it's appeared – and damn good it is too. For the full story, refer to the feature elsewhere in this issue; but on a slightly more scurrilous note, I was told earlier this week that while programmers and developers in the States are fairly confident in general, there are over 1,000 minor bugs in System 7 which have been identifled but which there hasn't been time to fix. Of course, my source for this was totally unofficial, and I'm sure that the information is incorrect...

**FINAL DRAFT**

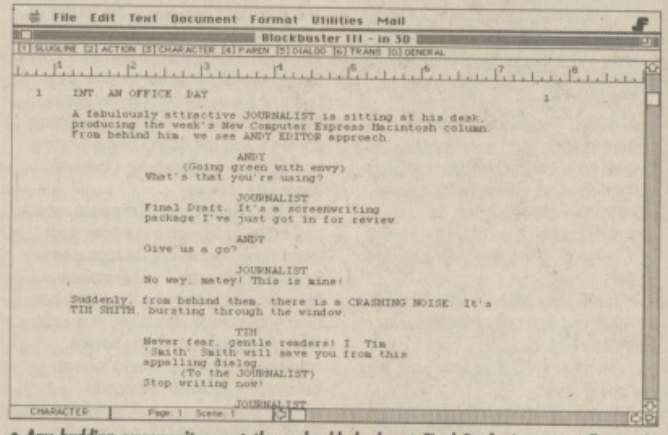
A brilliant package came into the office the other day – so I'm going to enthuse wildly about it now. Actually, it's not the sort of program that everyone will want; but for its rather specialised market, it's the biz (as they say).

*Final Draft* is a package for aspiring screenwriters; that is, people who want to write filmscripts. If that's not what you're into, then the next few hundred words won't be too relevant to you. But then, we all have our hobbyhorses. If you have a specialist hobby or job and you want to know what's available on the Mac for you, drop me a line (or e-mail me on CIX) and I'll do my best to find out what's about.

Anyway, back to the plot... Screenplays are formatted somewhat differently to, say, scrips for plays. All character names and dialog are centred, for instance, and various elements of the script have different margin settings. OK, you could format a screenplay with a normal wordprocessor; it's just that it would probably take you the rest of your life to do so. And that's why programs like *Final Draft* are created – all the formatting is taken care of, so you don't have to worry that your script will never be read because it doesn't look right (Yes, it's true. They really do reject scrips for that reason).

The program is copy-protected, a 'feature' I wish people would stop using. Basically, you can either run the program off the floppy all the time (which is a pain) or you can install it on your hard disk. But if you install it and then your hard disk dies, you can't install it off the floppy again. Sure, the manufacturers will probably give you a replacement copy, but that's hardly the point.

Anyway, that gripe over, *Final Draft* does its job extremely well. Formatting for each of the different script elements




*• Any budding screenwriters out there should check out Final Draft; its cost will soon be recouped by the millions of dollars you get for your first script...*


NEW COMPUTER EXPRESS

Britain's biggest selling computer weekly, packed with the latest news, reviews and technical tips for your machine.

Save time, save trouble, and avoid disappointment...

guarantee your copy of NCE every week and get it delivered at no extra charge

54 ISSUES FOR JUST £47.50

Complete and return the coupon or telephone our credit card hotline on 0458 74011 NOW!

YES! Please enter my subscription for 54 weekly issues of New Computer Express at the rate ticked below.

☐ UK £47.50
☐ Europe £79.95
☐ Rest of World £104.95

N.B. All overseas subs are sent by Airmail for speed and safety.

Name _____

Address _____

_____

_____ Postcode _____

Tel _____

I wish to pay by (please tick as appropriate)

☐ Access ☐ Visa ☐ Cheque ☐ PO

Card No

Expiry date

Please make cheques/PO payable to Future Publishing Ltd and send with this coupon to: NEW COMPUTER EXPRESS, SUBSCRIPTIONS, FREEPOST, SOMERTON, TA11 7BR.

(character name, dialogue, transition and so on) is effected by pressing the Command key and then a number between one and six – as you press the Command key, a line appears at the top of the screen reminding you what each of the numbers represents. Macros can be set up to speed the entry of commonly-used phrases and so on; these are accessed via the Option key, and again a 'cue' line appears at the top of the screen to remind you what macros you have available.

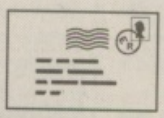
After you've entered a character's name, the program automatically goes into the correct formatting for dialogue, which saves time; there are other such shortcuts, all of which can be user-defined. The program also keeps an automatically-updated list of all character names, so you only need to type the first few characters – the program fills in the rest.

*Final Draft* automatically inserts 'more' and 'continued' if dialogue or a scene breaks over a page, and it will automatically number the scenes for you – all of these options are totally user-controlled. In effect, the program makes writing a professional-looking script a totally trivial matter (except, of course, for having the ideas in the first place).

If you're a budding (or existing) screenwriter, you'll find this program invaluable. Unfortunately, it does not yet have a British distributor, although that situation could change. For now, you'll have to contact the manufacturers, MacToolkit, direct on 010 1 213 395 4242, or fax the company on 010 1 213 393 7747. The program costs $349. Oh, and if you really wanted to you could use it as a standard wordprocessor too.

**Ian 'Jo Eszterhaus' Wrigley**

## POSTCARD FROM AMERICA



**I think I'm in love – an object-oriented software affair. I see hundreds of demonstrations each year, but only a bare handful really strike my imagination. But I went ga-ga over *Interactive Physics*, by Knowledge Revolution.**

***Interactive Physics* is a two-dimensional Newtonian physics laboratory computer simulation. Users create experiments by creating objects on the screen, from a draw-like palette. Shapes are drawn, and effected by springs and ropes. The program calculates the elasticity and friction of the experiment, and then produces a realistic movie.**

**The program gives teachers and students ways to see solutions that normally could only be read about in a book. Even gravity can be changed, or turned off. If you want to see what the results of an experiment would be on the moon, just adjust the gravity slider to the moon setting.**

**Included with the program are dozens of preset experiments and a 340 page book, *Physics Interactions*. It contains classroom materials, student worksheets and a teacher's guide to the program. The developer actually talked to educators to find out what would really work. A shocking attitude for a software company!**

**To get a reality check, I called BMUG's physics teacher, Ron Hipshman. He teaches basic physics at San Francisco State University, and runs the computer program at the Exploratorium, San Francisco's science museum.**

**He said that simulations are always exciting, but most packages (like *Stella* and *Extend*) don't actually show on the screen what real objects do. Their output is confined to numbers, and graphs, which is the way most people in the scientific community want to view the information. To be able to manipulate physical objects, and do things to them that you couldn't otherwise do, is really nice.**

**It also allows teachers to do really violent things that can't normally be done in the classroom. Ron said, "The car crash example lets you watch some poor guy fall on his groin, and you know it's not hurting anybody. The windshield almost slices him in half, and it's OK." Now we know why the kids go into physics—the smashing and crashing!**

**CHECK OUT ALL THE OTHER SPECIALIST COLUMNS IN NEW COMPUTER EXPRESS**

- WHOLE WIRED WORLD
- TECH TIPS
- GAMES WEEK
- PD COLUMN
- CIRCUIT CITY
- PROGRAMMING

**PLUS THE HOTTEST REVIEWS AND FEATURES EVERY WEEK**

**Supra Modems**

Supra 2400 2400 baud - **£135**

Supra 2400 MNP. Error correcting 2400 baud - **£175**

Supra 2400 Plus. The Ultimate 2400 baud modem. Up to 9600 baud thru'put - **£220**

***NEW*** Supra 9600 Plus V32 - **£495** True 9600 baud modem packed with the latest features

**Free** computer cable with every Supra modem!

All modems advertised are the latest Supra products, brand new and fully Hayes compatible with autodial & auto-answer guaranteed for *four years*. All prices are fully inclusive of VAT & delivery.

**Supra Approved Distributor**

Supply Solutions

Open till 7pm

081-566-3639

Open till 7pm

**TOP QUALITY PRODUCT TOP QUALITY SERVICE**

BCS

GUARANTEED

Free labels

**Bulk buyers 2 for 1 disk guarantee**

50 3.5 DS/DD .....£21.75
100 3.5 DS/DD .....£36.00
150 3.5 DS/DD .....£49.50
200 3.5 DS/DD .....£63.50
400 3.5 DS/DD .....£123.00
500 3.5 DS/DD .....£139.00
**Price inc. VAT & p&p**

3½ DS/DD

**Disks & boxes 2 for 1 disk guarantee**

50 disks + 80 cap box .....£24.50
100 disks + 80 cap box .....£39.50
150 disks + 80 cap box .....£52.50
200 disks + 2 x 80 boxes....£69.50
400 disks + 4 x 80 boxes..£136.50
500 disks + 5 x 80 boxes..£155.50
**Price inc. VAT & p&p**

Posso 150 cap stackable box £15.30

5¼ 50 Cap Box.....£5.10 100 Cap Box...£5.90

100 3½DS/HD £61 inc. VAT & p&p

5¼ DS/DD 21p 5¼ DS/HD 39p

3½ 40 Cap Box.....£4.10 80 Cap Box.....£4.50

3½ DS/HD 63p

20 Sony branded + box 3½ DS/DD £16

Philips CM8833 MKII Monitor £214 Now in stock

STAR LC-200 Colour Printer £210 Now in stock

100 Sony Bulk inc. VAT & P&P £41.50

100 5¼ DS/DD + 100 box £28.50 inc. VAT & p&p

Sony bulk 40p

*Add £3.65 P&P, add £4.00 for 3 day delivery, add £8.00 2 day, £10.00 next day (from despatch)*
*Cheques will be held for clearance*

AMIGAS

Amiga 500 .....£315
Screen Gems 1Mb .....£373
Class of the 90's.....£521
First Steps .....£521
Cumana drive.....£65
½Meg no clock.....£31
½ Meg + clock.....£35.50

ACCESSORIES

Mouse mat .....£2.75
Zipstick .....£11.50
Jetfighter .....£12.50
Cheetah 125+.....£8
1000 labels.....£8
Printer lead.....£8.50
Naksha mouse.....£28
Dust cover.....£5.50

ATARIS

Discovery Pack.....£249
For new 520STE bundles call for low prices
Ext drive .....£72
Dust cover .....£5

**Trade/Government/School orders welcome**

**Call or send cheques/Postal Orders to BCS LTD, 349 Ditchling Road, Brighton E.Sussex BN1 6JJ**
**Tel 0273 506269 or 0831 279084**

Access VISA

# CIRCUIT CITY

**The Microvitec Cub is one of the sturdiest monitors around. Keith Pomfret looks for a way to weld it to an Amiga.**

Most people who have ever bought a BBC B computer aspired to the Microvitec Cub. This sturdy black little cuboid monitor offered a good, steady and well defined picture and was cased in a steel box resilient enough to take most knocks.

Schools bought them by the hundreds and they became a common sight in any arena where the BBC B was being used in education. Their strong construction and high quality made them a winner in industry too, with Microvitec Cubs being seen in different applications in factories, research and development and even in a nuclear power station.

## WHICH CUB'S WHICH?

Before you whip off to the nearest nuke installation and rush out with its prized Cub under your anorak, it's necessary to say that the Cub is a generic name for a series of monitors.

Some have BNC connectors for RGB. Others have a single composite input. Cubs were made with medium resolution screens, high resolution screens and very high resolution screens. The only similarity between some is the case so it's important to know which of the beasties we're dealing with.

If you're intending to modify a Cub 3000 to work with an Amiga, you're in luck. The Cub 3000 was designed to take the analogue output of the A3000 so to run it with an Amiga is a simple matter of having the appropriate lead. This can be made up by any reputable dealer or any of the specialist lead companies.

Otherwise, you'll probably be using one of the Cubs designed for use with a BBC B. Before you do any serious surgery, adjustment or monitor upgrading, check that the monitor that you have matches the Cub specification in Circuit City. If any of the connectors or links don't match then it's unsuitable for the upgrade (or needs to be upgraded in a different way).

## RINGING THE CHANGES

First, follow the safety instructions with regard to residual high tension current.

Remove the self tapping screws from the rear cover of the cabinet.

## YOU HAVE BEEN WARNED

**Messing about inside any mains electrical appliance is dangerous. A monitor can that it still can store enough electricity to kill you even after it has been turned off for hours. Before you consider opening the box of screwdrivers read the following:**

- **Switch off the monitor and leave it switched off for several hours**
- **Switch off the mains supply, unplug the monitor and leave it isolated for at least 24 hours.**
- **Even after all of this time away from power, the residual high voltage high tension current can still bite so be careful. If the above warning worries, baffles or puzzles you in any way, don't attempt the job.**

Remove the cover. The first job is on the main low voltage circuit board shown in Figure one. On this board is a strip marked with the legend PL103. Locate it and move the links so that they correspond to the positions shown in Figure 2

Slightly below and to the right of strip PL103 is a short three link strip bearing the legend TL101. The link positions on this should conform to Figure 3.

The adjustments are complete, but for safety you must replace and secure the cover before plugging in and switching on to test. When adjusted in this way to use with an Amiga the contrast control will have no effect on the display. To adjust the brightness levels, the preset VRB (Figure one) should be used. This can only be done with the cover off and care must be taken when adjusting it.

Once the monitor has been plugged in and switched on for testing, it will again retain large amounts of electricity. Follow the safety code.

The cable that connects the 23-pin D video connector on the Amiga to the 6-pin D connector on the CUB should be wired as follows:

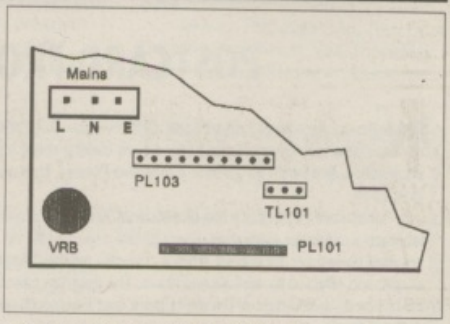
| 6-PIN DIN on CUB | 23-Pin D on Amiga | Signal carried |
|---|---|---|
| 1 | 3 | Analogue Red |
| 2 | 4 | Analogue Green |
| 3 | 4 | Analogue Blue |
| 4 | 10 | Composite sync |
| 5 | 16 | Ground (Earth) |
| 6 | not connected | not used |

## LEADS FOR LEADS

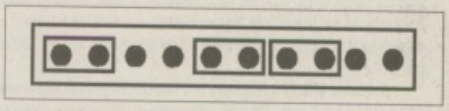
If you can't find a company or dealer nearby who'll make you up a lead, you could try one of these:

| | |
|---|---|
| RSD | 0992 584205 |
| Simpson | 0332 760353 |
| Meedmore | 051-521 2202 |

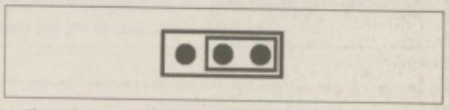
Alternatively you could buy the bits and have a go yourself. Simpson will sell you the bits separately.



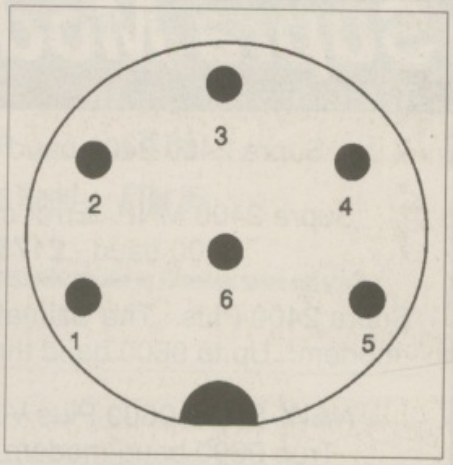

*• The low voltage board in the CUB (Fig 1).*



*• Set the links like this (Fig 2).*



*• This is how panel TL101 should look (Fig 3).*




*• The CUB DIN video connector viewed from the rear (Fig 4).*

## IS YOUR MONITOR COMPATIBLE?

If you're looking for a monitor to add to your computer, you'll have to check if it's compatible. Colour monitors fall broadly into two kinds – digital and analogue. An analogue monitor takes a gradually incremented signal and can display an almost infinite number of colours only limited by the coarseness of adjustment.

A digital monitor works on discreet levels. If there are three discreet levels and three colours (red green and blue) the monitor is capable of displaying 27 colours. These colours are set and the only way to get any form of shading on this sort of monitor is with software that allows graduated dithering.

Mono monitors are generally green, amber or paper white and accept a composite mono signal.

When checking for compatibility watch for the synchronisation rate: check the sync rate of your machine and make sure it is compatible with the monitor before attempting to connect them.

Atari ST users should be especially careful as the sync rate for its colour and high res mono displays are different.

# Evesham Micros

*All our prices include VAT at 17.5% and Delivery*

## AMIGA SPECIAL DEALS

### AMIGA 500 COMPUTER BASE PACK

| | |
|---|---|
| Amiga A500 Base Package | £ 307.49 |
| A500 as above, with our 512K RAM/Clock Upgrade fitted | £ 337.49 |
| A500 Pack plus External 3½" Drive | £ 357.49 |
| A500 Pack plus External 3½" Drive and 512K RAM/Clock Upgrade fitted | £ 387.49 |

N.B. *Does not include extra games software.*

### Buy an Amiga Feature Pack From Evesham Micros AND YOU ALSO GET ....

**THESE *FABULOUS* GAMES:**

| | | |
|---|---|---|
| Tracksuit Manager '90 | Subbuteo | Diet Riot |
| Block Alanche | Lost'N Maze | Discman |
| Battle Squadron | Jaws | Tank Battle |
| Treasure Trap | Nigel Mansell | |

*PLUS!* A wordprocessor and spreadsheet

N.B. *Not* supplied with A500 'Base Pack' offers

| | |
|---|---|
| CLASS OF THE 90's Package | £ 549.00 |
| Class of the 90's *plus* 3½" Ext.Drive | £ 600.00 |
| Amiga 1500 STARTER PACKAGE | £ 949.00 |

### AMIGA 500 1MB SCREEN GEMS PACK

**INCLUDES 1MB RAM!**

**ONLY £369.99**

Screen Gems Pack plus 3½" External Drive ...

**ONLY £419.99**

| | | |
|---|---|---|
| Philips CM8833 Mk.II, inc.cable £ 249.00 | CBM A590 Hard Disk, 40Mb SCSI Version £479.00 | Trackball (works with Amiga AND ST) £ 29.95 |
| VIDI-Amiga inc.VIDI-Chrome £ 110.95 | CBM A590 Hard Disk, 100Mb SCSI Version £669.00 | Amiga Virus Protector £ 9.95 |
| VIDI-Chrome-Amiga colour splitter s/ware £16.95 | A590 512K RAM Upgrade £ 31.95 | Stereo Sound Sampler inc. software £ 29.95 |
| VIDI-RGB colour input splitter for VIDI £ 64.95 | A590 1MB RAM Upgrade £ 59.95 | MIDI Interface £ 19.95 |
| MiniGEN Genlock Adapter £ 95.00 | A590 2MB RAM Upgrade £ 99.95 | Golden Image Handy Scanner Package £179.00 |
| CBM A590 20Mb Hard Disk £279.00 | A500 Replacement Power Supply Unit £ 39.95 | Kickstart 1.3 Upgrade £ 29.95 |

## ATARI

### 'KICK OFF' WITH THIS DEAL FROM Evesham Micros !

**EVESHAM MICROS PRICE PROMISE - WE WILL *BEAT* ANY GENUINE ATARI ST PACKAGE OFFER ON A LIKE-FOR-LIKE BASIS**

### FREE! With EVERY ST Pack

★ 'KICK OFF 2' ★ 'TRACKSUIT MANAGER' ★ 'SUBBUTEO' ★ 'FLIMBO'S QUEST' ★ QUICKSHOT 3 TURBO Joystick ★ 10 X 3.5" DS/DD DISKS ★

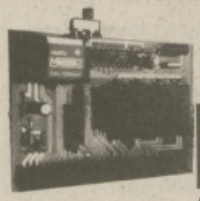
TOTAL RRP OF EXTRAS: OVER £115.00 !

All our ST prices inc.mouse, user guide, etc. PLUS 5 disks full of specially selected P.D. s/ware, inc. paint program, wordpro's, games, graphics & sound demos, desk accessories and utilities.

| | | |
|---|---|---|
| **NEW! 520 STE 'DISCOVERY EXTRA PACK'** | Special new package including the Atari STE, now available at a special new price ! Includes the STE with 1Mb Drive, 512K RAM, full digital stereo sound, PLUS extra software including: *'Dragon's Breath'* ● *'Super Cycle'* ● *'Indiana Jones'* ● *'Anarchy'* ● *'Neochrome'* ● *'FirST BASIC'* ● *'Atari ST Tour'* | **£279.99** Inc.VAT and delivery<br>ONLY £309.99 WITH 1MB RAM FITTED<br>ONLY £359.99 WITH 2MB RAM FITTED<br>ONLY £439.99 WITH 4MB RAM FITTED |
| **520 STFM 'DISCOVERY PACK'** | *Pack includes 520STFM computer, plus :* STOS Games Creator ○ Outrun ○ Carrier Command ○ Bomb Jack ○ Space Harrier ○ Neochrome ○ FirST BASIC ○ Atari ST Tour ○ 'Discovering your Atari ST' Book | **£279.99** Inc.VAT and delivery<br>ONLY £309.99 WITH 1MB RAM FITTED |
| **1040 STE 'FAMILY CURRICULUM PACK'** | 1040 STE including educational & productivity software : **Educational Software** modules, split into three age categories, from Early School to GCSE revision. ● **Productivity Software** featuring Wordprocessor, Database and Spreadsheet (RRP over £100) ● **Plus!** Hyper Paint, Music Maker and FirST BASIC | **£359.99** Inc.VAT and delivery<br>ONLY £439.99 WITH 2MB RAM FITTED<br>ONLY £519.99 WITH 4MB RAM FITTED |

| | | |
|---|---|---|
| SM124 monochrome hi-res monitor £ 129.95 | Reference 40Mb SCSI Hard Disk inc.PSU £ 349.00 | VIDI-ST & VIDI-Chrome video digitiser pack £ 99.95 |
| Philips CM8833 Mk.II, inc.cable £ 249.00 | Reference 100Mb SCSI Hard Disk inc.PSU £ 499.00 | VIDI-RGB colour input splitter for VIDI £ 64.95 |
| Joystick Accessibility Adapter for ST's £ 4.95 | Golden Image Handy Scanner Package £179.00 | Dust Cover - for any ST or MEGA £ 4.95 |

## AMIGA 500 512K RAM/CLOCK UPGRADE



Direct replacement for the A501 Expansion ● Convenient On/Off RAM Switch ● Auto-recharging battery-backed Clock ● Compact unit size ● Ultra-neat design

**ONLY £32.95**

Available without clock for £27.95

## A500 1.5MB RAM EXPANSION

(requires Kickstart 1.3)... **ONLY £89.95**

Kickstart 1.3 upgrade available from us for only £ 29.95

## LYNX Portable Games Console

**Only £99.95** INCLUDES POWER SUPPLY & GAMECARD OF YOUR CHOICE!

| | | | |
|---|---|---|---|
| Electro Cop | £19.95 | Rygar Warrior | £19.95 |
| Slime World | £19.95 | Zalor Mercenary | £19.95 |
| Klaxx | £19.95 | Ms Pacman | £19.95 |
| Roadblasters | £19.95 | Xenophobe | £19.95 |
| Paperboy | £19.95 | Blue Lightning | £19.95 |
| Gates-Zendocon | £19.95 | | |
| Chips Challenge | £19.95 | | |
| Shanghai | £19.95 | | |
| Rampage | £22.95 | | |
| Gauntlet 3 | £22.95 | | |

| | | | |
|---|---|---|---|
| Cigarette Lighter Adaptor | £ 9.99 | Lynx Pouch | £ 9.99 |
| Sun Visor / Protector | £ 5.99 | Lynx Kit Case | £ 14.99 |

## ST SIMMS RAM EXPANSION SYSTEM

✔ Fits Atari STFM or MEGA series machines
✔ Uses SIMMS RAM Modules for Effortless Upgradeability
✔ Probably the neatest ST RAM Upgrade available !

| | |
|---|---|
| RAM Upgrade (unpopulated) | £ 59.95 |
| RAM Upgrade With 512K RAM Installed - upgrades a 520 to a total of 1Mb RAM | £ 89.95 |
| RAM Upgrade With 2Mb RAM Installed - upgrades a 520/1040/Mega1 to 2/2.5Mb | £ 174.95 |
| RAM Upgrade With 4Mb RAM Installed - upgrades a 520/1040/Mega ST to 4Mb | £ 284.95 |

N.B. Due to the large variance in design of the Atari ST, there is a small minority of boards in existence which may require a little soldering.

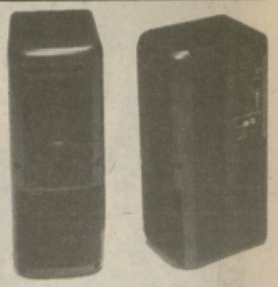
## PLUG-IN SOLDERLESS ST RAM UPGRADES

Two versions allow upgrade to 1Mb, or 2 / 2.5Mb ● Simple, fast and effective RAM upgrade path ● Suits any 520 or 1040 ST model (not STE machines) ● Requires no soldering or technical know-how

| | |
|---|---|
| 512K VERSION : UPGRADES ANY 520 ST TO 1MB RAM | £69.95 |
| 2MB VERSION : UPGRADES ANY 520 or 1040 ST TO 2 / 2.5MB RAM | £159.95 |

## ZY-FI amplified stereo speakers

GOT AN AMIGA, ATARI STE, ARCHIMEDES, SEGA MEGADRIVE, ATARI LYNX OR NINTENDO GAMEBOY? THEN GET THE FULL SOUND POTENTIAL WITH THIS PAIR OF FULL RANGE SPEAKERS !



**ONLY £39.95** INCLUDING VAT AND DELIVERY

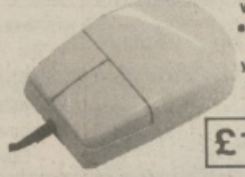
## 3½" EXTERNAL FLOPPY DRIVES

Compatible with the ST or AMIGA

Very quiet ● Slimline design ● Cooling Vents ● Sleek, high quality metal casing ● Suits any Amiga or Atari ST ● Full 1Mb Unformatted Capacity ● Quality Sony / Citizen Drive Mechanism ● Convenient On / Off switch on rear of drive ● Long reach connection cable for location either side of computer

| | | | |
|---|---|---|---|
| AMIGA VERSION ONLY | £54.95 | ATARI ST VERSION ONLY | £59.95 |

## TRUEMOUSE (ST OR AMIGA)



WE GUARANTEE that this is the smoothest, most responsive and accurate replacement mouse you can buy for your Atari ST or Amiga. Excellent performance, amazing low price !

**£17.95** SATISFACTION GUARANTEED

## PHILIPS 15" TV/MONITOR

With its dedicated monitor input, this model combines the advantages of a high quality medium resolution colour monitor with the convenience of remote control Teletext TV - at an excellent low price ! NEW Version features dark glass screen for improved contrast, plus full range 3-way speaker sound output.

**£269.00** Including VAT, delivery & cable

**Philips CM8833 Mk.II** including ST or Amiga cable.. £ 249.00

## PRINTERS

ALL PRINTERS INCLUDE CABLE & 1 YEAR ON-SITE WARRANTY

| | |
|---|---|
| **Star LC10** best-selling 9-Pin PRINTER, 144/36cps | £ 159.00 |
| **Star LC 200** 9-Pin Colour, 4 fonts, 180/45cps | £ 209.00 |
| **Star LC 24-10** 24-Pin multifont, 180/60cps | £ 215.00 |
| **Star LC 24-200** 24-Pin multifont, 200/67cps | £ 249.00 |
| **Star XB24-10** Professional 24-Pin Inc.COLOUR Upgrade | £ 385.00 |
| **Olivetti DM100S** 9-Pin, includes 1 Year on-site maint. | £ 115.00 |

## olivetti DM124C 24-pin Professional COLOUR printer

***Professional Quality 24-Pin Colour Printing - At an affordable price!***

Offering advanced COLOUR output with the *superior* quality of Olivetti 24-pin printing, the DM124C represents excellent value! Consistent high quality is assured every time. *Guaranteed* Peace Of Mind, with 12 Months On-Site Warranty cover !

200 cps draft, 50 cps LQuality ● 7 Colour output; Graphics resolution 360 x 180dpi ● **Complete with cable, Colour Ribbon and 12 MONTHS ON-SITE WARRANTY**

**Olivetti DM124C Normal RRP: £ 389.95 Inc.VAT**

***SPECIAL OFFER!* £269.00** including VAT and delivery

# Evesham Micros

**ALL PRICES INCLUDE VAT @ 17.5% AND DELIVERY**

Same day despatch whenever possible. *Express Courier* Delivery (UK Mainland Only) £5.00 extra.

*MAIL ORDER DEPARTMENT*

**Unit 9 St Richards Road, Evesham, Worcs WR11 6XJ**

**Call us now on ✆ 0386-765500**

Lines open Mon-Sat., 9.00 - 5.30. Fax: 0386-765354

Technical support (open Mon-Fri, 10.00 - 5.30): 0386-40303

*Send an Order with Cheque, Postal Order or ACCESS/VISA card details. Please allow 5 working days for Personal Cheque clearance.*

*Government, Education and PLC orders welcome. All products covered by 12 Months Warranty. All goods subject to availability, E. & O.E.*

*RETAIL SHOWROOMS*

**Unit 9 St. Richards Road, Evesham, Worcs WR11 6XJ**
✆ 0386 - 765180
fax : 0386 - 765354
Open Mon - Sat, 9.00 - 5.30

**5 Glisson Road, Cambridge CB1 2HA**
✆ 0223 - 323898
fax : 0223 - 322883
Open Mon - Sat, 9.30 - 6.00
*IBM Dealer ● Corporate Specialist*

**1762 Pershore Road, Cotteridge, Birmingham B30 3BH**
✆ 021 - 458 4564
fax : 021-433 3825
Open Mon - Sat, 9.00 - 5.30

# WHOLE WIRED WORLD

**There's a whole world of computer news out there and Steve Gold's the manto tell you about it. This week, a compression system that really compresses, multiple updates for Lotus 1-2-3 and Multimedia PCs from Tandy.**

## WORDUP! BOUGHT BY ATARI

Atari US has purchased the source code and reproduction rights to *Wordup!* a graphics and word processing system that pioneered the document processing field in the Atari ST marketplace.

As yet Atari's plans for the software are not clear. US spokesman Bob Brodie, however, says that the package may be renamed and reissued with the ST. This suggests that Atari will bundle the package with all STs sold. According to the ZNet on-line newswire, possibilities include bundling the software with the FSM G-DOS and offering it as a free startup package in all new Mega STe and TT computers.

## COPYRIGHTING CHIPS

*• Preliminary legislation is passing through the US Government to protect chip designs.*

Software may be protected under international copyright rules, but did you know that chip technology, technically at least, doesn't seem to be covered? No, neither did I. Maybe that's why preliminary legislation is passing through the US government that aims to encourage the development of worldwide protection for supercomputer chip designs.

According to the US Government, semiconductor chip designs are not covered by traditional patent or copyright laws, but instead are covered by the 1984 Semiconductor Chip Protection Act in the US. International copyright law does not, officials claims, cover chip technology designs. That could all change soon.

Government officials claim that the legislation is needed to extend transitional protections for four more years, during which time it is hoped that the US will be able to negotiate permanent, multilateral protection of chip designs. While the US government currently has reciprocal copyright agreements on chip copyright protection with 19 other countries, it has failed to negotiate a truly international treaty to prevent widespread piracy of chip designs. The proposed legislation is designed to correct this.

## CHEAP LASER PRINTER

Hewlett-Packard's US division has unveiled what it claims is its most affordable desktop laser printer to use the HP PCL 5 printer language, the $1,595 HP LaserJet IIIP printer.

According to the company's Palo Alto, California headquarters, the 4ppm (pages per minute) unit uses resolution enhancement technology to produce the best 300dpi print quality of any printer in the sub-8ppm class.

HP's second 4ppm laser printer, the new machine is compatible with HP's other PCL 5 laser printers, the HP LaserJet III, IIID and IIISi printers.

## TANDY'S MULTIMEDIA PCS

Tandy's US division, Radio Shack, has unveiled its first Multimedia Personal Computer (MPC) machines.

So what's MPC? It's a PC that, like the original MSX (remember that?), adheres to a set of minimum hardware and software standards for PCs set by a group of computer manufacturers – headed by MIcrosoft and Tandy – at the tail end of last year.

Unlike MSX the MPC standards do not specify that programs designed for one MPC machine will run on another. What MPC is designed to do is to standardise the multimedia PC environment between PC manufacturers.

Tandy chose the Demo '91 conference in Palm Springs, California, earlier this month, to launch its five new MPC PCs. In addition, the company rolled out a set of conversion kits designed to turn any standard PC – not just its own – into an MPC machine in a few minutes.

Each of the new MPC machines come with a Tandy CDR-1000 internal CD-ROM drive, a multimedia expansion adaptor system with audio circuitry and CDR-1000 interface, a single 3.5 inch floppy drive, 512K of video memory (for Super VGA graphics) and a mouse supplied as standard.

Three of the new machines come with 2Mb of RAM and a 40Mb IDE Smartdrive as standard – the M2500 XL/2, a 16MHz 80286-based system costs $2,599, the M4020SX, a 20MHz 80386SX-based system retailing for $3299, and the M4016DX, a 16MHz 80386-based system for $3,999.

The remaining two models in the Tandy MPC family are a 25MHz 80386-based system, the M4025 LX, costing $4,999, and a 33MHz 80386-based system, the M4033 LX, costing $5,499. Each comes with 4Mb of RAM and a 105-MB IDE Smartdrive.

The upgrade kits come with a choice of internal or external CD-ROM drives, and cost $799.95 and $899.95.

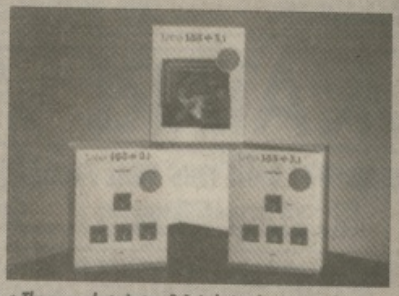
Tandy UK has not guaranteed to launch the machines here, but given the high level of interest in MPC technology, and the fact that these are the first MPC systems to actually ship to the marketplace – in the US at least – it's a fair bet you'll be seeing them in Tandy stores soon. In the meantime, you can contact Tandy US for further information on 0101-817-390-3011. ■

## LOTUS UNVEILS NEW VERSION OF 1-2-3

Lotus' US division has unveiled a new version of its popular *1-2-3* spreadsheet software for PCs. Version 2.3 of *1-2-3* includes an interactive 'What You See Is What You Get' (WYSIWYG) display and presentation-quality output capabilities, spreadsheet auditing tools, a file-viewing feature and interactive dialogue boxes, as well as improved help facilities and error reporting.

Release 2.x is for all PC users. 286- and 386-based system users are catered for with Release 3.x, which runs under DOS and OS/2. Lotus is also currently beta testing Release 3.1 Plus, an upgrade to Release 3.1. US shipment expected within the next few months.

Prices remain the same in the US on the upgrades, so the UK pricing should be about the same as well.



*• The upgrade to Lotus 3.1 is being beta tested now*

## ADDSTOR LAUNCHES 'LOSSLESS' PC DATA COMPRESSION SYSTEM

Addstor of Menlo Park, California, has unveiled *Superstor*, a program that overcomes a common problem with data compression systems. Packages such as ARC-ing and ZIP-ing programs compress 7/8-bit files into pure 8-bit ones, reducing the amount of disk space these files require. But because of the nature of the encoding systems used, some 8-bit files actually expand when 'compressed'.

Addstor claims that *Superstor* gets rid of this expansion problem. The $129 software package is designed to compete with *The Stacker*, a hardware/software system that was first seen at Comdex Fall last November. *Superstor*, however, is software-only, so it will even run on a laptop PC, as well as conventional systems. OK, it is not as efficient as *The Stacker*, but it is dead easy to install and does not take up any expansion slots.

*Superstor* compresses data by a factor of two or three. The driver program, which is a TSR package, consumes just 28K of system memory, plus another 4K per drive on the system. If you have a 286/386-based system, the program will load into high memory.

The secret of the *Superstor*'s success is that it writes to the disk on a sector by sector basis, rather than the cluster system used by existing compression programs. This allows the package to make more efficient use of available disk space. So while the error-checking codes add to the actual data recorded on the disk surface, the advantages of sector recording outweigh the losses.

Contact: AddStor, 3905 Bohannon Drive, Menlo Park, CA 94025, United States. Tel: 0101-415-688-0470.

# NEW AGE COMPUTING

## AMIGA PUBLIC DOMAIN

A whole range of entertainment based software! From just £1 a disk. **Ask for a catalogue NOW!**

**Computer LYNX - The Amiga Disk Magazine**

NEWS-REVIEWS-DEMOS-UTILS INTERVIEWS AND MORE!

**Exclusive from NEW AGE only £1.50. Subscribe for 14 issues - JUST £20 Including P&P!**

| | | | |
|---|---|---|---|
| Naksha mice | **£23.00** | 150 capacity POSSO disk drawers | **Just £17.00** |
| Vinyl mouse pads | **£1.99** | Universal printer stand (fits ANY printer) | **£6.99** |
| 3.5" Disk cleaners | **£1.99** | Monitor Plinths (supports monitor above A500) | **£29.99** |
| 40 cap 3.5" box | **£3.99** | A500 dust covers (other models available) | **£3.99** |
| Naksha+Op Stealth | **£26.00** | 0.5 meg Memory expansions (without clock) | **£23.99** |
| Foam mouse mats | **£2.99** | 0.5 meg Memory expansions (with clock) | **£25.99** |
| 3.5" labels (1000) | **£7.00** | Mountain Breeze Computer Ionisers (cleans air) | **£29.95** |
| 80 cap 3.5" box | **£4.99** | **DS/DD Bulk disks (with labels)** | **From 30p ea.** |
| | | **Disks as above PRE-FORMATTED** | **From 35p ea.** |
| | | A590 memory chips 1 MByte **£24** | 2 MByte **£46** |

Add £1.50 to orders under £10 P&P, £2 on orders above.
Payments to "NEW AGE COMPUTING" or Access/Visa

**DEPT. NCE 187 PERRYSFIELD ROAD, CHESHUNT, HERTS, EN8 0TL**
**Telephone: (0992) 465 366 Fax: (0992) 450 009**

# HART MICRO

COMPUTER CONSUMABLE SPECIALIST

**OPEN 9AM - 7PM / 7 DAYS PER WEEK**

**11 Stonald Avenue, Whittlesey, Peterborough**

VISA ACCESS

★ ALL PRICES INCLUDE VAT, POSTAGE & PACKAGING ★

| | | | |
|---|---|---|---|
| 3.5 Bulk DS/DD Disks | 0.34 | 4 player Games Lead | 4.99 |
| 3.5 Mitsubishi DS/DD (10) | 7.99 | Joy/Mouse Ext. Lead | 4.99 |
| 100 3.5 disk labels | 1.99 | Joystick 3m Ext. Lead | 4.99 |
| 3.5 Disk cleaner | 1.99 | Joystick Splitter Lead | 4.99 |
| 3.5 10 cap Ryford | 1.49 | Amiga Scart | 9.99 |
| 3.5 40 cap lockable box | 4.49 | ST Scart | 9.99 |
| 3.5 80 cap lockable box | 4.99 | Amiga A500 K/Board D/Cover | 3.99 |
| 3.5 100 cap lockable box | 5.49 | Comm. 1084 Monitor D/Cover | 5.99 |
| 3.5 80 cap Stackable Banx | 10.99 | Atari ST/FM D/Cover | 3.99 |
| Zydec Atari ST Ext. Drive | 54.99 | Anti-Glare Screen (12"/14") | 9.99 |
| Amiga Ext. Drive | 54.99 | Desktop Copy Holder (A4) | 9.99 |
| Replacement A500 PSU | 39.99 | Tilt & Turn Monitor Stand | 15.99 |
| Naksha Upgrade Mouse | 24.99 | 2 Pce. Printer Stand | 5.99 |
| Contriver Replacement Mouse | 19.99 | with paper tray | 8.99 |
| Zydec Replacement Mouse | 17.99 | Multi-Pocket | 3.99 |
| Hart Micro Mouse Pad | 1.99 | Quickshot pYTHON 1 | 9.99 |
| 6mm Mouse pad (red, blue, grey) | 2.99 | MAVERICK 1 | 14.99 |
| Hard Graphic Mouse Pad | 3.99 | FLIGHTGRIP 1 | 8.99 |
| Magic Stage | 8.99 | APACHE | 5.99 |
| Mouse Pocket | 1.99 | Konix NAVIGATOR | 12.99 |
| Mouse Trap | 2.99 | Sonmax ZIPSTICK (auto-fire) | 10.99 |

**PRINTER RIBBONS:**

| | 2+ | 6+ |
|---|---|---|
| Amstrad 2000/3000 | 3.10 | 2.85 |
| PCW/ 8256/8512 | 3.55 | 3.30 |
| 9512 | 2.95 | 2.75 |
| Epson LX80/86 | 2.60 | 2.35 |
| NEC P6+/7+ | 4.10 | 3.80 |
| Star LC10 | 2.50 | 2.35 |
| LC10 Colour | 6.00 | 5.50 |
| LC2410 | 2.50 | 2.40 |
| Citizen 120D | 2.60 | 2.35 |
| Swift 9/24 | 2.60 | 2.35 |
| Colour | 11.00 | 10.00 |

AMIGA P.D. CATALOGUE DISK ..... 1.00

**WHEN ORDERING PLEASE STATE NAME OF YOUR COMPUTER/ PRINTER, TO INSURE A SPEEDY RESPONSE.**

THANK YOU FOR YOUR CUSTOM

# TECH TIPS

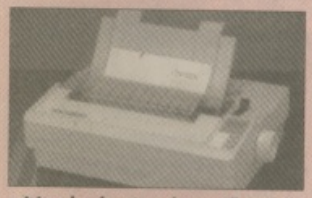
**Need power than can be portable, but last for longer than a few hours? Bought a second-hand machine and can't get in to work? Holding on to some terrific tips that other readers could use? Write to Keith Pomfret, Tech Tips , New Computer Express, 30 Monmouth Street, Bath BA1 2BW.**

## HELP Colour Swift

FOLLOWING a recent review in the PD column I bought Neochrome Master, fitted a colour kit to my Citizen Swift 9 printer, but could get none of my masterpieces on to paper. I have set the appropriate dipswitch on the printer and using printer driver supplied with my ST, which has been informed of the change to colour, cannot get any response when I ask it to print from any source I have tried.

The printers can be set to print in any single colour of my choice and mechanically the printer colour kit seems to be functionary. Have I missed some simple step in setting things up, or should I get someone to look at my printer, or should I get someone to look at the ST?

*Frank Savage, Stirling.*



*• It's a lovely printer but you'll need the right driver to get the best from it*

**BEFORE** you have the printer or the ST consigned to the repair man, there are still a couple of cheaper avenues open to you. Firstly, are you using the correct printer driver? A telephone call to Citizen could help, but in my opinion your best bet is to contact a reputable PD library. PD libraries tend to have disk upon disk of utilities and printer drivers and more importantly, know the problems that people have had persuading different configurations of different printers to work with various programs. Often, a printer driver may work with several programs and then fall over with others.

Your salvation is probably through picking the right driver for the job.Try Goodman PD on 0782 335650 before you trek off to your repair man.

## HELP Amiga DTs

PLEASE can you try to point me in the right direction with two problems on my A500:

1) The mouse-pointer "jitters" when in some positions on the screen. It alternates between two adjacent pixel positions at about 3Hz. This also happens when, for example, using *DPaint* brushes. Very annoying.

2) Joysticks fail to move "right" most of the time, though the other directions are OK. This happens with two different joysticks, which are OK on other computers.

I have looked very carefully at the joyports-to-motherboard connections, which I understand have been known to fail, but can see nothing untoward. There is nothing else wrong with the computer as far as I can tell. I suspect Denise, but before forking out rather a lot for a replacement I'd be glad of your opinion on the matter. Anyway, Agnus is involved too, isn't she?

A third ( and different) question: My AdRAM RAM expansion occupies the trapdoor (and piggy–backs the Gary chip) so I obviously cannot use the KCS PC board. But what about the ATOnce? Is that likely to work properly in the presence of the AdRAM?

*DB Beames, Cheshire.*

**IF YOU** are experiencing a jittery mouse pointer and it is always at the same place, you should have the Amiga and specifically the mouse port looked at by an expert.

Things that you can try to eliminate possibilities are a different mouse (although it doesn't sound as if it's the mouse) and test all of your software to see if any are unaffected.

Your joystick problem also points to a problem within the Amiga. As this sort of problem can be caused by a short circuit, it's necessary to get it sorted straight away. A chat with Amiga technical afficionado Mark Smiddy confirmed that there shouldn't be a problem running an ATOnce with AdRAM, but he pointed out that the ATOnce connector should be plugged into the Gary socket, then the AdRAM connector and then finally the Gary (Gate Array) chip.

## HELP Voda-Moda

Is there a way of connecting a mobile phone to a modem without using an acoustic coupler? The acoustic coupler loses data and the line drops out too much to make anything but the shortest text file viable. My phone is a Panasonic C and I am on the Vodaphone net.

*Charlie Mesnes, Wigan.*

**CONTACT** Racal for details about the CDLC data modem. It costs £500 and there's a cable available to allow you to connect it directly to your phone. The modem is catalogue number 881/01/0006 and the cable is 556/01/0007. Racal is on 0635 503236. (And watch the phone bills ... they'll be horrific.)

## TIP! Speedy Speccy

Here is a tip for programmers and the like who are fed up on the slow editing on the 128 speccys. The simplest way of doing it is to simply press edit in the basic mode and choose screen option. Since the editor only has two lines to scan as opposed to the whole screen the editing is much quicker. However, if your listing is more than two lines long to each line number, the editor will get confused as some of the listing is on -screen and some isn't.

Here are a few things you may not know about , the RAM disk in the 2A and +3 using the screen option make a nice pattern of something on the screen. Save it to RAMdisk by typing Save "M:" then save "filename", screen f. Then try loading it by load "filename",screen$ and notice how quickly it comes on screen.

The other thing you may not know is that you can save variables on to the ROM disk, so you need not worry about crashing the computer after you have saved some essential info because the RAM disk does not get erased when the machine crashes or if you accidently type "new. I'll leave you to work out how to do it.

*Adam Tomasso, Inverness.*

**THAT SHOULD** kick in the turbo for Spectrum programmers wanting to cut delays down a bit. If anyone has any useful programming tips, send them into the usual address.

## HELP PC upgrader

Where can we get a 16MHz all in one system board to upgrade a PC to an AT?

*Mark Walsh, Norwich.*

**YOU COULD** try any of the following:

| | |
|---|---|
| The Chip Shop | 061-476 3070 |
| Chipboards | 0483 797959 |
| OMD | 0533 313188 |
| RSD | 0923 211060 |
| Watford | 0923 37774 |
| Hi Voltage | 081-681 3022 |

We recently built a rather nice 386 for the office using bits bought from Silica Shop on 081-309 1111 and can heartily recommend it.

## HELP Under cover

The Psion Organiser is a pocket sized useful computer and you don't give it much coverage. My problem is that I need more software than is provided with it and can't find any.

Mostly, I need a database to catalogue the various chrome parts that I carry in my classic auto business. This way, when I visit a client, I can check instantly whether the part needed is in stock. The computer dealer said that he doesn't stock fripperies for 'toys' like the organiser and that I will need to make a serious hardware modification to the organiser to make it run a database. What modifications do I need to make, is it within the

**scope of an enthusiastic amateur and what will it cost?**

*Martin Borman (no relation!),Ribchester.*

**WHAT YOU** want to do should be possible without hardware modification, although that will depend on the size of your database. If your database is too big for the Psion, you may need to break it into discreet sections and load them separately.

For a full catalogue of what's available for your organiser, give Psion a ring on 071-262 5580.

## TIP! Arnie's friend

**THE AUTHOR of your disappointed "Help! CPC Plus" might like to have few more tips about his new machine. I owned the original Arnold and then the CPC128 and gained a great deal of knowledge and satisfaction from them.**

**There is one book which I'd strongly recommend: *Ready Made Machine Language Routines for the Amstrad* by Joe Pritchard, Melbourne House Publishers.**

**However, it is best to buy the excellent Maxam Assembler from Arnor Ltd. In its neat ROM form inside a Rombo box it gives wings to the Z80. Not only does it have the full Assembly Editor environment but blocks of Assembly Language can be used simply from inside Basic programs - very effective speed is needed.**

**The range of delights available in ROMs from Arnor don't stop there. There are several others, including *Protext* (and what could be better than a resident word processor and spelling-checker?), especially my favourite BCPL - a real pedigree compiled language which is a good way to start learning real structured programming, and so slick to use! There is also an excellent book on BCPL for the serious student.**

**The CPC - a disappointing machine? No such thing - look at all the good software it has built up for it; and can you name even a top-price computer that has a word processor like *Protext* in ROM which is there at switch on?**

*John Gray, Eastbourne.*

**YOUR LETTER** reads like a top ten turbo upgrade kit for the CPC and we heartily endorse your choices.

It's interesting that you mention BCPL. This is a language that has lived in the shade of 'C' and all of the other trendy computer languages for too long.

Scraping around in the *Express* archives I found several references to it some four years ago but it seems to be out of fashion. If my memory serves me well, some of the original Amiga development was done in BCPL as well.

## HELP Experience

**The library managed to weigh my carrier bag down with books about simple electronics projects and book learning is fine, but as my teacher used to say (back in the 50s !) "There's no substitute for hands on practical experience."**

**I don't see your magazine every week, but a friend remembered you having looked at a kit that teaches what electric and electronic components are and what they do. Could you either repeat the article or tell me where to get the kit from?**

*Martyn Troon, Telford.*

**WE COVERED** two electronics projects in Circuit City. One was an off-the-shelf' kit from Tandy for about £30 that documented 130 electronics ideas which could be built using the kit. These ranged from simple circuits using only a few components to more complex things such as radios and moisture meters.

The 130 in one Electronic Project Lab from Tandy is battery powered and contains documentation to guide you through each project. The other electronics project we covered took the concept of the Tandy 'multi-project' and built it on to a modular bread board.

The best way to approach what you want to do is start off with a Tandy kit and as your familiarity with practical electronics increases, then consider building something for yourself using the breadboard principle. Keep tuned to Circuit City for more breadboard ideas.

## HELP Laptop power

**Compared with a year ago there are dozens of portable computers on the market. The problem seems to be battery life. No matter what the manufacturers say, all of the magazine reviewers agree that most machines won't last above a couple of hours away from the mains. If I buy a portable machine and am tied down to returning to a power point every couple of hours, it isn't much use to me in the flexibility stakes.**

**What alternatives do I have? Some of the stranger machines like the Poqet and the Psion MC series look to run MS/DOS, but there's no way of getting things in and out other than down the serial port. Is there a non-disk drive MS/DOS portable that will connect to a disk drive by some sort of docking mechanism for loading and downloading to a standard disk drive?**

*Helen Jones, Llanelli.*

**MOST** of the non disk drive machines have some way of transferring other than by a serial cable.The Psion MC series that you mentioned has a disk drive interface built in and an external 3.5-inch floppy drive available direct from Psion allows you to read and write 720K and 1.44Mb disks that can be used in a standard PC.

There are two Psions available, but the £1,295 MC600 is the only one that uses MSDOS. Another (and cheaper) solution to your problem is to use a standard laptop and carry extra battery packs. With laptops costing as little as £400 for a floppy drive model and £500 for one with a 20Mb hard drive, it's worth considering spending some of the money that you've saved on a couple of spare battery packs.

*• Using a floppy laptop with extra battery packs is the cheaper way to compute on the move.*

If a machine lasts two hours on a pack and you have four packs, you've enough power to be productive for a working day. If your idea of mobile is being able to work in the car, you can utilise the car's battery with some laptops that have a car cigarette lighter adaptor.

## HELP Big floppies

**At an auction, I bought an old CPM computer with four built-in hard drives and four floppies.**

**When I got it home, I found that the floppy drives are an unusual size, over two inches wider than the more common 5.25 inch disks. Is this usual? Where can I get more of the disks? Also, can you think of a good practical use for the machine?**

*Mark Playne, Portsmouth.*

**A LOT** of the older CP/M machines used 8-inch disks. While they aren't exactly off the shelf products stocked by all and sundry, most computer retailers can still get them. Alternatively, try computer fairs, the *All Formats Show*, or even radio rallies as a source of cheap second hand disks and machine spare parts.

A good practical use for the machine is perhaps a bulletin board. I chatted to Dave Gorski of Aspects BBS in Manchester and he confirmed that for some months, a CP/M machine had been the home of his BBS. In order to set up a BBS, you'll need some comms software and a good automatic modem. If you're working on a budget, you'll find that there are some excellent BBS software packages available in the public domain. You'll need an auto-answer modem too. ■

## HELP Arch upgrader

**The Amiga with its crappy operating system, nasty blue workbench and snails pace disk drives has finally been laid to rest. A trade in for an Archimedes has allowed us access to the machine that we really wanted when we bought the Amiga as a stopgap.**

**During the dark days under the Commodore, one useful and educational thing that we managed to do with the Amiga was sample, manipulate and use sound.**

**The A500 didn't crash or guru, we learned quite a lot about noise and spent many a pleasant hour messing with sounds sampled from CDs.**

**Is there a simple to use and understand sampling package from the Archimedes?**

*Martin Walsh, Peterborough.*

**FIRSTLY**, if you're using someone's copyright sounds from a CD you should make sure that the Copyright holder gives you permission.This means writing to record companies, but better legal than locked up ...

The software package that will do what you want is Armadeus from Clares and this supports several hardware sampler boards (Armadeus, Armadillo, and Unilan to name but three.) To get a copy of this whizzy program contact your local computer shop or if they haven't got it, ring Clares direct on 0606 48511.

*• It's no spelling mistake. Armadeus is a MIDI compatible sampler for the Archimedes.*

### HAVE YOU GOT:

- A practical project?
- A working program?
- A homegrown hardware add on?
- A slick software widget of your own writing?

Don't just sit there ...Tell us about it.

KAO
TDK
KAO MF2DD
1Mb capacity

OPENING HOURS
Mon-Fri 9.30am-7.00pm
Sat 9.30am-6.00pm
Sun 10.00am-3pm

THE WORLD'S FINEST DISKS FROM T.D.K & KAO SERIOUS QUALITY FOR SERIOUS USERS

Free delivery on orders over £50

BRANDED BOXED IN 10'S WITH LABELS

| | | | KAO | TDK |
|---|---|---|---|---|
| 3.5" | MF2DD | 135 tpi DS/DD | £8.00 | £9.00 |
| 3.5" | MF2HD | 135 tpi DS/HD | £15.00 | £16.00 |
| 5.25" | MD2DD | 96 tpi DS/DD | £5.00 | £8.00 |
| 5.25" | MD2HD | 96 tpi DS/HD | £8.00 | £10.00 |

NEW LOW PRICES

KAO DISKAROO DISK WALLET CONTAINING 10 BRANDED MF2DD DISKS £10.00

| | | 50 | 100 |
|---|---|---|---|
| 1 MEGABYTE | 3.5" MF2DD BULK 50p each or | £24.00 | £45.00 |
| 2 MEGABYTE | 3.5" MF2HD BULK 75p each or | £35.00 | £68.00 |

KAO MF2DD BULK DISCS 8 COLOUR: BLUE, GREY, RED, YELLOW, GREEN, BLACK, ORANGE, FOG WHITE

(PURCHASERS OF 100+ DISKS: WE WILL INCLUDE A FREE 3.5" DISK DRIVE CLEANING KIT)
All above disks are 100% error free & warranted free from defects & as such carry a 1 for 1 guarantee
POSSO BOX 3.5" +5.25" ONLY £14.00 EACH.
DISK BOXES 3.5" 40 cap £4. 3.5" 80 Cap £5. 5.25" 50 cap £4. 5.25" 100 cap £5.
STAR PRINTERS LC-10 Mono £155. LC-200 Colour £215. LC24-200 mono £255. LC24 -200 col £300.
HP DESK JET 500 ONLY £495. - All include FREE IBM printer lead.
NB All prices inc. VAT with FREE postage & packing on orders over £50.00. Under £50 please add P&P at £3.00. Overnight delivery £8.00 extra.

Access
K.C. VIDEO, 6 & 8 DONCASTER ROAD, SOUTH ELMSALL,
NR. PONTEFRACT, WEST YORKS, WF9 2YZ
TEL: (0977) 649100 FAX: (0977) 643312
VISA

## ◆ ST

**ATARI** 520 STFM, includes over £600 worth of original software, plus magazines, joysticks, mouse, etc. £350. Phone (0279) 452002. Harlow, Essex, between 5pm and 9pm.

**ATARI** 520 STFM, including Lipstick joystick and master sound. Also Abacus GEM book (progr.) Ref No3 and Abacus intro, to midi. Loads of games (Robobcop 2), (Batman) and STOS. £360 o.n.o. Phone Gary on (021) 551 4724, after 5.30pm.

**ATARI** 1040 FM. Philips 8033, colour monitor, extra 51/4 drive, never used. Joysticks, mouse, loads of software. £400 o.n.o. Cheltenham, Glos. Ring 4.30pm-7pm. Tel Paul 0452 714376.

**WANT** to know where to get the best Atari ST PD. At the cheapest prices? Then send an SAE to: Adrian Judd, 25 Windmill Wag, Reigate, Surrey, RH2 05B.

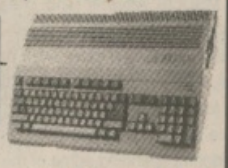
**ATARI** ST 1Mb RAM, 1MD D/D, DMP2000 printer 1/2, Nightbreed, Pipemania, many ST Format/ Users magazines. All for only £425 o.n.o. Call (0908) 220486.

**ATARI** 520STFM, mastersound cartridge, wide range of software ( over 100 disks) including many recent games, STOS, canvas, PD software, many magazines. All excellent condition. Only £250. Tel. 091 2724146.

**ST MIDI USER** seeks contacts with whom to exchange sequences, patches, (KLE MT32), C midi source code, midi PD utilities etc. Glenn. 0932 567614, eves. No games.

AMIGA A1500

Genlocks = A8802 + Switch Box - £189
Switch box + lead - £43
You name it, we sell it!



AMIGA 500 £369 with 1 Meg of Ram

with VideoStudio

without monitor £685
with monitor £935

0454 322994 We will part exchange a 500 for a 1500. Secondhand 500's for sale. Call for price.

KRT VIDEO
71 Glenfall, Yate, Bristol BS17 4LY

**ATARI** ST demos to swap. Also wanted, Atari 2600 carts. All letters sent to Peter King, 5 Marlborough Road, Dover, Kent, CT17 9NO. Will reply to all letters, promise. Peter.

**ATARI** 520 STFM, upgraded to one meg memory, one meg internal drive, one meg Cumana external drive. All leads included, large selection of software, books and magazines, excellent condition, £320 o.n.o. Phone Neil, Leeds 0532 531346.

**ATARI ST**: DTP, utilities, graphics, art demos etc. Software to swap and exchange. Contact: Scott Cairnus. 206, Kirkshaws Road, Strathclyde, ML5 5AN.

**ATARI ST.** Half meg upgrade, two internal drives, £250 o.n.o. Also a Star LC-10 colour, four months old, £150. No offers, or £350 for both. Phone Leamington Spa. (0926) 889208. Ask for Steve.

**ATARI ST** compiler, games, Startrek, Deepspace, Blue War, Barbarian, Sundog, The Pawn, many more £5 each. Kickoff 2, £8. Tel: 081 570 3690.

**ATARI ST PD** needed! Send SAE to Stuart Woodhead, 390 Coulsdon Road, Old Coulsdon, Surrey, CR5 1EF, or phone (0737) 554536. Please send me your list and let me know what PD you are most interested in.

**ST CODERS**, artists, musicians, wanted to join rising new PD group, the Bombout Brothers. Please write to: Adrian Speight, 25 Gilbert Crescent, Llanell, Dyfed. All letters will receive a reply!

**FOR SALE,** 19 original ST games, plus a multiface cartridge, mostly great games, like Xenon II, New Zealand Story etc. I won't split, £130, plus postage. Paul, 62 Carmoney Road, Eglington, C Derry, NI BT47 3PH.

**WANTED** please can anyone lend or sell me any documentation from the Atari ST developers kit. Send to Paul, 62 Carmoney Road, Eglington, Co Derry, NI BT47 3PH.

**520ST,** for sale. A/B boot switch, leads, box, manuals, £200. Also 51/4 ST drive £60. B.A.T. £20. Lemmings £20. Both ST. Ring Stockton, Cleveland. TS20 ISH.

**AMIGA** A500 £300 includes games, manuals, joystick, modulator, Batman pack. All in excellent condition. Also Rank Xerox 4020 colour inkjet printer. £995. Tel. (0495) 272358.

**A590** 20 meg hard drive with 2 meg memory for quick sale. £250, no offers, worth £390. Phone now for bargain of the week. 0562 742990 before 6pm.

**AMIGA** originals, all boxed £3 to £12. 50 different titles or £200 the lot. Also Panasonic KX-P1124 printer, used once in box £150 with Amiga cable and paper. Ring Mick (0895) 810-729. After 4pm or weekends.

**AMIGA** PD only 85p per disk, including post! Write for two free PD disks! Same day dispatch and first class post guaranteed on all orders! Perspective PD, 6 Clover Close, Cumnor Hill, Oxford OX2 9JH.

36p inc VAT

3 1/2" Disks inc Labels - DS/DD 100% Error Free - fully guaranteed 2 for 1 replacement

P&P: 50 disks & over £2.50 Under 50 disks only £1.50
All prices include VAT. Send Cheques or Postal Orders to

KYC Disks
Shop now open: 9 Barmouth Rd. Tel: 081 877 3738
51 Barmouth Road, (mail order only) Wandsworth, London, SW18 2DT. Telephone 081-870 0469

**STE RAM UPGRADE.** Expand your memmory to 1Mb. No Solderino, just plugs in (simms chip). New from Evesham micros at christmas. High quality. Cost £40, sell at £20. Bargain! Contact Rob 078139 3971.

**WANTED** external modulator for Atari 1040 STF, also +p disk interface, also serial interface for 2X81 Flat 119, Mount Pleasant, Bracknell, Berks RG12 3EA.

**ATARI** mega 4ST £695 p/ex Amiga 1040ST etc. Possible, 43 meg hard disk £335 20 meg £250. A4 HPGL compatible Plotter £295 SC1224 colour monitor £200. Wanted Atari Lynx and carts. Tel: (0495) 272092.

**MEGA 1** ST Cumana drive 120D printer, 2 joysticks, mouse and mat. All leads still boxed + over £1500 of magazines + software inc Neo Desk, Power Monger, Xenon II, £700. Tel 0773 747987. Might split, no offers.

**ORIGINAL** clip art, not PD, £3.50 per disk, including print-out scanning service available, SAE for details. 136 Oakdene Crescent, Nuneaton, CV10 ODT.

GOLDEN IMAGE hand scanner for Atari ST or STE with Touch Up software as new, £130 o.n.o. Tel: 0227 768056.
AMIGA

## ◆ AMIGA

**AMIGA** A500, half meg upgrade, action replay, second drive, 100 disks of games, demos etc. Will sell just computer or extras separately. £300 for all, or call for spilt. Phone Alex Mclean on Edinburgh. 031 669 2374.

**AMIGA** games, edition one compilation £8, Drakkhen, Treble Champions £5 each. All boxed. Back issues N.C.E., Amiga computing, Amiga user etc. 65p - £1-10p includes postage. 0703676949. After 7pm.

**AMIGA** 2000 includes printer, RAM-EX, floppy disk drive, good condition with wide range of software £300 o.n.o. Phone (0332) 511116 and ask for James (no games software).

**AMIGA** A500, 1 meg, 2nd drive, two joysticks + software, £385 o.v.n.o. Will not split. Also modem v221/v23 with leads £40 o.n.o. Tel 0533 551049.

**AMIGA** 500 for sale, 2 meg upgrade + clock, external drive, mouse, modulator, two joysticks, manuals, 100 disks, one and a half years old, in perfect condition. £425. Ring Nick on (0273) 506799 evenings. £425 o.n.o.

**AMIGA** magazines, Amiga Format 1-22, 23 disks, ST/Amiga Format 1-13, 7 disks, Zero 1-19, 10 disks, Amiga computing 1-36, 20 disks, Rampage 1-4, 8 disks, Amiga fun 1+2, 2 disks. All in mint condition, with binders. Offers, call 0224 824904.

**AMIGA** 500 1 meg expansion with clock. Extra drive, joystick, £300. Software worth £400. Games utilities, educational £150 monitor, £150. Phone 081 866 0314.

**A500** v1.3, Fatter Agnus chip with 2nd drive, just £295 o.v.n.o. Also ST 512K chips £35. Wanted XT bridge board for A200. Ring (061) 881 5663.

WESTLANDS PD
ALL THESE DISKS + MANY MORE FOR ONLY £1 EACH

The Westlands, 14, Somerford Place, Willenhall, W. Midlands WV13 3DT.
Tel: 0902 606728

| | | |
|---|---|---|
| DEMOS | D012 Anthrox | D013 Budbrain 2 |
| MUSIC | M008 Power Pack 2 | M002 Slabby's Music |
| UTILITIES | U005 202 Utilities | U004 Intromaker |

All disks are £1 + 60p postage & package per order. Please enclose cheque/PO made payable to WESTLANDS PD and send it to the above address or you can send an SAE or call us on 0902 606728 and ask for Sharon or Alex to order a free (yes, I said free!) catalogue.

**AMIGA** A500 +1Mb and clock plus Star LC-10 printer, joystick, loads of software, only £550 o.n.o. Tel: (0925) 66333. Mint condition.

**HARD DRIVE**. About to buy A590? Why bother, when you could have my 46 meg, 100-1 FFS, 2 meg RAM capable, mega-fast drive for only £300. Phone (0438) 745755 day.

**AMIGA** B2000 3Mb RAM 40Mb hard drive 3, drives unwanted gift. £500 or will swap for Sega Master system with lots of games. Phone Nick on 081 575 6706.

**MEGADRIVE** (Scart), plus three games £150. Gameboy plus light and 3 games £60. Amiga with loads of stuff £600 o.n.o. Please call for details. Iain 0325 316465. p+p not inc in the price.

## ◆ PC

**SEAGATE** HH hard drives - 42Mb 51/4" MFM, 32Mb 31/4" MFM. Excellent condition, can be seen working, £120 and £100. Also controller for there + 2FDD. £30. Also many games for sale. Tel. 081 946 9384 eves.

**APRICOT** 286 XEN PC 20 meg, hard drive + 31/2 floppy mono monitor, 1 meg, inc GW Basic Windows, mouse fully boxed with manuals. Absolute bargain £350 o.n.o. Buyer collects. Tamworth, Staffs 285080.

**AMSTRAD** PC 2386/65 14" hard card, with mouse, pacemaker and DW4. Hardly used, 1 year old £1500. Qume Crystal Print Series II, Laser Printer. Hardly used, 1 year. £1000. Tel: Bracknell 0344 486927.

**286-100% COMPATIBLE** at 12, 5MHz. 2 meg Simms. RAM. Twin hard disks, 42 meg and 21 meg. 51/4" 1.22 and 31/2" 1.44 meg floppys. Boca RAM expanded memory board Taxan 765 E.G.A. Monitor, mouse and loaded software etc. £975 o.n.o. 0253 891517.

**FOR SALE.** Tandy 1000 HX PC, 320K with simple deskmate, as new, excellent working order, mono (green) monitor, Dacom modem, auto or manual, 300-1200 Baun, £450 o.n.o. Tel 0288 354787.

**AMSTRAD** PC1640 -IBM compatible, 51/4" drive, mono monitor, disks +LC10 printer. Good condition + still boxed 11/2 year old. Phone (0274) 872597 (Bradford). £450 o.n.o.

**AMIGA** MPS 1270 inkjet printer for sale, or swap for scanner of equal value £200: Tel Steve. Manchester. 061 866 8401. As new will show any demo for any time length.

**TANDON** PCA IMb RAM 40MBHD EGA Card Philips CM8833 monitor Citizen 120D printer Windows 3, Word perfect 5, installed everything. £650. 081 952 0941 Edgware.

**CAMBRIDGE** Z88 portable computer, only 1MD+ old. Starter pack inc 128K RAM power supply. Also Amstrad RS232 interface and cables to transfer from 288 sensible offers invited. Phone Ipswich 0473 748312 evenings.

**IBM DOS** 3.3 for PC/ compatibles - unused, brand new, unopened, complete with manuals, £27 inc p+p. Tel: 0446-760434.

**SEAGATE** ST251-1 40Mb 28 Mg 51/4" HDD £120. ST138-1 32Mb 28Ms 31/2" HDD £100. Also many games for PC. Can be seen working. 2DD 2FDD controller £30. All as new, upgrading system. Phone 081 946 9384 eves.

**PC 286 TANDON,** 1 meg, multisync monitor, Dot printer 300CPS draft, 100+ software disks, best offer around, £900, may split, 0843 298763, "Bay BB" 0843 225669 6pm-9am. v21-v22B, Keith/Sysop, voice calls anytime on 0843 298763.

**AMSTRAD** PC2286. 40Mb hard disk. VGA colour monitor. 1.4Mb 3.5 inch floppy drive. Windows and mouse. £850. Tel: Polmont (0324) 716000.

**OLIVETTI** PC1 31/2" 51/4" drives, mono plus RGB microvetec monitor Epson LX86 printer plus software timeworks DTP. Battlechess Expansion box, plus extra joystick, mouse, computer table. Tel: Before 12am, after 6pm. £600. Will split 0924 458056.

**PRINTER** Mannesman Tally MT290 wide carriage, Dot Matrix £110. Fleet (0252) 614366.

**IBM GUIDE** to operations, manual and diagnostic disk, plus Ericson PC User manual and Dos guide. Phone for details 0273 748695. Ask for Ian anytime.

**FOR SALE**. Packard Bell colour VGA monitor, in good working order, including power lead with plug, £200, includes carriage or discount if collected. Tel: (081) 541 4051 evenings only.

**AMSTRAD** 1640mono 30 meg, plus manuals, magazines, disks etc, and DMP 3160 printer, all in very clean condition. £500. Telephone 0831 271358. 9am-3.30pm, at work. No time waster please.

## ◆ 8 BIT

**CBM** 128, 1541 disk drive, C2N, expert cartridge, large amount of software or disk and tape. Fully boxed, swap for Super Famicom carts. Phone Tamworth 56327 (Pete).

**SPECTUM** +3 disk drive + tape recorder, joystick, all leads, manuals, dust covers. £400 worth of software, every thing worth £600. Bargain at £180 excellent condition. Tel. 0327 60351.

**C64** original software auction, many titles for catalogue. Send SAE to Michael Vainola, 5 Woodside Cottage, Highwood, Chelmsford, Essex, CM1-3RD. Also wanted C16 +4 original software. Send list for my best offer.

**C64C** with 1541 II disk drive, includes games, magazines and joysicks. Excellent condition, 2 years old, boxed. £100. Call 061 775 1004. Ask for Danny after 6.30pm.

**FOR SALE**, Amstrad CPC 464, only £200. Including £285 worth of games + joystick and a MP2 modulator. Telephone (0923) 54372, after 4.30pm.

**WANTED:** Atari 130XE plus 1050 disk drive, in mint condition, swap for my Sega Megadrive (new). Ring 0420 88462.


**AUCTION BARGAINS !!**

*The best bargains are at auctions, but where are the auctions ?*
*For a comprehensive list of forthcoming events dial*

**COMPUTER AUCTION UPDATE**
**0898 343 386**

*Calls cost 34p/min cheap rate, 45p/min other times. Maximum duration 6 minutes.*
*Tridata Ltd. 67 Aldenham Rd, Guisborough, TS14 8LA*

**WANTED FOR CASH**
We buy/sell P/X & repair IBM's, Amiga, ST, etc.Working or not.
**DMR Electronics**
**0274 817889 or 881308**


**SPECTRUM+,** +2, +3 must inc, microdrives interface, software etc. Will swap KYOSMD Maxam R/C buggy with equipment. x2 7.2v. batteries x8 AA batteries, excellent condition. Tel: 051 922 8167.

**C64** omputer disk drive, joystick, data cassette, £200 of software inc Wheels Of Fire, 3-D Pool. Call after 4pm. 0494 33686. Buyer collects £190. Old model machine.

**C64 COMPUTER**, £190. Disk drive, joystick, data cassette, £200 of software inc. Wheels Of Fire, 3-D Pool. Call after 4pm. 0494 33686. Buyer collects.

**48K SPECTRUM** for sale, with over £290 worth of software and over £50 worth of magazines and books, plus all other essentials. Only £110. Write: 16 Montgommery Avenue, Reith, Ayreshire, Scotland, KA1 1EL.

**Z88** plus 128K RAM. £160 o.n.o. Please call 081 771 7571, evenings and weekends.

**AMSTRAD** 6128 compiler system, perfect working order. Modem, Light Pen, loads of original software disks and titles, printer, colour monitor, joystick. Also CGA monitor for sale, £480 £60. Respectfully call Steve on Bracknell (0344) 485006. Evenings/weekends.

**C64**. 150+ original games. Action replay cartridge, joysticks, manuals, data recorder, music program with keyboard. Recently serviced. Boxed. Quick sale required. £165 o.v.n.o. Phone Paul on 0322 335707, after 5pm. Beyley Borough area.

**COMMODORE** 1541 disk drive, leads, manuals, £370's worth of utilities, disk and tape software, suitable for C64C, £70. Phone 0705 586559 evenings. Buyer collects.

**SAM COUPE,** as new, disk drive, new ROM, leads etc. Games:- Defenders, Sphera, P.D. software. Bargain at £180. Phone Paul on 0257 463328, after 4pm. Word processor with P.D. software.

**SINCLAIR** Spectrum +3 128K disk drive inc, joystick, games, power pack, connecting cables, games include Robocop and Chase HQ. Excellent condition, only £100 o.n.o. Tel: Richard on 0446 774568 after 4pm please.

**ATARI** 64K XL Happy Rev-7.1. 1050 disk drive. 500 + programs/games. Loads of hard to find stuff, sensible offers to: Andy Tel. 0258 480651 (evenings). 8 College Road, Blandford Camp, Blandford, Blandford Forum, Dorset,DTII 8BE.


**STEREO SOUND ON ANY ST?**
**For £24.99, only The Monster makes it possible**

mph Computer Specialists Limited
**10 Chandlers Court, Eaton, Norwich, Norfolk, NR4 6EY. Tel: 0603 503382**

SAM COUPE AND SPECTRUM MAGAZINE!
PROGRAMS, UTILITIES, INFO IDEAS! NEWS, **"OUTLET"** GRAPHICS, AND HELP PAGES, SERIOUS SOFTWARE
REVIEWS AND HOMEGROWN SOFTWARE MONTHLY SINCE 1987!
SPECIAL OFFER! Latest issue £2.50 to newcomers on:-
+3, DISCIPLE/+D, MICRODRIVE, OPUS, TAPE, SAM DISC
CHEZRON SOFTWARE, 605 LOUGHBOROUGH RD., BIRSTALL, LEICESTER LE4 4NJ

**AMSTRAD** CPC 6128 bargain. Second 3" drive (FD-1) plus full protext CPM+ (registered) with tutor disk only £35 or swap Protext ROM with ROM box. Phone Jan Drozd on Sittingbourne (0795) 425519, after 7pm. May split.

**SUPERB CONDITION** Amstrad CPC 464 with colour monitor, manual, built in cassette and 100's worth of games. Only £210 offers to James T, 114 Sandringham Way, Frimley, Surrey, GU16 SYF.

**COMMODORE** 64 for sale, including data cassette, power pack, over £200 software including Robocop 2 on cartridge and joystick. Recently serviced £110 o.n.o. Tel: 0258 456923 (Dorset).

**COMMODORE** 64, 1541/II disk drive, £300 of software, action replay MK6, worth £650 selling for £250 o.n.o. Phone Jim on 0705 593389.

**SPECTRUM** + with loads of games, magazines and demos. Also interface and joystick and tape deck, a bargain at £60. Phone Marc on (0705) 5998588.

**SPECTRUM** +2 128K, 6 months old with 84 games, light phrase with 6 games, joystick, £100. Tel: 0892 20057.

**TWO COMMODORE** 64's, two MPS801 printers, two 1541 disk drives, two data cassettes, modem joysticks, loads of extras. All spotless just £530 o.n.o. Phone 0705 823470.

**WANTED** Amstrad CPC464 modulator power supply MP1 or MP2. Contact Taj Dhesi, 16 Hardy Square, Wolverhampton, WV2 2EL.

**CPC 6128** colour monitor, vidi digitiser, Stopress, Mini Office II, 2 joysticks £350 of games, including T.M.T.H. Hollywood Coll, Man Utd, Lotus Esprit and Snowshire, worth £100. Bargain £350, will split. Tel: Toby 0787 70856.

**SPECTRUM** plus, joystick, 3-port 1/interface, AMX art (orig £70) over £200 of games including Silkworm, Hard Drivin, magazines, manuals, very good condition. All boxed £100 o.n.o. Tel: David on (0708) 725544, after 5pm.

**SIXWORD** disk drive interface for ZX-Spectrum with double sided 3.5" disk drive. The interface has snapshot button and joystick port, with manual + disks £100. Leave your name and address on 0324 83201.

## ◆ CONSOLES

**SUPER FAMICOM** + Gradius III £265, P.C. + CD ROM + 2 games (CD) £350. Neo-Geo + game £350. M/D games £30. Ring Steven on 0924 402430 (eves) or 0924 407919 (day).

**PC ENGINES** GT (hand-held) + game £225 or offers? Also Sega Games Gear + Wonder Boy £120. Please ring Steven on (0924) 407919 (day) or 402430 (eves). Also some M/D carts £30, as new.

**PC ENGINE** (PAL) with 10 games, joystick, joypad, only £150 or swap for PC Engine Core Grafx (PAL). Contact Richard (0224) 826589.

**PC ENGINE** (PAL) 100% NEC UK version, mint condition, boxed, joypad plus six games including R-Type, Chase HQ, and Dungeon Explorer, worth over £300. Sell for only £99. Phone (0732) 840586 and ask for Steve.

**MEGADRIVE** (UK version), two joypads, Altered Beasts, magazines, £135. Also British games: Populous £25, Revenge Shinobi, Eswat, Supek Hang - on £22 each. Alex Kidd £19. Phone (0883) 622631.

**16 BIT** Sega Megadrive, boxed with leads , hardly used. £90 plus £5 for postage. Phone 0889 583057 anytime, ask for Wayne. Also included is joypad + video audio leads, Japanese PAL + Scart version very good condition.

**SEGA MEGADRIVE** cartridges. Super Monaco GP £25, Strider £25, Batman £28, Granadx £28, Space Harrier £26, Last Battle £17, Hard Drivin £25, Cyberball £26. Super Hangon £26. Hell Fire £18. Tel: (0302) 344529. Ask for Dennis.

**NEC PC ENGINE** hand held compatible computer, not yet available in U.k. Unbelievable sound and graphics, 5 games also includes cost £450. Sell for £250. Still under guarantee. Call Peter 462 7583 (081).

**FOR SALE**, PC Engine plus PAL Booster, spare P.S.U., leads and a game, still under guarantee, £100. Paul, 62 Carmoney Road, Eglington, C0. Derry, BT47 3EP.

**SEGA MASTER** system, very good condition, 10 games, light phaser, joysticks, joypad, games include Double Dragon, B Nightmare, Penguin Land, Outrun, Shinobi etc. Phone Chris 0225 743727. A baragin at £150! Phone after 8.15pm.


**1-9 DISKS ONLY £2.50 EACH**

**CALEDONIA ST/STE PDL**

**10 OR MORE DISKS AT £1.90**

**SPECIAL PRICE LAMATRON ONLY £1.95**

*See review in this weeks PD column*

Soundtracker Special/Audio Sculpture demo + 7 DS Module disks only £15.99

CALEDONIA PDL 250 Oldtown Road, Hilton, Inverness, IV2 4PT Tel: (0463) 225736


**SEGA MASTER** system, light phaser + cart, speed king joystick, 12 games, inc THblade, AFburner, R.C. Prix, Monopoly, Shinobi, Golf, Great Basketball, Fantasy Zone 2, worth over £450. Sell £220 o.n.o. Tell. Richard (025 126) 3933 5pm to 11pm.

**MEGADRIVE**, unused plays all carts (Jap, Eng, U.S.A.) includes joypad, John Haddens Superal Basketball. Boxed with reciepts £150. Tel: anytime (0242) 515558.

**MEGADRIVE** for sale, with Super Thunderblade, Altered Beast, DJ Boy. (PAL) £150. Phone Paul on (0462) 683066.

**MEGADRIVE U.K.** version, five games including Master converter and two games, extra controller. All boxed. £195 or swap Amiga +cah differance (one meg and extra drive prefered but not essential).

**SIEMANS** Thermal Transfer 735 portable compact printer. Laser printer quality 300x300 DPI. Ideal for Laptops. Cost new £1000. Sell £400 o.n.o. Write to own Lee, 125 Arnold Road, Bestwood Estate, Nottingham, NGS 5HR. Tel: (0602) 606442.

**COLOUR** CPC6128 KXPD81 printer, second drive, mouse, ROMbox, tapedeck, serious and games, software and booiks etc. Worth over £1300. Sell for £800 o.n.o. Johnathan Hawkins. No 1 (A) Wing RAF, Halton, Aylesbury, Bucks.

**NEC P2200** 24 pin printer. Mint condition C/W cut sheet feeder, cable, paper a manuals £180 o.n.o. Also v21 v22 v23 dowty modem. Again brand new condition with ST/PC s'ware etc. 0543 424102, after 7pm.


**TESTBOOM LTD Tel: 0695 571605**
**Fax: 0695 517606**
**286 from £650. 386 from £850**
**STE's POA Atari TT's POA Mega STE's POA**


## ◆ 8 BIT

**STAR LC-10** colour printer. 18 months old. As new, with Ribbons, dust cover, manuals, lead for the Amiga. Boxed as new, price includes next day courier delivery £120. Call 0224 824904 anytime.

**STAR LC-10** colour printer, four months old, hardly used, selling due to upgrade £150, or will swap for colour monitor (must be suitable for Amiga A500). Contact Simon on (0766) 780203.

**ATARI** laser printer SLM 804 for sale. One year old, £600 o.n.o. Tel 0-226 742115.

**STAR NB24**-10 letter quality 24PIN printer, plus sheet feeder and new ribbon. Contact Steve 0420 487783. (Hants). £200 o.n.o.

**WANTED**: printer MP5801 for Commodore 64K, second hand. Will pay reasonable asking price. Education disk 51/4" reasonable. Write, 4 Mill St, Delves Lane, Consett, Co. Durham, DH8 7AQ.

**LETTER QUALITY PRINTER**, wanted for AMiga A500 daisywheel or similar, must be reasonable price 0782 533016.

**TANDY** cap 115 small pen plotter with pens and paper and manual! Both serial and parellel interfaces £50. Phone 0494 (High Wycombe) 35476. May accept the best offer, so phone me now for a chat.

**IMAGEWRITER II** printer for the Macintosh, cable, manual, spare ribbons and colour ribbon. Good condition, £130 o.n.o. Contact Simon on Leamington 0926 312212 (eves).

## ◆ MONITORS

**APRICOT** mono £40. Also Prestel terminal £20. 25 shareware disks 51/4 PC £15. Wanted Defender Of The Crown for PC on 51/4. Ring 021 308 5278, between 5pm and 6pm. Monday -Friday.

**MULTISYNC** colour monitor, 0.13mm dot pitch, anti glare, high persistance screen, Model ECM 1311, works on all computers. Will stop interlace flicker on Amiga. Only £190. Tel Wakefield (0924) 279780.

## ◆ MODEMS

**MODEM** - Linnet v21/23, Auto-dial/auto answer, Hayes compatible with power supply and leads. Boxed as new, with manual, £80 O.B.O. Tel: (0325) 487095 after 6pm.

**SYSOPS** send details of your viewdata BBS to be included in a new VIC viewdata directory - viewdata directory (U.K.) 56 Aldham House Lane, Wombwell, Barnsley, South Yorkshire, S73 8RG. OR CALL 0226 340425. 24hr viewdata host.

**FOR BBC** Micro-Watfords Le Modem (not BABT app.) Includes ROM with viewdata and scolling terminals. 120/75 and 300/300. Very reliable £50. Phone 0494 (high Wycombe) 35476 anytime and make me an offer I can't refuse.


**CUSTOMISED CABLES**
**made to your specification**

Many types of custom cables for business, home computers and peripherals.

★ Printer Cables ★ Monitor Cables
★ Extension Cables ★ Power Cables

FOR PRICE LIST WRITE:-

**TECTEL LTD.**
63 Upway, Rayleigh, Essex, SS6 8AA
**Tel 0268 778162**

## OUTLAND SOFTWARE

*Stockists of Multi-Format Games and Peripherals*

THE STORES
MILSTEAD
NR SITTINGBOURNE
KENT ME9 0SA
PHONE (0795) 83270

**LOOK AT THESE PRICES:**

**MEGADRIVE:**

| | |
|---|---|
| Midnight Resistance | £35.95 |
| Sword of Vermillion (5 Mega with Batt) | £38.95 |

**S/FAMICOM**

| | |
|---|---|
| Gradius III | £37.95 |
| Hole in One | £42.95 |
| Pilot Wings | £39.95 |

**GAMEBOY:**

| | |
|---|---|
| Gremlins II | £19.95 |
| R Type | £19.95 |
| Spiderman | £19.95 |
| Duck Tales | £19.95 |

**CONSOLES/ADD-ONS**

| | |
|---|---|
| Megadrive (PAL) | £125.45 |
| Gameboy (Deluxe) | £65.95 |
| Pro 2 Joypad | £14.95 |
| Light Boy | £19.95 |

We also stock games for: Lynx, Master System, etc. Loads more add-ons in stock, please phone. 9am/6.30pm. P+P consoles £5.00 Games £1.00.


**AMSTRAD** SM2400 modem complete with Amiga software and a large list of free bulletin boards, still under warranty £165 o.n.o. Queries answered. Phone Danny on 0692 402927.

**VTX5000** modem for Spectrum. Boxed, unused, £20. Kempston printer interface £20. Tasman printer interface, boxed £15. Joystick interface £6. G. Maxwell, 11Friendship Gardens, Carronshore, Falkirk, FK2 8HY.

**PACEMAKER** Linnet modem 2400 MNP 4, 11 months old. Cost £260. Want £180, boxed as new. Tel 081 651 0511, after 6pm (Croydon).

### ◆ SOFTWARE

**SPECCY** games and books for sale, games include Shadow Warriors, Ghost Busters II. For details, write to Nick Lee, 55 Hayes Lane, Wimbourne, Dorset, BH21 2JB. Games priced from £1-£4. Books 50p each.

**AMIGA PD** and all Public Domain programs to swap. Please send your lists to: 63 Humberstone Road, Plastow, London, E13 9NL. FAO Neil. Also wanted gameboy games, please send details.

**AMIGA PD** only 89p. We supply music utilties and demos of all types. Send for catalogue to: Neil Jones, P.O. Box 2039, London, E13 9PF. We also swap P. D. Send lists.

**WANTED** Batman on the mega drive. Will pay cash. Tel: 081 848 1614.

**AMIGA GAMES.** Final compilation, £9. It came from desert, £9. F29 Retaliator, £6. Shadow Warriors, Srider, Ghouls n' Ghosts, Dragons Breath. All £5 each. All originals. Phone Jason on 0603 603217, after 6pm.

**AMIGA** software Kspread RRP £60, plus DGcalc, home accounts and Ghost Busters. Game all boxed as new, complete with registration cards. Phone John, between six ad nine o'clock, at 06937 72532.

**MICROSOFT** windows 286 boxed, with manual exchange PC Paintbrush. Tel: 081 478 7876, after 6pm or any time weekends.

**C64 ORIGINAL** software cassette auction, many titles for catalogue, send SAE to Michael Vainola, 5 Woodside Cottages, Highwood, Chelmsford, Essex, CM1 3RD. Also wanted C16+ 4 original software and hardware.

**AMIGA** Pro page usn. 1.3 DTP program and compilation graphic outline fonts £100 o.n.o. Home Accounts program £20 o.n.o. Phone David on Derby 0332 362113 anytime.

**AMIGA** PD for sale or swaps approx 170 disks, mostly utilities SAE for list to J Murray, 9 Palace St, lightenhill, Burnley, Lancs BB12 6EA.

**SPECTRUM** GCR for the Atari ST in excellent condition, ROMS included. Easy to set up. £175. Phone 081 741 4570.

**OVER** 60 PD disk and demos/ music/sideshows. Some are adults, only just £45 including postage. Telephone. Richard on (061) 761 6541.

**ALIENS**

**Can You Kill The ALIENS For CASH PRIZES**

**0898 313 589**

Infodial PO Box 36 LS1 4TN Call Charges 34P Per min Cheap Rate 45P all other times


**PC GAMES** for sale, all originals, most at half price. Please write for full list to Raymond U., 52 Farndon Way, Oxton Birkenhead, Wirral, L43 2NP. SAE not required.

**SHAREWARE** for windows, hundreds of titles, inc games, screen utilities, disk, file, memory utilities, Icon Editors etc. £1+p+p send SAE, for list. 37 Devon Place, Newport, Gwent. NP9 4NW. Tel 0633 259847.

**MEGA DRIVE** games for swap, inc Eswat and Ghost Busters. Swap for Shadow Dancer, Elemental Master or any other good games. Phone on (0242) 518124.

**LOCOFONT** for PCW both font packs £20 the two pack kits together tel/fax 0803 - 853144. (hold for tel)!

**BROKEN QL** or QL outfit. Tel, 0760 755402.

**MEGADRIVE** and joypad for sale, plus four games, £140. PC Engine (non) working. Also for sale £50 Arcade P.C.B. Board Jamma -Do Run Run, £50. Ring Andy. (099289) 2821.

**PC ENGINE** games, £15 each. Mega Drive games, from £15. Phone 0403 61899. Evenings and weekends.

**WANTED** Amstrad spares, parts and service manuals. Send details and price list to: Mr. Lekan, 71 Harlowe House, Clarissa Street, London, E8 4HD.

**KICK OFF II** (final whistle). If you are having trouble beating the computer, I can help. Send SAE for details to: M. Sutcliffe, 5 Park Close, Ivybridge, Devon, PL21 OBU.

**MEGADRIVE** 2 games, Master System Converters. Unwanted xmas gift. £160, call Kev on: 0773 810660 (after 6pm).


**Let this advertising space work for YOU!!**

**For Only £61**

**Contact Tim Partridge on 0225 442244**


**QUALITY** Atari 8-BIT software for sale, tape and disk, silly prices but postage requires. Ring Harratt, 0260 276070. Now some books also available.

**AMIGA** and Amstrad CPC software wanted. Also hardware, books, etc. Send priced lists to: J. Havord, 58 Ringmore Drive, Greggan Estate, Derry, N. Ireland, BT48 9TH.

**AMIGA** PD for sale or swap. Please send disk or list ASAP for quick reply. Write to John, Flat 45, 2 Silvermere Road, Sheldon, Birmingham, B26 3XA. Demos only.

**ORIGINAL** quality line clip art PCX. TIF, I meg, Format. Quality line drawings of houses, windmills, houses, siens, over 700K on 31/2 disk only £1.50 per disk. Send to Bear. 60 Manham Hill, Scarborough, North Yorkshire.

**ATARI** first word plus. New at christmas. Lastest version. (includes mailmerge). Cost £65, sell for £30. Bargain ! Genuine, full manual etc. Rob 078139.

**AMIGA PD** wanted, utililites, demos, games or source code. All disks will be sent back with new PD on it, send to. Martin, 40 Hinderwell Avenue, Redcar, Cleveland, TS1Q 5EH.

### ◆ OTHER

**SUGA CARD** with 512K of video RAM £60 Sound Blasters, sound board only £90. Tel 040377 545 wsx. Weekends only please.

**MAPLIN** Logic Probe. Displays high, low, floating and pulsed signals. £7. inc postage and packing. Phone (0709) 365879 and ask for Richard.

**ACORN** A3000, colour monitor, Star LC10, software and books, one year old. £700. Very good condition. Call Albani read (0252) 332839.

**BLACK** Phantom, radio control car, Indy Suspention 4 Wheel Drive, two motors battery charger, big car, boxed, unwanted prize, E80 o.n.o. Offers write Richard Kemp, 4B Currents Lane, Harwich, Essex, C012 3DE.

**SEGA** Megadrive, ten great games including J.M American Footie, Golden Axe and Populous. Worth over £500. Will accept £350 o.n.o. For more details. Phone 0920 487241 and ask for Karl.

**SIRIUS** and Vicki bits and bobs. Issue Po. Box 222, Brighton, BN1 3BR.

**WANTED** 2" floppy disks, must be suitable Laptop computer. Tel. 0803 858172.

**PC** monthly, a monthly magazine disk packed full with software, news and letters. For more info, write to: Richard Lilly crop, 19 Nelson Court, Watton, Norfolk, IP25 6EL.

**FAMICON** + 2 GAMES ONLY £280 (Scart) sega game gear + 3 games, £130. Megadrive + 2 games £135. Famciom games £40. each. Lynx games, £26. Phone 0202 872365. Kester.

**NINTENDO** Super Famicom PAL version for sale, excellent condition, only two months old. Includes two games: Final Flight and Super Mario 4: £275 o.n.o. Tel: 0734 415732.

**SEGA** Megadrive with five games, worth £350 or swap for Neo - Geo with game. Amiga demo's wanted. To:- Steve, 26 Reeve Road, Holyport, Maiden Head, Berks. Tel: (0628) 72275 after 6pm.

**40+** games, very good condition, + 14 cover disks (includes interface). £35 + p+p. Includes Zero Action , ST User, ST World, ST Action etc. Dozens of other magazines with them. Phone 0989 65818.

**ST FORMAT** issues 9, 15-21 and ST Action Issues 33-36, ST User issues 20-21. All magazines with disks, unused. £25, buyer collects or pays postage. Will swap for Amiga games. Tel: 0535 605917.

**WANTED** manuals for plus 4 also software, disk and tape or cartridge, will swap Amiga or 64 software or hardware. Call Gus on 0294 214250, after 5pm.

**WANTED** 31/2" second drive (Amstrad CPC464) Also any D.T.P. software and Clip Art. Also Label printing program. Must work on 464. Tel: 0254 392220 (Lancs).

**AMSTRAD** HP-3 TV modulator, £25. Microtext Teletext adaptor for Amstrad CPC computers (video required for teletext) £45. Tel: 0282 862610.

**ATARI** Lynx with six games. Worth £280, bargain at £175. Swap for HST/9600 external modem, PC Engine handheld, 24 pin printer or hard drive. I may add cash. Tel: (0225) 790625.

**NINTENDO** gameboy case, headphones, linklead, 5 games, Tetris, Golf, Kwirk, Spiderman, Marioland. All boxed, very good condition, 3 months old. Tel: Dunstable (0582) 660031, price: £80 o.n.o.

**SEGA MASTER**, (in excellent condition) control pads, light phaser,nearly £200 worth of software, + Sega magazine. Will sell all for £150. Tel: Scott on 0862 842304, will use C.O.D.

**MEGADRIVE,** Japanese or UK, five games, two joypads, in boxes, £175., Atari 1040STFM, joystick, games, £300, Atari megafile 30 in box, £325. Tel. (0455) 637762.

**ALL FORMAT** 100 page colour magazine with cheats and some offers. Send SAE to Dave, 3 Thornton Terrace, Palmersville, Tyne and Wear, NER 9QH. 100% reply.

**ATARI** portfolio £120, 64K RAM card £50, Parallel interface (for PC transfer and printing) with cable and software £30. All guaranteed. (021) 478 0826.

**FOR SALE** PSION organiser model XP includes 32K Rampak and 32K Datapak. All manuals included, £60. B. Walton, Tyne and Wear, NE25 0PD.

**PSION** organiser datapacks formatted £2.50 each, returned by recorded delivery post. 24-48 hours tun around. For full details, write to: 39 Collier Close, Maidenhead, Berkshire, SL6 7LD.

**AMSTRAD** PCW 8256, expanded memory to 512K with manuals, etc. £220. Also Amstrad PCW 8512 (two disk drives) £320. Upgrading, so must sell. Phone (0795) 872280 (Kent).

**LOAD RUNNER!** I require issue No. 9 of this computer comic. I'll pay £2 for each copy (they must include the flexidisk in a playable condition). Contact: Graham Needham, 75 Lavernock Road, Penarth, S. Glam, CF6 2NY.

**PC ENGINE,** remote control car, Nintendo, Amstrad , Coleco, Atari, all dirt cheap, bargain. Write for details. Also Amstrad + C64 tape games list, dirt dirt dirt cheap: Write:- Richard Kemp, 4B Currants Lane, Harwich, Essex, CO12 3DE.

**SCANNER** - A4! Brand new 200 - 400dpi, top of range, includes interface + software, never used. Quick sale, £425 o.n.o. Tel: 0727 51430, after 4pm.

**11/2 MEG EXPANSION** for Amiga A500, take your Amiga to 2 meg £76. + £1. Post and packaging. Phone 0733 237662.

**WANTED** PC AT tape streamer cards Wangtec etc. Also AT keyboard, 102 keys. Evenings/weekends 0767 680253.

**ROLAND** TR-505 drum machine, excellent condition, great sounds, midi, with manuals and power supply. £110. Tel: Ely (0353) 777637.

**ROMBO** vidi digitiser card with software and manual £75. Sound card with software and instructions, £85. Evenings/weekends 0767 680253, beds area.

**MULTISYNC** or S.V.G.A. 14" colour monitor wanted. Blackpool. 0253 891517, anytime.

**CASIO** CT640 stero keyboard M-I-D-I- in out thru, full size keys, drum sequencer, 465 sounds, good solid stand transformer, P.C.M. voices, full automatic rhythm and drum patterns. £120. Tel: 0253 872805.

**COMPUTERS**

For probably the best prices and deals on Home and Business Computers, Acorh, Archimedes, Atari ST's, Lynx, Commodore 64's, Amiga's, Amstrad, Star, Citizen, Canon, Panasonic, Sega, Nintendo Consoles. Plus printers, disk drives, monitors, memory upgrades and accessories etc. Great deals on PC's.

* FAX M/C's * ANSWER M/C's * PHONES *
Joysticks from £4.99 Blank disks 5.25", 3.5" 3"

**SGM ELECTRONICS**

19 Charles Street, Wigan, Lancs, WN1 2BP
Tel: (0942) 321435 Fax: (0942) 821273
Mon-Thurs 11.00am - 9.00pm
Fri - Sat 11.00am - 7.00pm or later
Repairs to most makes of computers


**BBC** computer wanted, any condition working or not, with or without disk drive. Cheap as possible. Please phone before 5.30pm, Mon-Sat. Tel: 041 886 3341.

**SINCLAIR** joysticks, now £5. Also software for sale, Spectrum BBC Atari. Personal stereos, £5. Send SAE, for list list to Robin England, 13 Canons Walk, Thetford, Norfolk.

**ARCHIMEDES** A3000, one month old (immaculate), £265 + software included. One meg memory. Girlfriend forces sale, hence only £470 o.v.n.o. Might swap for Amiga and cash. Ring Martin on (06333

**BBC B** computer leads, books, magazines, over 40 games, dust cover, £150 o.n.o. Tel: (0226 722195).

**INDIE** music Fanzine with interviews and articles, plus an exclusive II track cassette. Only £1.50. Cheques to: M. Crumby at Split Ends, 41 Quarrendon Road, Amersham, Bucks, HP7 9EF.

**Z88 LAPTOP** computer. All in one pack, PC-Link II, 128K RAM pack, Parallel interface and magazines, £235. Acorn DTP for Archimedes £55. Tel: (0533) 704315 and ask for Jason.

**ARCHIMEDES** A300 little used. IMb RAM, boxed, perfect condition. Expensive M.O.T. forces urgent sale, only £500. Call Michael on 0924 466704, after 6pm. No reasonable offer refused. Nintendo Carts wanted £10-£15.

**ANY AMIGA** 68000 hardware programmers OOT there? Then write to ZIP, Fairshot Court, Woodcock Hill, Sandridge, ST Albions, Herts.

**WANTED,** Atari, ST Format magazines, 1-6 with cover disks. Will collect from London, home counties. Please phone 081 533 7738. Good price paid.

**BOOK:** The complete beginners guide to the Atari portfolio. As new, £3.50 + post. Call (03985) 438 or write, 2 Town Mead, Oakford, Devon, EX16 9EW.

**DEVPAC** ST version 2, as new £20, Chess Master 2100 for Macintosh £20. Atari ST internals, assembly lanuage, GEM programmers reference, by Abacus, all for £20. Phone 0375 851706.

**155MG** ESDI 5.25" hard disk drive £300 o.n.o. 0.5MG RAM STE upgrade, £20. Tel: 0375 851706.

**JEAN** Michel Jarre. New high quality magazine on the French Keyboard King, a definate must for all Jean Michel Jarre fans. For full details, please phone Ajay on 081 907 4166 or fax 081 907 0405.*

40 MEG hard disk driver with controller card, access time 28ns £150 Silver Reed Daisy Wheel printer £100. Phone Jacky 061 226 5831, after 6pm.

MEGADRIVE games exchange, plenty of new titles to swap. Ring Richard on 0274 572237, after 5pm. Also PC Engine games to swap.

QUANTITY s/hand C15 cassette tapes for sale, 15p each. (includes case) + postage, or collect (Leeds area). Tel: 0943 463718, after 6pm.

**ELECTRON ROMS:** Star Trek, Plus Como4, £5 each. Slogger 32K SWR cartridge, £10. More than 70 games for sale. Phone for list, on 0259 61410. Ask for Kenneth.

**ORIGINAL** video, films, Batman, Kickboxer, Bloodsports, Angel Heart, Deadcalm, Witchcraft, all 6 for £30 or £6 each only + postage, £1. Phone 0889 583057, ask for Wayne anytime.

**YAMAHA** PSS-580 keyboard, midi comapatible, 100 voices, 100 rythms complete with power pack. Boxed and instrucyion £100. Please contact me on. (0306) 887824, after 4pm. Ask for Richard.

**LYNX,** for sale, boxed only, 10 days oldwith full 12 month guarantee, P.S.U. Xenophase cartridge, unwanted gift, used once, absoloutely perfect, only £106. Contact Barnsley (0226) 746257.

**ATARI** Port Folio pocket computer and 512K BIT memory card. All brand new, unwanted gift, hence price, £100. Phone 0229 828595.

**AMIGA** Format, Issues one to five, plus disks, good condition. Also the one issues, one to three. Offers to Dave on 0354 55480.

**DOS** 3.3 MANUALS £17.52, Compaq Operation guides, (Deskpro/ SCT) £10.52. (Both inc p+p). Also Avail IBM PC, NEC Multisync. Tel Derek, 0384 265515, after 6pm.

**ATARI ST/SE** public domain copying service. comprehensive disk catalogue, listing over 259 titles. Send 50p (or blank disk) and SAE to: N. Klee, C/O DMS, 66 Abbey Road, Strood, Kent, ME2 3QB.

# WANTED

DEAD OR ALIVE

USE YOUR VOICE TO OUTDRAW THE GUNFIGHTER

CASH PRIZES

0898 31 35 94

INFODIAL POBox 36 LS1 4TN Call charges 34p Per Min Cheap 45p Per Min All Other Times


**SCANNING** and digitising. We can scan or digitise your favouite oictures. Video etc. Loads of Clip Art available. For details, send large SAE to. 53 Lenaghan Park, Belfast, BT8 43B.

**SEGA** Master System, Time Soldiers,Penguin Land, Light Phaser + Light Phaser Combo cartridge, two control pads + joystick £60 o.n.o. Tel: 091 5868577, after 6pm.

**16 BIT** sega megadrive, boxed with all leads and joypad. Scart and PAL Japanese version. Sell for £80 only! Phone 0889 583057. Phone and ask for Wayne! anytime!

**LYNX,** California games, Blue Lightening, Elecrocop, power supply, sell for £110 (inc p+p) only. Phone 0908 583318 after 6pm, ask for Tarquin.

**SEGA** games, Rstan, Lord Of The Sword, Alex Kidd and Lost Stars, £14 each, £38 the lot. Phone 0908 583318 after 6pm, ask for Tarquin.

**MEGADRIVE**, plus, 9 games, worth, £450 sell for £270 or swap for Super Famicom or NEO-GEO games include Strider and JohnMadden. Sell John on (0222) 489033.

**FOR SALE**: GFA Basic V3.5 £30 o.n.o., Fast Basic £15, Hisoft C £20, (Atari ST). Phone Shane on (0638) 665194 or swap all above for a C compiler. (ST only!).

**STEINBERG PRO** L4 V.3, music sequencer. Manual Dongle original, unregistered. £95 also Microvitec colour monitor, suit Atari or anything with RGB output. £135. Tel. Pete 0902 772141 (West Midlands).

**NEC P2200** 2A-PIN DMP. Good condition and boxed. Sell or swap for ST hardware. All offers considered. Call Derby (0332) 367642.

**ANYONE** remember the Texas TI 99A? Anybody want one? Excellent condition, boxed etc. £10 to first caller! Phone (0332) 367642.

**LAPTOP** Classic. Toshiba T.1000. Complete with all manuals, and power supply. Standard 31/2" drive. Easy to carry and excellent keyboard. Only £295. 01 993 0299.

**DEVAPC** ST 2, £15 o.n.o. Hyper Paint £10. o.n.o. Phone: Stroud (0453) 755860.

**BBC B** recently serviced. ATPL board. Watford 32KRAM. Cassette recorder, Opus dual 40/80 drives. 90 disks. Green screen monitor. Teletext adaptor, with extras. All for £390. Will split. 0292 74313.

**ROLAND** Technol/Acid House Bassline machine for use with any midi computer, excellent bass, bleep ans subsonic sounds. Yours for £200. Will post. (Swap for Dum machine). Tel: 0604 8433536.

**THE RAT** Infra-Red remote control joystick for 48K Speccy. Play your games from the bottom of the garden, through the window. Big T.V needed if this is tried. £15. 0642 598935.

**A ST RAMPAGE BOARD**, 2 meg 11/2 meg onboard suit older A.T. needing extra memory for windows 3. £125 o.n.o. Klein. 061 926 8110.

**BOOKS**. Mastering sound and music on the Atari ST, by Tim Knight. Starting Forth (second edition) by Leo Broie. Both £6 each. Please Reply to:- Mike Norton, Colingdale Nurses Home, Colingdale Hospital, London, NW9.

**BBC** Model B, issue 7, Opus Challenger disk and RAM drives, Seikosha GP-100 printer, loads of softwrae books and magazines £270. Fnone 0284 723488.

**SCANNER** Genius G54500 for PC/XT/AT. Includes Sacnedit II, Prodley OCR, Dr. Genius Graphics softngs.

**MEGADRIVE** (Scart/Japanese) + 2 great games, only £140. Also Super Famicom + 2 games £300. Famicom games only £37. each. Phone Kester on: 0202 872365.

**SUPER FAMICOM** + 2 games, as new. £300. Also new Famicom games. Low prices. Lynx games £26. inc Paperboy, Xenophobe, + more. Phone Kester : 0202 872365, after 5pm.

**MEGADRIVE** games for sale. Ringside Angel £25. Alex Kidd, Palmers Golf and Altered Beast, all 3 for £20. Also, arcade stick wanted, pay £20. Phone Paul on (0462) 683066.


ARKADIUM | P.O. BOX 15, NORMANTON, WEST YORKS. WF6 2YR. | ALL PRICES INCLUDE VAT AND POSTAGE

SEGA MEGADRIVE

OFFICIAL UK MEGADRIVES
WITH CONTROL PAD AND FREE GAME.
R.R.P. ~~£169.99~~
ARKADIUM PRICE **£139.99**

| | |
|---|---|
| Populous | £37.99 |
| Zany Golf | £37.99 |
| ESWAT | £32.99 |
| John Maddens (US) Football | £37.99 |
| PGA Tour Golf | £37.99 |
| Sword of Vermillion | £46.99 |
| James Pond | £37.99 |
| Zoom | £27.99 |


**FOR SALE**: Yamaha PSS-780 good midi Spectrum. One year old, very good condition, with free stand if required £80 o.n.o. Will pay carriage. Tel: (0274) 590021, after 6pm.

**PC ENGINE** CD ROM games £20 each and Ghouls and Ghosts for Super Grafx PC Engine £20. Phone 0752 367871.

**"BRAND SPANKING NEW"**, Sega Megadrive. Unwanted present, includes joypad, Super Real Baseball, John Maddens Football. Accept offers around £160. Telephone (0242) 515558. Remember, unused system, surely a bargain!

**ATARI** Lynx, four months old, with power supply, California games, Blue Lightening and Gates of Zendocon. Boxed as new, excellent condition, £100. Tel: 051 931 3079, ask for Chris.

**EVESHAM** micros DIS external disk drive with all leads + boxed £55. Also Blitz leads + software £13 + 6800 programmers book £10. Phone 0889 583057. Ask for Wayne anytime.

**ATARI** Lynx as new + California games and road blasters and mains power pack. Still boxed, very good condition. £100 o.v.n.o. Tel. 061 682 7638 anytime.

**MIDI** compatible stereo keyboard, 10 note Polyphonic, record feature, percussion, 210 sound tone mixing, auto rhythms, battery, mains, etc, as new, boxed, model Concertmate 1000m, £50 Rotherham (0709) 370149.

**TOSHIBA** HX10 (MSX) with synthesiser keyboard and cassette recorder. Sale or exchange no sensible offer refused. Tel 0823 259896, weekends only.

# FREE! Reader Ads Order Form

PLEASE TICK THE CATEGORY YOU WANT YOUR AD TO GO IN:

- ❑ ST
- ❑ AMIGA
- ❑ PC
- ❑ 8-BIT
- ❑ CONSOLES
- ❑ PRINTERS
- ❑ MONITORS
- ❑ MODEMS
- ❑ SOFTWARE
- ❑ OTHER

NAME _____ TEL _____

ADDRESS _____

WRITE YOUR FREE AD HERE USING ONE BOX PER WORD IN BLOCK CAPITALS.

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Send your reader ads to:
SHOPPING EXPRESS READER ADS,
30 MONMOUTH STREET, BATH BA1 2BW

## Terms and conditions

- Sorry, NO trade ads. All reader ads must be from private individuals
- We cannot vouch for the quality of goods and/or services offered in this section. All ads are accepted in good faith.
- We reserve the right to amend or refuse reader ads at our discretion
- No pirated software may be sold through these columns. Any reader being offered non-originals should contact us.
- We cannot guarantee that reader ads will appear in particular issues of Express.
- The following declaration should be signed:

My advertisement conforms to the terms above and is legal, decent, honest and truthful

Signed _____

# THREE STEPS TO PERFECTION

**Updating, debugging or using a program that you haven't looked at for six months can present an endless stream of problems. Mary Branscombe shows you how to make easy work of it.**

However good the program that you have just written is, it will seem terrible when you come back to it six months later and try to understand how it works. It will be even worse if you didn't write the code in the first place and you have to use it, update it or debug it.

There are a number of ways to make programs easier to understand and most of them are referred to under the catch-all heading of "programming style". That can cover anything from indentations in your code to the use of variables and constants in your program.

## COMMENTS

Putting comments in your program that tell you how it works and what does what will be the easiest way of making it easily understandable at a later date. You should always write some form of documentation, telling the user what the code does and how to use it, but the comments are for programmers who need more information.

You should write the comments as you write the program, so that they form a running commentary. If you have problems with the code, the comments can help to show what's going wrong and what you thought a piece of code was going to do. If you add comments once the program is working, you will be tempted to leave things out because they seem so obvious. Be careful - they will seem anything but obvious to another programmer, or to you in six months time.

The computer ignores all the comments; they are only there to help you, which means you can put in as many as you like. They won't make the program any less efficient and they should make the programming much easier.

If you write out a plan for your program, you can include it in the program file as the basis for your comments. Use the relevant line of the plan to introduce each section of code and then explain what is going on in each section.

You can use comments at the beginning of the program to give you some useful information. You should always include a header something like this:

```
/*File: mortgint.c
  Author: M Branscombe
  Date begun: 4.2.91
  Date revised: 28.3.91
  Purpose: calculate monthly mortgage payments
 Syntax: interestCalc(rate, length, amountBorrowed)
  Comments: this deducts tax relief from payments.
Tidy up the printing*/
```

This makes it easy to find out which version of the code you are looking at and how to call the program you have written.

You can use the Comments: section of the header to make a note of any changes that you need to make to the program, so that you can see at once what has to be done.

You also need to keep track of the names you use in the program for variables, constants and procedures. It is very easy to incorrectly type the name of a procedure or to use the same name for two different variables. If you include lists of each of these at the beginning or end of the program, with a short description of what each one does, then you know what you are using. If you need a new variable, you can easily check that you aren't using an existing name. If you get a syntax error that says something like "undefined identifier", this means that you are using a variable that you haven't told the program about. If you haven't simply forgotten to define the variable, then you may have spelt it wrong somewhere in the program. Making a list of variables means that you have to decide on one form of the name and use it.

## SAY WHAT YOU MEAN AND MEAN WHAT YOU SAY

Unless you are programming in a language that restricts you to unintelligible variable names, usually a single letter, try to use meaningful names. For the program to calculate monthly interest payments from the interest rate, the amount of the loan and the length of the mortgage, you will need variables to hold these and probably some temporary variables to hold intermediate calculations. You could use X, Y, Z, A and B, but that won't make it easy to see what is going on if you want to extend the program or just debug it. Variable names like InterestRate, AmountOfLoan, LengthInYears, Temp1 and Temp2 will make things much easier.

However, don't make the names too long. The more you have to type, the more mistakes you are likely to make and long names may be split over two lines, making it harder to see the layout of the code.

Some languages, like Prolog, will insist on variables beginning with upper or lower case letters. Even if it makes no difference to the compiler or interpreter, you can use capitals to make the code clearer. Decide on a way to distinguish constants, variables, procedures and keywords. It doesn't matter what you do as long as it is readable and you are consistent. One way is:

All variables begin with a capital letter, so you get Variable and AnotherVariable.

Put constants in capitals: CONSTANT

Put any keywords in lower case: while, for, do

Write procedure names in lower case, using hyphens, underscores or capitals to separate words: interest-calculation, interest_calculation or interestCalculation.

## UNDER AN ALIAS

There will usually be one or two things in every programming language that you are always getting wrong, because you can't remember the construction. For example, many programmers who have used other languages confuse the equality and assignment operators in C. If you write `a = b`, you are copying the contents of variable `a` into variable `b`. If you write `a == b`, you are checking whether the contents of `a` and `b` are the same. If you find that you are writing `a = b` instead of `a == b`, you can define another operator for equality - an alias for `==`.

This code will define an operator called `EQ` which C will translate into `==` for you every time.

```
#define EQ ==
```

Now you can write

```
a EQ b
```

If you are used to the Pascal assignment operator `:=`, you may find `=` difficult to use and you could define another operator instead:

```
#define ASS =
```

Now you can write

```
a ASS b
```

If you want to break up terse C constructions, you can define an alias for a blank space. There is no `do` keyword in C and the `while` construction can be confusing, because it is simply **while condition action** and you may find it difficult to tell which is the condition and which is the action. If you define do as a blank space, you can put it into your code and the compiler will ignore it, so that you can write **while** condition **do** action. The code would be:

```
#define do  /*a blank space*/
```

Other languages have similar facilities. In Prolog, you can define English words as operators, to make the code easier to understand. You simply decide whether the word will go before or after a clause or between two clauses and define it as prefix, suffix or infix accordingly. The codes for this are `xf`, `fx` and `xfx` - `x` refers to the operator and `f` to the rest of the program. You can then write:

```
:= op(and, xfx, 999).
check FirstValue and Second Value:=
    check FirstValue,
    check Second Value.
```

The number is used to decide which operator the computer will deal with first. The multiplication operator has a value of 4000, for example, and will be the first thing that the computer looks at in any clause that involves multiplication. ■

# The EVENT HORIZON

**Who's doing what, with what, with whom, how, why and where. . .**

## THE PLACES TO BE . . .

**Computer Shopper Show 10-12 May**

At the Alexandra Palace, London. Info: 081-868 4466.

**PC Database Day 15 May**

At the the Ramada Inn, West London.

The host companies are Nantucket UK, which supplies the Clipper package, and System C, supplier of the Sycero program generator family. Fox Software will give its first full UK demonstration of *FoxPro 2.0*, a dBASE IV compatible relational database management system.

Then follows a talk from Henley Business Software on its range of client-server packages that link together applications running under Windows 3. The day finishes with the exhibition of *Superbase 4* from Precision Software.

Other companies will be there, providing add-ons for the Clipper, Foxpro and dBASE programs. Admission is free. Call 071-385 1255.

**All Formats Computer Fair 18 May, 9 and 22 June**

At the National Motorcycle Museum, Solihull on 9 June, and at the New Horticultural Hall in London on 18 May and 22 June. Info: 0225 868 100.

**CD ROM Europe 21-23 May**

At the Novotel, Hammersmith, London. Info: 0733 60535.

**Virtual Reality '91 5-6 June**

At the Conference Forum, London. Info: 071-931 9985.

**OIS IMC '91 2-4 July**

The document image processing exhibition/conference at the Wembley Conference Centre, London. Info: 203 226 6967.

**PC World Forum 9-14 July**

In Moscow. Info from Terence Coe on 010 1 508 820 8122.

**The International 16-bit Computer Show 12 July**

The 16-bit Computer Show, for Amiga, Atari and PC users, is now in its fourth incarnation. Like the previous one, which attracted more than 150 exhibitors and 21,000 visitors, it will be held at the Novotel Hotel, Hammersmith, London.

Visitors can try out and buy just about any hardware and software. Many new products are also expected to be launched, both in the home entertainment and professional areas.

So far 100 companies have booked space, including Arnor, Checkmate, GFA Data Media, HiSoft, Memory Expansion Systems, Precision Software and Rombo. Another 40 to 50 are expected.

Advance tickets cost £3, call 0726 68020. Admission on the door is £5.

**The Leeds Computer Extravaganza 13-15 Sept**

At the New Exhibition Centre at Leeds University. Info: 0532 677 657.

**Image Processing '91 29-31 Oct**

NEC, Birmingham. Info: 081-868 9933.

**Computer Graphics '91 5-7 Nov**

At the Alexandra Place in London. Info: 081-868 9933.

**Desktop Cad '91 5-7 Nov**

At the Alexandra Palace in London. Info: 081-868 9933.

**Computers in the City 12-14 Nov**

At the Barbican Centre in London. Info: 081-868 4466. ■

## MEL CROUCHER - TEN YEARS AFTER

*• Mel Croucher: bringing the fun back to games.*

**Mel, inventor of the computer game budget compilation and multi-media package, has some big news...**

**Q: First, what sort of background did you come from?**

**Mel: I'm an architect. I used to build skyscrapers in the desert for a Sheik. I'm also a musician and writer - a bit of a Renaissance man. I got into map making, visual and audio guides, and then into computers by a natural progression.**

**Q: Did you write the games yourself?**

**Mel: No, I worked with Paul Cooper (of Quicksilva, Electric Dreams, Thalamus). I worked on the ideas and graphics, and did the cartoon ads that appeared on the back of Popular Computing.**

**Q: Did anyone ever win Pimania? There was some controversy that the prize didn't exist.**

**Mel: Oh, ye of little faith. Yes, two school teachers in Yorkshire won the golden diamond. It took them two years.**

**Q: Who wrote the stereo sound track for *Deus Ex Machina*?**

**Mel: Me, with Ian Dury, John Pertwee and Frankie Howard. You could say it was the first celebrity endorsement of a computer game.**

**Q: Where you happy with its success?**

**Mel: Well, since it was sold mostly though mail order, it did pretty well. When you look at games today, they sell say five thousand copies. By the time shops, distributors and publishers take their cut, they can't be earning much more.**

**Anyway, with a Spectrum and a tape recorder, what can you expect? In about two years' time there'll be machines ready for it. CDTV looks interesting...**

**Q: What have you been doing since?**

**Mel: Journalism, writing books, consultancy work. I did a Despatches program for Channel 4 on computer crime.**

**Q: What do you think of the games industry at the moment?**

**Mel: Well, the graphics and sound are very flashy, but the game play is utter s..t. It's still ping pong and chess. Everybody's playing so safe. The machines are good, though. It used to be that software led the industry, now it's the machines.**

**Q: What are you up to at the moment?**

**Mel: Paul Cooper and I have teamed up for the first time in six years; and I can't wait to get back in and innovate. The Piman is back, now called Euroman and living in France. In a few weeks we'll be launching a whole series of game modules, each with a prize: air tickets, cars, that sort of thing. The big one will be a chateau in France.**

**We'll probably get lynched, because it's all PD. But the software industry has been good to me in the past; I'd like to give it something back. Share and enjoy.**

**The programs will run on Amigas, STs and PCs. Any interested readers should send an sae to PO Box 1992, Southampton, SO9 7XH.**

### SOFTOGRAPHY

| Title | Publisher | Year |
|---|---|---|
| Can Of Worms | Automata | 81 |
| Pimania | Automata | 82 |
| Groucho | Automata | 82 |
| Deus Ex Machina | Automata | 84 |

## Golden Moments

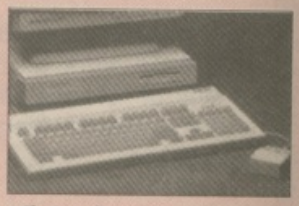
● God may not be a computer, but he certainly gets some help. It was a year ago this week when *Express* reported the computerisation of the Vatican. Its telephones, invoicing and warehousing (where the incense is kept, presumably) are all controlled by a collection of Bull DP6s and PCs.

"Man's pre-eminence over machines must be remembered," said the Pope on a visit to Olivetti.

● This time last year ago also saw the first civil action being taken under the Data Protection Act.

Neil Foster decided to take proceedings against the Home Office and Wiltshire Police Force after being wrongfully arrested and charged with driving while disqualified. Incorrect information on their computer had led them to the wrong man.

Thankfully, after four months of work, Neil managed to track down the real culprit and clear his good name, but not before losing his job, car and savings and being threatened with a prison sentence. It makes cashpoint failures seem a bit more palatable.



*• The Arc – disappointing price.*

● It was two years ago when Acorn released the 'cheap' version of the Archimedes machine, the A3000.

It is the only home computer to use the advanced RISC (Reduced Instruction Set) style of processor, a system which sacrifices some of the obscure machine code instructions in favour of incredible speed benefits. It also has high-resolution colour graphics and a sophisticated multi-tasking operating system.

It was priced at £659 without a monitor - a figure which disappointed many industry pundits, hoping for something more competitive. Looking back, it now looks like a mistake: the Archimedes certainly hasn't taken off in the way it deserved.

# BULLFROG

*PROGRAMMER to work in-house as part of one of the world's leading Software Development Teams, knowledge of 68000 and 8086 required.*
*Enthusiasm and creativity a must.*

*Serious candidates only!*

**Contact Peter Molyneux at Bullfrog on 0483 579399**

## WANTED

**One experienced 68000 programmer** for immediate work on the **Sega Megadrive** version of **"Robocod"** (James Pond II) and further projects. Megadrive knowledge not expected.

**One experienced 68000 programmer** for conversion work on **Amiga/ST** projects. A good knowledge of at least one of these computers is essential.

Both positions are long-term, in-house (situated in Derbyshire) and carry a salary of **£12,000+**, based on experience and ability.

First class development equipment is supplied, using high-powered **PC** and **Macintosh II** work stations.

Contact in confidence,
Steve or Chris on
**(0773) 570121.**

## DO YOU WANT TO BECOME A PROGRAMMER?

Established 1968

**Move across to the rewarding world of IT**

We have a series of short and long term training programmers in Computing and Information Processing.

* C & G 424/425 Certificate in applications programming.
* C & G 418 Computer Programming & Information Processing.
* Evening courses in DBASE, WP, Spreadsheet Analysis.
* Evening courses in Pascal, BASIC & COBOL.

**Contact Central London College on 071-580 4596.**

**TRAINING FOR YOUR FUTURE**

## 68000 PROGRAMMERS

**Salary: 20k plus**

Including bonuses and royalties.
Experienced games programmers to work in-house on Amiga, ST or Megadrive.

## 2 GRAPHIC ARTISTS

**Salary: 20k plus**

Including bonuses and royalties.
Experienced graphic artists to work on Amiga, ST and Megadrive.

Sensible SOFTWARE

**0354-51934**

All Calls Confidential

Zeppelin Games

**COMMODORE 64**

**PROGRAMMERS & GRAPHIC ARTISTS**

Zeppelin Games Limited currently has a large number of interesting projects that we are looking to place with talented Commodore 64 Programmers and Graphic Artists.

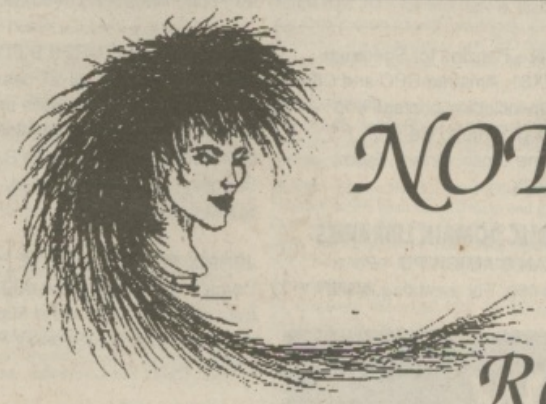
As well as rapid turnaround Budget titles, we can also offer challenging Full Price projects from our Impulze label featuring a number of top licences.

If we consider your C64 work to be outstanding, Zeppelin offers an attractive range of payment schemes as well as knowledgable technical back-up.

If you have not applied within the last two months, please send a short introductory letter and demo to:

**Gareth Briggs**
**Head of Development**
**Zeppelin Games Limited**
**PO Box 17**
**Houghton-le-Spring**
**Durham**
**DH4 6JP**

All applications will be treated in strictest confidence.



# NOTESART

*Requires*

*Freelance Programmers Graphics Artists and Music Programmers*

*on all major formats*

*Please send demos/samples to:*

*Will. R. Davis*

*Notesart, 5 Oakwood Rise, Exmouth, Devon EX8 4PU*

*Tel: 0395 279457*

# EXPRESS ON-LINE

**The Express guide to computing at the grass roots level this week featuring Public Domain libraries.**

**EXPRESS IS NOW ON-LINE.!!!!**
JOIN THE EXPRESS CONFERENCE ON CIX ( 081 399 5252 )

## NEW ARRIVALS ON-LINE

### BULLETIN BOARDS

**DABBLERS' LAIR** – 0270 624248. Atari and other formats. An adventure solution section. On-line 1900 to 0800 and 24 hours at weekends. Give us a ring, we're a friendly board.

**A–Board BBS** – 10pm to 5am seven days a week. Brand new board featuring files library and messages sections, dedicated to Amiga. Call 0375 23201. Up to 2400 baud 8/N/1.

**BAY BB** – New telephone number: 0843 225669. New hours: 6pm to 9am. A mature board, which has done away with its adult section to attract the right sort of users.

**ANGUS BBS** – Supports Amiga. V21/V22/V22bis. Give us a tinkle from 7pm to 1pm on weekdays and 6pm till 4am at the weekends. Loads of stuff. Tel 061 976 1559.

### USER GROUPS

**PUC'S ATARI PORTFOLIO USER GROUP** – New user group for the Portfolio pocket PC/organiser. Offers: newsletters, technical assistance, Talkback feature, software/hardware updates and hot news. Tel 0635 73662.

**BOMB OUT BROS** – A new ST PD coding group wants new members to help expand our range of games, demos and utilities. Write to Adrian Speight, 25 Gilbert Crescent, LLanelli, Dyfed.

**OBSOLETE COMPUTER CLUB** – Established 1990 to preserve and support Pre 1986 micros. Applicaions in writing to Mr S Walters, 42 Achilles Road, London NW6 1EA stating system details, date and history. All systems, micros and minis.

**8-BIT BACK-UP** – Spectrum, C64, Amstrad CPC, BBC, Sega and ZX81 user group. Newsletter. Costs 50p including postage. Write to: 1 Northolme Close, Grays, Essex RM16 2NX. One order in 20 will receive a free gift so state the make of your computer with your order. Discount to other user groups.

### FANZINES

**JAM** – see Spotlight panel.

**THE DISK** – Issue Two for Amiga users. See Express 129 PD column for full review. Packed with articles and PD. Send £1 for Disk Two or stamp for a leaflet to Steven Lord, 6 Stubbing Brink, Hebden Bridge, West Yorkshire HX7 6LR or tel 0422 844215.

**AMOEBA QUArTERLY** – Amiga fanzine (with cover disk). Send SAE to 369 Wanstead Park Road, Ilford, Essex IG1 3TT for free details now. (Please!)

**CVu** – The journal of the C Users Group (UK), Volume Three, Issue four (May) out now. Price £2 for 60 pages. Write to Francis Glassborow, 63 Southfield Road, Oxford 0X4 1PA.

**RE-RUN** – Fanzine for Spectrum, BBC, ZX81, Amstrad CPC and C64. Only 50p including postage and packaging. Write to Re-Run, 1 Northolme Close, Grays, Essex RM16 2NX.

### PUBLIC DOMAIN LIBRARIES

**BURMAN'S AMIGA PD** – For a measly 40p. For a catalogue with demos and game send disk and SAE to Burman's PD, 41 Pinner Park Gardens, Harrow, Middlesex, HA2 6LQ. Fast and friendly service.

**SKYFALL PD** – For the Acorn Archimedes. The world's largest PDL for the Archimedes. Spring 1991 catalogue out now. Send an A5 SAE or £1 for our demo disk to Skyfall, PO Box 2220, Birmingham B43 5RZ.

**APPLE MACINTOSH PD** – Large catalogue of Macintosh PD, shareware, freeware. Send £1 for catalogue. All disks £2.50 each. Try us out, we have over 1 gigabyte of PD in our library plus the latest from the US. Mac PD, 22 Hill Crest, Potters Bar, Herts, ENG 2RT. Make cheques payable to G Smith.

**ATARI ST/STE PD** – Over 300 titles available from only 90p. Send 50p for disk based list to Riverview, 66 Abbey Road, Strood, Kent.

**POWER PD** – Large collection of Amiga PD and second-hand software. Current catalogue disk only 80p. Chris Jackman, 3 Albion Terrace, Lexham Road, Litcham, Kings Lynn, Norfolk, PE32 2QQ.

**PRIVATE SHAREWARE** – Send blank disk and stamp for catalogue. Very Cheap. Write to Frank, Combe Rise, Luppitt, Devon, EX14 0RT. IBM only. Telephone 0404 891806.

**THE ST ADVENTURER'S PD LIBRARY** – PD for all ST users. Adventure, more adventure and even more adventure. Catalogue disk just 50p. Write to John R Barnsley, 32 Merrivale Road, Stafford, ST17 9EB.

**JENNIX PD** – Atari ST/STE Public Domain specialists. Over 400 disks from only 90p each. Send 50p for a disk list to Jennix, 66 Abbey Road, Strood, Kent.

**GLOBAL PUBLIC DOMAIN** – Amiga PD only 89p. For catalogue write to PO Box 2039, London E13 9PF. Every month free competition to win PD games and other accessories for your Amiga. We also swap PD.

**MY PD** – For the Amiga. Over 1000 disks available at 99p each. Buy 10 disks and get one free. Catalogue disk only 75p. Write to Joe Jagla, 92 Firtree Estate, Thurgoland, Sheffield S30 7BG or phone 0742 884183 before 10pm.

**BINARY ZONE PD** – For the best and latest CBM64 PD software write to Binary Zone PD, 153 Farriers Corner, Westlands, Droitwich, Worcs WR9 9EX.

## Let the world know

**Do you run a user group or bulletin board? Are you organising any event? Do you publishing a fanzine? Let the world know about it through *Shopping Express*. Fill in this form and send it to us at: 30 Monmouth Street, Bath BA1 2BW.**

(Tick as applicable) ☐ Group ☐ BBS ☐ Event ☐ Fanzine ☐ PD Library ☐ Virus Warnings/Bugs

Name of the above .....

Your name .....

Address: .....

.....

- Write your ad in block capitals on the grid below using one letter per box.
- Also, please let us know if any of the information on these pages is out of date.

| | | | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

## PD LIBRARIES A TO Z

**3JJ.BBC-B PD –** From just 14p per disk. Send SAE to BBC-B PD, 21 Whitehorse Street, Hereford, HR4 OEP. Send 50p plus disk for sample and catalogue. Send 20p for three page catalogue.

**ACORN 8-BIT PD SOFTWARE** – Write to Alan Blundell, BBC PD, 18 Carlton Close, Blackrod, Bolton, BL6 5DL. Send SAE for £1.50 for sampler disk

**AMIDOS AMIGA PD SWAP CLUB –** Send blank disk for details. No enlistment fee. Send SAE for prompt reply to 25 Salamanca Road, Cheltenham, Glos GL52 5LA.

**AMIGA AND PC PD CLUB –** Contact Prestel MBX 011115474 or send stamp to 48 King William Drive, Cheltenham, Glos, GL53 7RP

**AMIGA OWNERS –** PD software to swap and sell. New library for Irish Amiga owners. Phone John at Limerick (061) 312257 or write to 21 Lower Careys Road, Limerick, Ireland.

**AMIGA PD** – over 600 disks. Only 75p each. For catalogue send SAE and 50p to Mark Knight, 20 Mayfield Crescent, Patcham, Brighton, Sussex, BN1 8HQ or tel 0273 557113. Special bulk prices on orders over 50 disks

**AMIGA PD** – Software for sale. If you live in South Wales then look no further. Disks only £1.50 inc P&P. Write now to SWAPD, 38 Syon Parlk Close, St Mellons, Cardiff. All the latest in demo, music, utils etc

**AMIGA STORM PD CENTRE** – We do everything including mag (soon). Send disks with demos on. If you are interested to 4 Lipgate Place, Portishead, Bristol BS20 9QW. Tel 0272 845571. Don't be afraid to call. !00 per cent reply rate. We do disks, second hand games and give general advice.

**AMIGA PUBLIC DOMAIN** – only 85p per disk. Send SAE for details to Paul Brown, 14 Elmfield Road, Rossington, Doncaster, DN11 0BP or call 0302 865148 after 7pm.

**AMIGA PUBLIC DOMAIN** – JJ Meachen, 59 Lee Road, Harwich, Essex, CO12 3SB.

**AMIGA PUBLIC DOMAIN USER GROUP** – Ashley Tarver, 5 Saunders House, Binswood Avenue, Lemmington Spa, Warks, CV32 5RZ

**AMIGA SHAREWARE** – Send SAE for lists to 4 Sedgewick Close, Atherton, M29 9EF

**AMIGA SOFTWARE EXCHANGE SERVICE** – small friendly swap service. Good selection. SAE for information to 13 Bournville Lane, Birmingham B30 2JY. Free PD swaps. Telephone 021 4597576.

**AMOS/STOS PD LIBRARY** – send SAE for a catalogue to 25 Park Road, Wigan, WN6 7AA. Telephone 0942 495261 before 6pm.

**AMSTRAD PCW** - PD software: Bob Ellis Tel 0432 761860 Queries: David Axford Tel 0428 56438

**ARCHIE PD** – for 2.4Mb sampler pack send three E Format disks, SAE and £1 to Archie PD, Dept NCE, Highover, Udimore, Near RYE, East Sussex

**ASTMATIC AARDVARK PD FACTORY** – the best for PC, ST and Amiga. Send £1 for a demo disk toHighover, Udimore, Nr Rye, East Sussex, TN31 6BG.

**ATARI CONNECTION PD** – High quality disks only. Only 99p per disk. Wide selection – utils, demos, games etc. For disk catalogue send disk to ACPDL, 72 Lancelot Avenue, Strood, Kent

**ATARI CONNECTION PD** – High quality disks only. Only 99p per disk. Wide selection – utils, demos, games etc. For disk catalogue send disk to ACPDL, 72 Lancelot Avenue, Strood, Kent

**BIBLIOTECH PD** – For the Amiga. PD to sell and swap. Send an SAE and 90p (payable to Nicholas A Kerr) for a catalogue on disk to 27 Chalk Hill, Bushey, Herts WD1 4BL.

**BINARY ZONE PD** – For the best and latest CBM64 PD software write to Binary Zone PD, 153 Farriers Corner, Westlands, Droitwich, Worcs WR9 9EX. Greetings to fellow Xentrix and Computer World members from Kenz.

**BURMAN'S PD –** Amiga PD for 40p. For a catalogue on disk, a few demos and a game send a stamp and disk to Burman's PD, 41 Pinner Park Gardens, Harrow, Middlesex, MA2 6LQ

**BYTER PD** – For list and latest titles of Atari ST and Amiga PD write to Byter PD, PO Box 182, London, SE6 1BZ

**C64 PUBLIC DOMAIN** – Phoenix, 64 Plumberow, Basildon, Essex

**CMS PD LIBRARY** – Sam Coupé PD software for only £1.50 a disk. Send an SAE and a blank disk (or 70p) for a disk catalogue to CMS PDL, Dept NCE, 70 Donald Drive, Chadwell Heath Romford, Essex, RM6 5DU.

**DATA PD LIBRARY** for Amstrad CPC users. Send SAE, tape/disk and 50p to Kingsmill 202 Park Street Lane, Park St, St Albans, Herts AL2 2AQ

**DIGITAL PD LIBRARY** – for the Amiga. All disks priced at only £1. Write for a full catalogue to Digital Pd, 20 Vere Road, Hillsborough, Sheffield S6 1SB.

**DMS ATARIPDL** – Quality public domain for ST/STEs. From 90p per disk. For disk-based catalogue send 50p and SAE or blank disk and SAE to DMS ATARI PDL, C/O N S Klee, 66 Abbey Road, Strood, Kent, ME2 3QB.

**EINSTEIN PD** – Amiga PD all disks only 80p for the latest list send SAE to The Forge, Pipers Lane, Godmanchseter, Cambs, PE18 8JN

**ELECTRIX PDL** – CBM and Amiga PD for £1 a disk plus 40 P&P. All the latest PD in stock. For a catalogue disk with demo and music write tio Electrix Amiga PD, 68 Donald Drive, Chadewell Heath, Romford, Essex, RM6 5DU

**GARFIELD'S PD –** Amiga PD software to swap or for sale. Send 99p for disk catalogue to 40 Penrhos Cres Rumney, Cardiff, South Wales

**GLOBAL PUBLIC DOMAIN** – Amiga PD only 89p. For catalogue write to PO Box 2039, London E13 9PF. Every month free competition to win PD games and other accessories for your Amiga. We also swap PD.

**GUNNING PD PD** – Atari ST PD library. Disks only £1 each and supplied on branded disks. Send three first class stamps to 47 Auchingane, The Tryst, Edinburgh, EH10 7HX for disk catalogue. Wow!

**JOEL'S PD GAMES –** for Amiga users. PD disks only 90p each. For a catalogue send an SAE to Joel's PD Games, 389 Scalby Road, Newby, Scarborough, North Yorkshire, YO12 6TG. Please add a blank disk.

**LIGHTENING SOFTWARE PD CLUB** – We can provide PD titles free of charge! Amiga only. For details send an SAE to Brian Roscoe, 14 Kingsmead Road, Moreton, Wirral L46 1QU.

**MACH MAC PD** – The best there is. Explosively good public domain for the macintosh. £1 for demo disk and catalogue of over 900 disks. Write to MMPD, Highover, Udimore, Nr Rye, East Sussex.

**MG SOFTWARE –** Atari ST Public Domain, only 65p and £1. Send SAE for catalogue to MG software, Cornerways, Beckingham Street, Tolleshune Major, Essex M9

**MY PD** – For the Amiga. Over 1000 disks available at 99p each. Buy 10 disks and get one free. Catalogue disk only 75p. Write to Joe Jagla, 92 Firtree Estate, Thurgoland, Sheffield S30 7BG or phone 0742 884183 before 10pm.

**PC SOFTWARE** – PC Serve, 1147 Greenford Rd, Greenford, Middx UB6 ODP. Tel 081-864 2611, BBS 081-864 2633

**PCW PD CLUB** – It's new, it's fresh. Swap PD for PD, up to three disks full at a time. Bi-monthly newsletter soon. All PCW owners welcome. Write to 3 Moorend Ave, Chorley Wood, Birmingham, B37 5SD.

**PD-X AMIGA PD** – FROM 50p. Are you tired of over priced PD? Send an SAE to PD-X, 48 Sedgebrook Grove, Hull, HU7 5EB and we will send you a catalogue. Send SAE and a disk for a free demo. Good quality Empire/UMS Data disks £3

**PERFORMANCE PD** – PD for the ST. 30 Prospect Road, Oulton Broad, Lowestoft, Suffolk, NR32 3PT. Tel: 0502 513923. Disk list £1. Cheques/POs payable to Performance PD.

**POWER PD** – 90p per disk. Wide range. Send 90p for current Amiga catalogue on 3.5 inch disk to Chris Jackman, 3 Albion Terrace, Lexham Road, Litcham, Kings Lynn, Norfolk, PE32 2QQ.

**POTENTIAL PD** – for the Atari ST. Public domain to sell and swap. SAE to Helenville, School Road, Coldingham, Berwickshire TD14 5NS.

**R&G PD** – For cheap Amiga PD send SAE for list to R&G PD, 23 Melmount Gardens, Strabane, County Tyrone, Northern Ireland or send a disk for list and game. Also willing to swap.

**RICHARDS PD LIBRARY** – Support for Amiga PD. A massive range of demos, utilities, music, AMOS, Slideshows etc. Most disks £1.50. Some £2.50. All disks dispatched as soon as we receive the order.. 74 Cross Deep, Twickenham, Middx, TW1 4RB.

**RIVERVIEW PD SERVICE**s – High quality PD and shareware for the Atari ST/STE. Prices start at just 90p per disk. For disk catalogue and free PD send 50p and an SAE to Riverview, 66 Abbey Road, Strood, Kent, ME2 3QB. We have nearly 300 disks available.

**S&T PD** for the ST. Large selection of PD from £1. Send £1 or a disk and 50p for a list. All prices include postage and packaging. Send cheque or PO to Simon Eve, S&T PD, 6 Crediton Road, London, NW10 3DU

**SAINT JOHN'S SCHOOL LIBRARY PDL** – Atari/ST PD software for sale or swap. Write to St John's School Library PDL, c/o Mark Ash, 54 Beaconsfield Road, Sittingbourne, Kent. ME10 3BB or telephone 0795 425653 after 4pm.

**SAINT JOHN'S SCHOOL LIBRARY PDL** – Atari/ST PD software for sale or swap. Write to St John's School Library PDL, c/o Mark Ash, 54 Beaconsfield Road, Sittingbourne, Kent. ME10 3BB or telephone 0795 425653 after 4pm.

**SHAREWARE KING** – quality PC shareware. Over 3000 disks.Send SAE plus disks for catalogue to C Smith, 10 Penwood Close, Westbury, Wilts, BA13 3LW. Tel 0703 865263.

**STAR PD** – Software for the Atari ST/STE. Hundreds of disks available. Send blank disk and SAE for free PD and disk based catalogue to Star PD, 1 Solva Road, Clase, Swansea, SA6 7NX.

**STEVE'S AMIGA PD** – Catalogue disk. See demos, play games, usable virus killer and a PD catalogue. Send £1 plus 9x4 SAE to Mr S Fitch, 1 The Croft, Welwyn Garden City, Hertfordshire, AL7 4JY.

**STUPID FLOWER PD** – new library for ST users. Send an SAE for a free catalogue to SFPD, 3 Read Mead, Glastonbury, Somerset Ba6 8ON or call 0458 35027 and ask for Matt.

**SYSTEM PUBLIC DOMAIN** – Archimedes. For 4 megs of the best graphics, RISCOS APS, utils, !Drawfiles, sprites, games, music and samples send five formatted disks, an SAE and £1 to Highover, Udimore, Rye, East Sussex TN31 6BG. Cheques postal orders to Mr EJ Thomas.

**TOTAL PD** – for the ST. Send SAE for free catalogue to Total PD. 27 Stanmer Villas, Brighton, East Sussex, BN1 7HQ. We buy, sell and swap PD.

**TYPECAST PDL** – Catalogue issue two out now. PD, DTP, WP, art and clip art for Atari ST/STE. No games. Send disk and SAE for catalogue to 31 Hartfield Crescent, West Wickham, Kent BR4 9DW.

**WEST COUNTRY PDL** – ST Public Domain and shareware. Large library. Send stamped addressed envelope and blank disk or £1 for catalogue to PO Box 2, Lynton, North Devon, EX35 6BS.

**WHITE HEAD PDL** – Atari ST PD from £1.40 per disk. Send two second class stamps for latest list to Hakan Akbas, White Head PDL, 15 Cavendish Mansions, Clapton Square, London E5.

## SPOTLIGHT ON JAM: AMIGA FANZINE

***JAM* was the brainchild of ex-Amiga Computing editor Jeff Walker and computer shop owner Alex Aird. It was conceived as a fanzine for Amiga owners more interested in productivity and serious computing than playing *Ninja Turtles*.**

**After the first issue, Alex jumped over the side and left *JAM* in Jeff Walker's capable hands and since then it has become the 'serious' Amiga alternative to a news stand magazine.**

**It has a very professional shhene for a fanzine and is packed with information and news as opposed to endless speculative meanderings of many fanzines. Reviews of hardware and serious applications are especially good.**

***JAM* costs £19.95 for a year's worth (12 issues) or a couple of quid for a single issue for a taster. *JAM* is on 0895 74449. Write to 75 Greatfields Drive, Hillingdon, Uxbridge Middlesex UB8 3QN.**

## SHOPPING EXPRESS BUYERS' GUIDE

**While *Shopping Express* is undoubtedly the perfect way to track down the best bargains in the computer world, many people are still, perhaps understandably, wary of buying products via mail order or through personal ads. This is probably because usually you are not able to have a look at what you are purchasing before you hand over your money.**

**We do everything in our power at this end to make sure that all the advertisements we run are above board. But here are a few tips designed to help take the risk out of buying via mail order or over the telephone.**

- **Be precise in describing what you want to buy. Leave no room for error. Feel free to go overboard in double checking details - make, model, specifications, colour, size, the page number and name of the magazine in which you saw the advertisement etc.**
- **Confirm the exact price of the article you are buying. If you are phoning a company check if there are any hidden extras, such as postage and packaging.**
- **Check how the item will be delivered to you and how long it should take. This is especially important with reader ads where delivery details are rarely mentioned.**
- **If you are writing off for the product keep copies of all letters. If you are phoning, note down details of when you phoned and who you spoke to.**
- **If possible enquire about guarantees and servicing. Check the supplier's policy on returns and refunds. With reader ads, it is best to make the effort to see the item personally before you hand over money.**
- **When dealing with companies it is best to to pay by credit card, especially for items over £100, as this provides extra cover under the credit card companies' own insurance schemes. Otherwise use a crossed cheque or postal order. Avoid sending cash at all costs.**

# THE PD COLUMN

**Mild mannered reporter by day, PD nut by night, Frank O'Connor checks out the latest and greatest Public Domain Software. This week: Llamas, music and light...**

Caledonia PDL sent a pretty whacky piece of shareware my way this week. It's an ST game for arcade buffs and loonies alike. Does anyone remember Jeff "Yak" Minter? That heavily bearded Atari programmer with a dubious grip on reality?

He has surprised us time and time again with his colourful shoot-'em-ups and incredibly weird psychedelic programming techniques.

More famous even than his programming skill, is his fascination with llamas, camels and all things hairy. He comes up with some pretty bizarre ideas; past gems include *Revenge of the Mutant Camels, Colourspace* and many other wacko creations.

Now Minter has really outdone himself. His *piece de resistance* comes in the form of *Llamatron*. To understand the concept of *Llamatron* you need to know only two things.

One: Kill everything

Two: If it doesn't die, pick it up.

*• Llamatron: Very strange but tons of fun.*

Based on the ancient Williams coin-op *Robotron*, you have to guide the Llama sprite around a screen absolutely infested with all manner of bizarre alien weirdos. We're not just talking twisted slimy green lizardmen. Oh no, you have to deal with rampaging Coke cans and twisted vicious Mandelbrot sets.

You can fire your powerful laser in any direction, blasting the crowds of nasties. They will follow you around, often cornering you in the more hellish confines of the screen. All the bad guys behave in very different ways. Most follow you around stupidly, but many perform acts of completely unfair violence. Exploding shrapnel monsters are hard to avoid.

At various points you can rescue stranded baby Llamas, towing them behind you to safety. Safety comes only when you have obliterated everything on the screen. Some of these Llama sprogs bestow extra weaponry upon your poor overworked sprite, three way shots and smart bombs being especially useful.

The pace is frantic because there is so much happening on screen at once. Getting used to the sensory overload this game presents takes some doing, but once you get the hang of it, the mindless carnage is quite exhilarating. No moral worries either, I mean, who cares if a Mandelbrot Set gets killed? No-one that's who and quite rightly so.

The graphics are absolutely perfect;

**'Pace is frantic and the mindless carnage is exhilarating'**

colourful, fast and detailed. The sprites are gorgeous, full of character and perfectly descriptive of the twisted workings of Jeff Minter's unusual brain.

Special mention must go to the sound produced by the ST while this game is running. Some of the most impressive samples you will ever hear blare from the monitor as you play. Better still plug it into a stereo to hear the blood curdling screams as the Coke cans snuff it, or your own death cry.

*• There aren't too many rules to learn*

Considering this is a shareware program, you would have to be mad to miss out. Especially as "subscribers" receive a bundle of goodies including a free game. *Llamatron* is a genuinely outstanding offer.

I advise all ST shoot-'em-up freaks to check this baby out without delay.


## AMIGANUTS UNITED

**169, DALE VALLEY ROAD, HOLLYBROOK, SOUTHAMPTON, SO1 6QX**
**MON - FRI: 10am to 6pm TEL: 0703 785680**
**AMIGANUTS ARE THE OFFICIAL UK DISTRIBUTORS OF THE T.BAG DISKS AND THE**
***LATEST ISSUES* ARE ALWAYS AVAILABLE FROM US FIRST *ISSUE 49***

LOOK LOOK

**AMIGANUTS ARE PROUD TO INTRODUCE THE EXCELLENT EIGHT CHANNEL MIDI COMPATIBLE OctaMED**

Note that Amiganuts United hold the worldwide copyright to this program and it will not be available through any other source

The program is of such high quality that we could easily have put it on sale for £50 or more!
However, Amiganuts and the Author, Teijo Kinnunen, want it to be within the reach of all Amiga enthusiasts, so we are keeping the price down.
You can purchase this great program for only £10.00, within Europe, (£15.00 rest of the world). The price includes return post and packing.
Payment in pounds sterling only, if ordering from overseas, send a bankers order/Eurocheque etc. (Credit card orders will not be accepted).
Because of the exceptionally low price, it comes without glossy packaging and one page of printed documentation. (Instructions on the disk)
Please note that you are advised not to purchase this program if you only have the basic half-meg, as it does hog a lot of memory.
A full instruction manual for this program may become available later, but due to the high costs involved, it will be quite expensive!

******** THE LISTING BELOW IS FROM OUR LICENCEWARE PROGRAMS ****** THEY ARE ONLY AVAILABLE FROM AMIGANUTS ********

Need a quality Database program? Then Amibase Professional II may be just what you are looking for!

**1036:** AMIBASE PROFESSIONAL II. Now available. The additions of this prog make it a must have, includes picture facility. (1 Meg) £3.50
**876:** QUIZMASTER. Think you know it all? Well now you can prove it. Save and re-load facility. For 1 to 4 players. Excellent! £3.00
**877:** 1 ACROSS 2 DOWN. A fully fledged crossword program. It comes on two disks for only **£5.00**. Data disks 2 & 3 now ready at **£2.00** each.

Into coding? Want to learn? The Amiga Coders Club is for you! ACC 1/4 compressed issues of an excellent series for coders, even if you are new to the Amy, get this if you want to learn Assembly, using Devpac etc... A great introduction to the world of Assembly. Only £1.50
The Amiga Coders Club disks are packed with source, hints, tips, advice from many of the well known coders that are on the Amiga scene today.
Issues 5, 6, 7, 8, 9, 10, 11 now available. Please note, excluding the compressed introductory disk, Amiga Coders Club disks are £3.00 per issue.
ACC issue 12 is our birthday issue, (available 12th May). It is a 2 disk set and for the next two months you can buy both disks for £3.00!!

**1038:** SUPER AMIDASH. Remember that good old Commodore 64 game Boulderdash? Well here is your chance to have that fun again. 1Meg £3.00
**1068:** MOD PROCESSOR V1.9. Make picture and/or music progs, adjust pic height/width. This version will load 8 channel Octamed music. £3.50

## SUPER AMIDASH

There has been quite a surge in recent months of *Boulderdash* clones. Now Amiganuts has made its contribution to this genre with *Super Amidash*. Basically, it involves running around a creature filled cavern, avoiding monsters and collecting jewels.

The nice thing about the original *Boulderdash* was the suspense and tension. Thankfully, this atmosphere has been successfully maintained in the all-new PD offering.

The caverns you encounter are full of rocks and earth. Digging away the earth, if it is supporting a rock, causes that rock to fall. This can cause a fairly huge chain reaction. Rocks can fall all over the place, possibly killing or trapping your cute little sprite. As you might imagine, this not a good thing.

The graphics are nice and colourful, although hardly spectacular. Sound suffices and the whole thing is well presented.

What makes the game worthwhile however, is the fast, smooth gameplay. Even if you've tired of *Boulderdash* it's still well worth a look, just because of its outrageously addictive qualities. I could hardy put the blasted joystick down. It's one of those games which you just have to beat and I suggest that every Amiga owner should have one.

## INCREDIBLE COLOURS

A rather interesting Amiga utility turned up this week, courtesy of Seventeen Bit Software.

Called *HamLab*, this particular program come overcome a very difficult problem. Imagine you have saved an IBM PC VGA screen, with the full 256 colours. Now, there is no way to port this over to an Amiga and fiddle about with it. The Amiga can display 4096 colours, but only in Hold and Modify mode.

This graphic mode is very difficult to work with, and trying to edit files saved from other machines is tough.

*HamLab* performs this duty with astonishing simplicity. Entirely icon driven, the most difficult part is getting the PC file onto an Amiga disc. There are several utilities available that will do the job most satisfactorily.

Once you sort out that problem, you can load the VGA piccie into *HamLab*. The clever little program then allows you to convert the 256 colour VGA pic into HAM mode. There are two ways to do this. TrueHAM allows editing, and modifications can be made to the image. DreamHam allows the picture to be displayed, but no changes can be made to the image. The picture and colour quality are considerably enhanced in DreamHam mode, and the images are very sharp indeed.

Still, the finished HAM version of the original VGA screen is perfectly adequate for all but the most extreme perfectionists. For those of you who have more computers and money than sense, it should also be noted that the same process can be performed on colour Macintosh images. Mac 2CX images for example, can be handled quickly and in much the same way. Mac colour screens also have 256 colours (depending on which card the machine sports) and are displayed perfectly.

A strange, but useful utility which is simplicity itself to use. And at that price (virtually nothing) who's complaining? ■

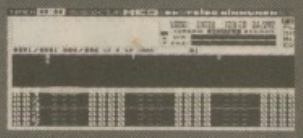
## WHERE TO GO

**Seventeen Bit Software is fairly famous in Amiga PD, so write to:**
**Seventeen Bit Software, PO Box 97, Wakefield, WF1 1XX. Tel. 0924 366982**

**For even more juicy Amiga Public Domain, contact Amiganuts United at:**
**Amiganuts United,169 Dale Valley Road, Southampton, SO1 6QX. Tel. 0703 785680**

**If it's ST PD you want, then check out Caledonia PDL who can be found at:**
**Caledonia PDL, 250 Oldtown Road, Hilton, Inverness, IV2 4PT. Tel. 0463 225736**

## ZOUNDS
### AMIGA SOUNDS



*• Octomed: simple sequencing.*

Amiganuts sent in a really nice piece of sequencing software. It's called *Octomed*, an odd title, the reasons for which will be explained shortly.

*Octomed* has all the usual sequencing features. It handles MIDI with consumate ease. The entire operating system is a very slick icon driven job.

The program really comes into its own when you use it to sequence samples. The samples can be, for want of a better word, sampled straight into the software. No mess, no fuss, just samples. The real beauty of *Octomed* is the reason for its name.

*Octomed* can handle eight samples at any one time. This means if you are using sampled instrument sounds, you can have eight channels running at once. The effect has to be heard to be believed, it sounds almost like a tiny little orchestra is throbbing away in your Amiga.


## AMIGANUTS UNITED

**169, DALE VALLEY ROAD, HOLLYBROOK, SOUTHAMPTON, SO1 6QX**
**MON - FRI: 10am to 6pm TEL: 0703 785680**
**AMIGANUTS ARE THE OFFICIAL UK DISTRIBUTORS OF THE T.BAG DISKS AND THE *LATEST ISSUES* ARE ALWAYS AVAILABLE FROM US FIRST *ISSUE 49***

**THE FOLLOWING IS A VERY SMALL SELECTION FROM THE PUBLIC DOMAIN/SHAREWARE COLLECTION THAT WE HAVE COLLATED OVER THE PAST FIVE YEARS**

MED/OctaMED SAMPLES PACK. Six disks that are packed with SAMPLES for use with this excellent music utility, (note this one is VERY RUDE). £8.00
MED V3.10. Not comparable to OctaMED, (See above). If you simply want to tinker with the keyboard, it will satisfy. (1 Meg is advised). £3.00
**1047:** TEXTPLUS V3.0EN is here! The extra facilities on this new version are unbelievable and would take half a page to describe! £3.00
**1067:** UEDIT V2.6e. The very latest version of this very popular text/editor prog by Rick Stiles. The new features are very good. £3.00

**263:** ADAMS FAMILY. Good pics of this infamous family. 1 Meg £1.50
**287:** NASA PICTURES. Good Hi-res pictures of space missions. £1.50
**326:** POWERPACKER by Nico Francois. Excellent crunch util. £1.50
**700:** D-COPY V1. Excellent copier program. Full instructions £2.50
**724:** 6 GOOD DEMOS + A GAME. The Questor Cowboy anim is good £1.50
**728:** UTILS. The famous Boot-Shop, Boot-Kit + others £2.50
**741:** NorthC V1.3. (2 disks), C Assembler etc. by Steve Hawtin £5.00
**907:** SNAKES & LADDERS. Excellent game for the family. 1 Meg £2.00
**1018:** THINKAHEAD. A real mind boggling game from the clones £2.00
**1023:** The excellent AMY VERSUS THE WALKER animation. 1 Meg £1.50
**1032** AMI-FX 3. Third in this fractal series. (3 disks) 1 Meg £4.00
**1040:** BALLOONACY. An excellent game for the children. 1 Meg £2.00
**1048:** DO THE BARTMAN. A fantastic version by Freehand. 1 Meg £2.00
**243:** THE DEFINITIVE JARRE SHOW. Good music & pics by HCC £1.50

**265:** HOW I CAUGHT AND DESTROYED A VIRUS (Animation). 1 Meg £1.50
**300:** CLASSICAL MUSIC 1. Runs nearly 50 mins. (by Rob Baxter) £1.50
**398:** GHOSTPOOL and SPIGOT Animations by Dr. Gandalf. 1 Meg £1.50
**933:** A-GENE Geneaology. The very latest V3.125. 1 Meg £2.50
**939:** FRAXIONS new megademo "THE WALL". It's good! £1.50
**942:** SYNERGY. Well presented sculpt 4D pictures £1.50
**950:** THE EVIL DEAD by Possessed. Can you kill the zombies? £1.50
**967:** STEREO 3D demos by Exit. (Great! but needs 3D glasses) £2.00
**1021:** AT THE MOVIES animation with sound efx. 1Meg £1.50
**1034:** AREXX programmers tutorial disk from the S.W.A.G. group. £1.50
**1037:** GAMES. KLONDIKE, (great version). SIMON (fun for kids) £1.50
**1052:** DRIFTERS demo. "THE PRISONER" & "SIX OF ONE" are great. £1.50
**1073:** WORDVERSION II. Solve anagrams/puzzles etc. £3.00

**971:** THE MASTER VIRUS KILLER. It recognises and kills over 100 of the pests + other excellent features. (inc. hard drive protect) £2.50
**990:** AMIGA C CLUB MANUAL V2 is now ready. Loads more info, source and help from Anders Bjerin. Now Auto-Booting and on four disks. £6.00
**996:** THE LATEST AND EASIEST SETKEYS PROG TO RE-DEFINE YOUR KEYMAPS. Plus a host of other utilities, (Icon design, Iconlab, Clipit etc.) £2.00
**1026:** STAR TREK MEGADEMO. Another well presented two disk set from Tobias Richter, combining pictures, animation and music. 1 Meg £3.00
**1031:** GAME COMPILATION. Spacepoker, a good version of the Poker-Bandit. Plus Running and Snakepit, both with full game editing. £2.00

Free disks + free progs + free membership - over a thousand detailed progs plus some games to play, on the main catalogue disk. Only £1.00
Main catalogue disk sent "Free" with orders above £15.00 - Please remember to ask for your free copy if you send in an order above £15.00
Prices quoted include return post and packing - make cheques etc. payable to: Amiganuts United - (we do not accept credit card orders).
The third 1991 update to our main catalogue is now ready for £1.00 (The update contains only the LATEST additions to the library)
(NOTE! After it's initial purchase, the 1991 updated catalogue will be re-copied, FREE!, if you return it with an order for £15 or more)

## DISCS

from 28p

| | 3.5" DS/DD | 3.5" SONY | 3.5" DS/HD | 5.25" DS/DD | 5.25" DS/HD |
|---|---|---|---|---|---|
| 25 | 9.99 | 12.99 | 22.99 | 7.99 | 13.99 |
| 50 | 18.99 | 23.99 | 43.99 | 13.99 | 24.99 |
| 100 | 32.99 | 43.99 | 64.99 | 22.99 | 47.99 |
| 250 | 76.99 | 107.99 | 156.99 | 55.99 | 113.99 |
| 500 | 148.99 | 199.99 | 303.99 | 109.99 | 213.99 |
| 1000 | 284.99 | 389.99 | 599.99 | 214.99 | 399.99 |

**LOCKABLE DISC BOXES**

| | | |
|---|---|---|
| 40 x 3.5 | - | £3.99 |
| 50 x 5.25 | - | £4.29 |
| 80 x 3.5 | - | £4.49 |
| 100 x 5.25 | - | £4.99 |

DISCS

*Our disks are fully guaranteed and come complete with labels or envelopes, labels and tabs.

**ACCESSORES - POST FREE!**

| | |
|---|---|
| Mouse Mat (Boxed) | 2.99 |
| Mouse Holder | 2.99 |
| 2 Piece Universal Printer Stand | 6.99 |
| 31/2 Disk Clean Kit | 2.99 |
| 51/4 Disk Clean Kit | 2.99 |
| Roll of 1000 31/2 disk labels | 8.99 |
| Printer Cable (1.5mtr) | 3.99 |

SNAP COMPUTER SUPPLIES LTD

**RIBBONS** *Post Free*

| TOP QUALITY COMPATIBLE BRANDS | 1 OFF | 3 OFF |
|---|---|---|
| AMSTRAD DMP2000/3000/3160 | 2.80 | 2.60 |
| AMSTRAD DMP4000 | 4.90 | 4.70 |
| CANON PW1080/TAXAN KAGA | 3.30 | 3.10 |
| CITIZEN 120D/LSP10 | 3.90 | 3.70 |
| EPSON FX/MX/RX80 | 3.40 | 3.20 |
| EPSON LX80/86 | 2.80 | 2.60 |
| MANNESMANN TALLY MT80 | 4.80 | 4.60 |
| PANASONIC KXP 1080/81/82 | 4.50 | 4.30 |
| PANASONIC KXP1124 | 4.50 | 4.30 |
| STAR LC10 MONO | 2.80 | 2.60 |
| STAR LC10 4-COLOUR | 5.90 | 5.70 |
| STAR LC24-10 | 3.90 | 3.70 |

**PAPER** *Top Quality*

| FANFOLD WITH MICRO-PERFS | 1000 | 2000 |
|---|---|---|
| 11 X 9.5 60GSM | 7.99 | 13.99 |
| 11.66 X 9.25 (A4) 70GSM | 10.49 | 18.49 |
| 11.66 x 9.25 (A4) 80GSM | 11.99 | 20.49 |
| 11.66 x 9.25 (A4) 90GSM | 13.99 | 23.99 |

SORRY! MAIL ORDER ONLY

Access VISA

*ALL PRODUCTS SUBJECT TO AVAILABILITY*

*ALL PRICES INCLUDE VAT. PLEASE ADD £2.99 POSTAGE AND PACKING FOR DISKS + BOXES £3.99 FOR PAPER. E.O.E.*

Hotline Number 0345 045 455

1st Floor, I-Mex Business Park, 42 Flaxley Road, Stechford, Birmingham B33 9HL

Access VISA

# AMIGA REPAIRS

## JUST £44.95 inc.

- ★ Commodore authorised and registered repair centre
- ★ Over 10 years experience with Commodore computers
- ★ 20 qualified technician engineers at your disposal
- ★ We will undertake to repair your Amiga 500 computer for just £44.95 including parts, labour, VAT and post & packing
- ★ Most computers will be turned around in just 24 hours!
- ★ Prices include full service check, overhaul, soak-test and replacement of power supply unit if necessary
- ★ Repairs to keyboard and disk drive also included (£25 extra if these units are unrepairable and require complete replacements)
- ★ All repairs covered by a 90 day warranty

**Upgrade your Amiga from 512K to 1Mb of memory for just £25.00**

**SPECIAL EXCLUSIVE OFFER:**

**If you submit your computer to ourselves for repair, enclosing this advert along with just an additional £25, we will supply and fit a 512K memory expansion at no extra cost.**

*How to take advantage of this exceptional offer: simply send or hand deliver your machine to the workshop address detailed right, enclosing payment and this advert and we will do the rest. (If possible please include a daytime telephone number and fault description).*

** If you require 24 hour courier to your door, please add £5 else your computer will be sent back by contract parcel post.*

## WTS ELECTRONICS LTD

**STUDIO MASTER HOUSE**
**CHAUL END LANE**
**LUTON, BEDS, LU4 8EZ**
**Telephone (0582) 491949 - (4 lines)**

WTS reserve the right to refuse machines that in our opinion are tampered with, to an extent beyond reasonable repair

# SOFT DRIVING

**Route planning software can be entertaining as well as productive. Keith Pomfret gets behind the wheel and test drives Autoroute Plus 4 , the latest version of the program that started it all . . .**

Route planning software allows you to choose where you are going from, where you'd like to go to and then does the hard work like calculating the best route for you to take.

*Autoroute Plus 4* offers a host of new bells and whistles and brings the program into the era of pull down menus and mouse control. The basic package includes a digital map of Britain, France or mainland Europe and the program to calculate routes in miles or kilometres and cost them in any currency for various vehicles. When working out routes the program tries as many as the memory of your PC will allow and highlights the quickest and shortest ones. A version is also available that works on a network.

## SUCCESS STORY

When software house NextBase introduced *Autoroute* on the PC in 1987, it was an immediate success. It offered a quick and reliable way of calculating a route. In its original and basic form it offered an entertaining program that did a useful job, was state-of-the-art at the time and would run on a twin floppy drive PC.

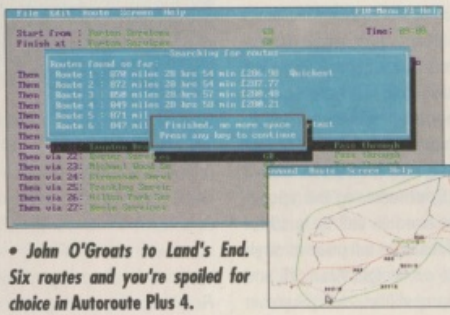
As people asked NextBase for more features an updated *Autoroute Plus* was introduced. This was designed so that various add-on modules could be used to customise the program to the users individual requirements. *Autoroute Plus 4* is the logical development of this route planning software incorporating a radical rethink making it more user friendly and improving the display which is now white with the roads and features in similar colours to a road atlas. Mouse control and pull down menus make it easy to use so that a beginner can have the program running in minutes.

## INSTALLATION

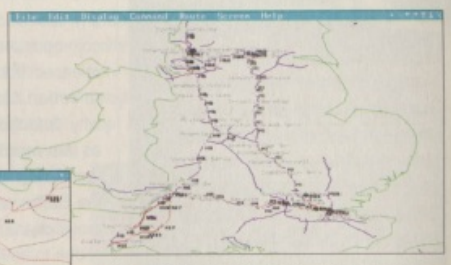
To install the program, you put a disk in the floppy drive and type HDINST. On-screen prompts take you through disk swapping while your hard drive takes in the data.

After it has installed the main program, it asks if you have any modules or the like to load. If you think the job of installation is done and type 'N', you will get a surprise – there are no maps and the program is unusable. The maps have to be installed with all of the extra modules and so must be considered an extra. It's a pity that a professional program has such a hiccup in the installation procedure. However, the instructions in the manual included the extra disks, but the on-screen prompts were not as lucid as they could have been.

All of the modules can be installed in the same way from the same menu and the total time taken to install *Autoroute Plus 4* with UK and European map data and a couple of extra modules was around 20 minutes from opening the box to firing up the program.



• *John O'Groats to Land's End. Six routes and you're spoiled for choice in* Autoroute Plus 4.



• *All roads lead to the Watford Gap. The Express Cordon Bleu tour for motorway gourmands.*

## GOING PLACES

Eating as a life-science coupled with a healthy dislike for Cordon Bleu had us planning the food fantasia of the nineties. To put *Autoroute Plus 4* through its paces, a trip round 31 of Britain's motorway cafés was planned.

As a second course (but not one the editor would bankroll) a similar trip around mainland Europe pushing *Autoroute Plus 4* to its 99 stop over limit was tried. The program allows you to break your journey for any length of time, at up to 99 places. It can also take into account the working day and restrict travel to specific hours.

Back to the first course. The journey started at Farthing Corner (near Maidstone) on the M2 and finished at Toddington (near Luton Airport) on the M1. Normally this straightforward 80 mile motorway journey would take no more than an hour and 15 minutes. With a round trip and a detour to call and wave at the motorway cafés, though, it was destined to take a little longer. Allowing long enough time to rush from the car to the restaurant and take a longing look at the motorway fayre, the whistle stop tour of the cafés was timed at 16 hours and 30 minutes. This was a simple enough route for the program to calculate and the office Goldstar 386 PC churned out a route in seconds. We decided to give it something a bit more complicated – John O' Groats to Lands End should put it to the test. On the first attempt using the European Gazetter a bug was discovered which had us catching ferries and travelling the length of Ireland to get to Cornwall.

A call to NextBase's marketing director, Simon Anthony, confirmed that there was a problem in the early review version of *Autoroute Plus 4* that we'd been given but that it had been fixed in production versions.

Another useful feature in *Autoroute Plus 4* is a menu of "slider" controls that allows you to make your choice of preferred roads. While calculating John O'Groats to Lands End, there were a lot of motorways on what was supposed to be a scenic drive A preferences feature available from a pull down menu allowed us to change the way the route was calculated to avoid motorways and A roads. With motorways the journey was 875 miles and took nearly 16 hours. The pretty route was 28 miles further and took 36 hours to drive.

## AT THE END OF THE ROAD

*Autoroute Plus 4* is a well specified core program that can be configured and upgraded to the requirements of most users. With the European database and a few modules, it can eat a serious lump out of the budget, but any company planning reps rounds or deliveries for will save the cost in saved fuel and ficticious distances.

Up until last year *Autoroute* had the territory to itself, but with the advent of *Navigator* from DPS and other PC route planners still to come, it is now holding its own in an increasingly competitive field. ■

## SYSTEM STUFF

- 512K memory
- DOS 2.2 or greater
- One floppy and a hard drive with 2Mb of spare space
- Supports VGA, EGA, CGA, Hercules, Super VGA.
- Printer drivers for HP Laserjet, Postscript, Epson, Canon LBP-8
- Microsoft or Mouse Systems mouse

## HOW DOES IT RATE?

FOR
- ▲ Intuitive
- ▲ Versatile
- ▲ Easy to use
- ▲ Quick

AGAINST
- ▼ Copy protected
- ▼ Can be expensive with all of the modules added
- ▼ Mouse control jerky at times
- ▼ Manual could be better and installation awkward

## HOW MUCH WILL IT COST?

| *Autoroute Plus 4* (not including VAT) | | MODULES | | | |
|---|---|---|---|---|---|
| UK | £345 | Gazeteer editor | £145 | Hydrography (GB) | £49 |
| France | £345 + | Optimisation | £145 | Railways and Grid | (Free on registration) |
| Europe | £945 | Isochrone planner | £295 | UPDATES | |
| | including gazetteer editor and optimisation module | Network pack | £295 | GB | £49 |
| | | Admin boundaries (UK) | £49 | France | £49 |
| | | Postcodes | £195 | Europe | £100 |

## BUBBLING UNDER

From Simils, the team which brought the MiG-29 Fulcrum to the home computer, comes a simulator of the AV-8B American Harrier in the form of *Harrier Assault*. The boys are putting to good use their work on Harrier software at British Aerospace to produce an accurate flight model and are letting their imaginations run riot to provide a role playing scenario of sorts in the form of a combat simulation environment. *Harrier Assault* should be ready for release at the end of 1992 through publisher Domark.

● In a more sporty and licensed vein, Domark has the opportunity to convert Taito' coin-operated *Euro Football Champ* to the home computer systems. EFC's most interesting innovation is being able to hit the opposition while the referee's back is turned. A team to convert EFC has yet to be determined, but a mid-1992 release has been set.

● Yet another pseudo-sequel to *Tetris* (see review) has made it to the home computer, namely ...*Tetris III*, perhaps better known as *Faces*. The title almost says it all – slices of famous and not-so-famous faces are assembled instead of blocks. Spectrum HoloByte has just released *Faces* in the States and there's every chance of it appearing on these shores some time this year through Infogrames.

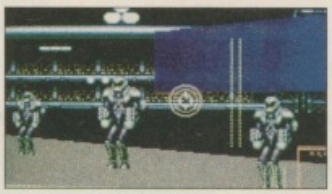
● Move over Mario Brothers – here comes *Sonic The Hedgehog*. Sega reckons that Nintendo's Mario and Luigi will be knocked off their mantle-when its new spiky saviour is launched on the Sega MegaDrive console sometime this Summer.

Initial reports suggest that the company has come very close to its ideal, with its vibrant visuals, detailed arcade-style action and a dreamy control system to boot. And it looks as though this good news is set to spread all around as it's rumoured that US Gold is set to acquire the licence to convert this potential blockbuster to the home computer formats.

# Games Week

**Once again Gary Penn has been shaking the software tree and gathering its fruit for your delectation and delight . . .**

If you frequent an arcade you may have caught a glimpse of – or even played – an interesting Othello-inspired affair called ***Ataxx***. You may even recognise it, for apart from a few tiny cosmetic changes ***Ataxx*** is in fact a coin-operated incarnation of a never-released Mastertronic budget title called ***Infection***. Mastertronic has not disclosed why ***Infection*** wasn't released, though as fate would have it ***Infection*** did in fact resurface in a slightly bastardised form in the States as ***Spot*** featuring the eponymous character used to sell 7-Up. ***Spot*** is due to be released at full price through Virgin this June on Amiga, Atari ST and IBM PC and compatibles. A conversion of ***Ataxx*** is not on the cards.



One of many in Core Design's continually expanding batch of forthcoming releases is ***Retro***, a future sport loosely described as "a two-player sort of Speedball in three dimensions" by a spokesperson. Utilising a sprite as opposed to polygon-based display, ***Retro*** is being put together on the Amiga by programmer Steven Northcott (who converted ***Driller*** and ***Darkside*** to the Amiga) and artist-designer Simon Phipps (who did his 'stuff', as it were, for ***Switchblade*** and ***Rick Dangerous***). A June release date has been proposed on both Amiga and Atari ST.

System 3's ***Last Ninja*** returns for a third outing on the 16-bit machines in – heavens – ***Last Ninja III***. Projectyle programmers Eldritch The Cat are responsible for these latest incarnations, which are to all intent and purposes more of the same – that's to say, a blend of arcade adventure and simplistic fighting action presented from an isometric perspective – but with a few enhancements. ***Last Ninja III*** is already available for the Commodore 64 on cartridge. Priced at £25.99 the Amiga and Atari ST versions are due for release at the beginning of May. A version for the IBM PC and compatibles is set to appear before the year is out. ■

## PLAYING TIPS

### GEM'X
**Demonware**

AMIGA, ATARI ST Play away on the later levels by entering any of the following codes...

| MINE | CODE |
|---|---|
| B | EARTHIAN |
| C | KENICHI |
| D | INOKUMA |
| E | BURAI |
| F | BADMAN |
| G | NETWORK |
| H | YOKOHAMA |
| I | EXACT |
| J | X68000 |
| K | TURRICAN |
| L | REDMOON |
| M | CAMPAIGN |
| N | MEGAMANN |
| O | SYVALION |
| P | FMTOWNS |
| Q | CHIERIE |
| R | GAMERION |
| S | ZAWAS |

## GAMES REVIEW

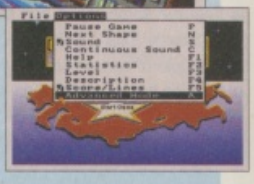
# TETRIS

**Infogrames • Amiga, Atari ST £19.99**
**IBM PC & Compatibles £24.99**
**Planned Versions: Possibly Amstrad CPC, Commodore 64, Spectrum**

Yes, it's been out and about on practically every format under the sun since 1987 and has gone on to become an often-imitated world-wide success story. However, it's almost impossible to buy a copy of the 'original' Mirrorsoft *Tetris* these days and it's only now readily available on the console and hand-helds.

It's possible to pick up many variations on the theme through the Public Domain. So why should Infogrames produce a new version? It hasn't as such. This latest version of *Tetris* comes from Spectrum HoloByte and is being marketed here by Infogrames in the same way it handled *Tetris*' pseudo-sequel (one of many in fact) – *Welltris*. Problem is, there's nothing remotely impressive about this new *Tetris*, which bears a remarkable similarity to the Apple Macintosh version. These are without doubt the worst versions of this classic test of hand-eye co-ordination yet seen. The fact that there are no variations on the theme is forgiveable as it's possibly a licensing restriction. What is inexcusable is continual disk accessing, even on a 1Mb machine, and worse still it actually plays like a brick. The control is keyboard only, which would be fine if the keys were redefinable but they aren't, and it's frustratingly sluggish to respond to boot. The only vaguely interesting feature is the history of *Tetris*. What a bummer.

***• My, how twee: the scenery is changed whenever you advance a level. What a shame it does absolutely nothing to improve the gameplay.***



***• There are more than enough options to keep you entertained. IWhat a shame it does absolutely nothing to improve the gameplay either.***

## PLAYING TIPS

### CHUCK ROCK
**Core Design**

AMIGA
When the band begins to play, why not accompany them with the sound of tapping keys by typing any of the following (including spaces). Note that it's best to press the 'Esc' key before you enter any of the cheats as this cancels out any previous keypresses.
FAST AINT THE WORD
UNCLE SAMS
ITS FAIRY BOWBELZ
SHE LOVES CLEANING WINDOWS
LIFE IS MY DREAM
Entering any of the above makes Chuck invincible with an unlimited supply of energy.

TURN FRAME
Now you can go to the level of your choice by pressing a key from '1' to '5' during play.

MORTIMER
Allows you to select zones within levels during play via the function keys.

## TOP 10 SIXTEEN-BIT GAMES

| THIS WEEK | LAST WEEK | TITLE | PUBLISHER | MACHINE |
|---|---|---|---|---|
| 1 | 9 | *Armour Geddon* | Psygnosis | AG |
| 2 | 2 | *Lemmings* | Psygnosis | ST AG |
| 3 | 4 | *Fantasy World Dizzy* | Code Masters | ST AG |
| 4 | 8 | *Steve Davis World Snooker* | CDS | ST AG |
| 5 | 10 | *Killing Cloud* | Mirrorsoft | ST AG |
| 6 | 1 | *Gods* | Renegade/Mindscape | ST AG |
| 7 | 7 | *Chuck Rock* | Core Design | ST AG |
| 8 | 3 | *Defender of the Crown* | Mirror Image | ST AG PC |
| 9 | 6 | *Little Puff* | Code Masters | ST AG |
| 10 | 5 | *PGA Tour Golf* | Electronic Arts | ST AG PC |

ST = Atari ST AG = Commodore Amiga PC = IBM PC or compatible OT = Other
Chart compiled by Gallup. © European Leisure Software Publishers Assoc.

## SWITCHBLADE II

**Gremlin • Amiga & Atari ST £25.99**
**Planned Versions: Possibly Sega MegaDrive**

Console-based arcade-style action seems to be all the rage these days. So much so that they are rubbing off in a big way on designers of computer entertainment. With any luck, some day soon we will see the likes of something along the lines of the *Super Mario Bros* series appearing on 8-bit and 16-bit screens. Or maybe not. *Switchblade II* isn't like *Mario Bros*, but it does have a distinctly console-esque look to it. There are platform arrangements to negotiate and alien types to shoot and some quite different forms of improved firepower to collect. The shooting and jumping frolics are nothing out of the ordinary, but it's all rewarding enough, partly because control of the hero, who's actually called Hiro, is intuitive, and partly because the game is so asy-going. *Switchblade II* won't change your life overnight, but there's enough here to keep you amused.

*• Hiro's gun isn't too bad for dispatching the enemy. But there comes a time in every hero's life when he needs a little more... oomph. Having collected some cash Hiro can pop into a shop and buy some weapons.*

*• Hiro goes a-shootin' an' a-jumpin' in Switchblade II on the Amiga.*

## HELP! HELP! HELP! HELP! DO ME A LEMON HELP! HELP! HELP! HELP!

Bad luck, eh? But fear not, for we may well be able to help – with anything game-related anyway. Simply jot down as much detail as possible on exactly what the problem is and send it to DO ME A LEMON, Games Week, New Computer Express, 30 Monmouth Street, Bath, Avon BA1 2BW.

Maybe it's a certain problem that's causing you to scream. Maybe it's a certain screen that's causing you problems. Or perhaps you simply need a cheat mode. Whatever the score, personal replies are out of the question, but we will endeavour to answer as many queries as possible through these pages. And don't forget to mention the game's title (look, it happens). This week's thorn is lodged in the side of Steve Baker of Eastbourne. He's stuck on Mission Six of Vektor Grafix's *Killing Cloud* because he has no nets or pick up vehicles and wants to know why. Well, Steve, according to Vektor's Pete Featherstone the problem could be down to one of two reasons: either you have run out of nets completely or the vans have run over the pods that were placed. Hope that clears the mist of confusion.

## PREDATOR 2 THE HUNT CONTINUES...

**Imageworks**
**Available Now: Amiga, Atari ST, IBM PC & Compatibles (£25.99), Amstrad CPC, Commodore 64, Spectrum (Cassette £10.99, Diskette £14.99)**
**Other Versions Planned: None At Present**

Phew! What a scorcher! A futuristic Los Angeles is in the grip of a mighty hot heatwave and gangs of Colombians and Jamaicans are fighting it out on the streets for control of the lucrative drug scene. And to add fuel to the fire, an alien hunter known as the Predator has just arrived for a spot of people-skinning fun. Enter *Lethal Weapon* star Danny Glover as hard-man cop Harrigan, the only man capable of cleaning up this town. That's *Predator 2* for you, currently doing the rounds countrywide in cinemas and home computer form.

Spread thinly over four levels which represent prime cuts of the film's story, *Predator 2*'s magnetic media action is *Operation Wolf* blasting plain and simple. As the scenery scrolls on by, dozens of gun-toting members of the drug-barons' gangs spring forth and let rip with bullets and grenades, and innocent bystanders run around like headless chickens. Taking control of a wireframe form of Harrigan you try to shoot the bad guys without hitting the honest citizens. It's as simple as that. That's a lie actually, for more often than not there are so many rotten apples on screen that it's difficult not to shoot the Good People. Worse still, the proceedings tend to slow down somewhat and life gets bitchier.

But what of the Predator itself? Well, you don't actually get to take it on until the final level – it's usually found lurking in the background from where it occasionally picks off a bad egg or two. Such is life.

*Predator 2* isn't particularly rewarding to play, which is a great pity as the potential of the horizontally elongated playfield to represent peripheral vision has been wasted. I haven't seen the film yet, so maybe there just isn't enough to it to inspire gripping gameplay. Maybe licensing restrictions are to blame. Whatever the reason, it's not going to make this baby any more remarkable or interesting.

*• Danny boy does his best to keep the bad boys at bay in the Amiga version of Predator 2.*

*• Harrigan dishes out doses of death with a surprisingly weak .45 Magnum pistol. At least it has an unlimited supply of ammunition – the four more powerful weapons found along the way don't.*

# DIGITAL DIARIES

**Electronic organisers are more than just fancy Filofaxes with LCD screens. Dave Golder checks out whether the Casio Digital Diary can do more than just keep track of lunch appointments.**

Where once the Filofax ruled, the electronic organiser is now muscling in. Capable of holding a volume of information that would require a leather binder the size of suitcase to contain it in written form, the new generation of hand-held computers has the added advantage of being able to communicate with PCs.

The Casio Digital Diaries are the latest range of electronic organisers to hit the market. The SF-9500 is the top model with 64K RAM and a 32 by 6 character LCD screen. About the size of a cigar case, the SF-9500 is a stylish-looking product with smooth contours, a matte, dark grey case and a well laid-out keyboard with subtle hints of chrome. Weighing about nine ounces it sits very comfortably inside a jacket pocket.

The Qwerty keyboard has raised, well spaced out keys and while it is still easy to accidentally press two keys at once (a problem with most hand-helds because of their size) it seems to happen less with the SF-9500 than most.

One annoying feature of the SF-9500 is that you can only set the tilt of the screen at two angles; about 45 degrees or completely flat. If you are using the unit on a desktop in a bright room where the light is shining at just the wrong angle this can make the screen very difficult to read.

## MAKING LISTS

The modes included as standard on the SF-9500 are the equivalent of the different sections of a Filofax. There are modes for setting up a telephone number and address list, compiling a business card list, writing memos and noting down appointments. The Digital Diary scores over its paper counterpart by also providing a calculator and a clock showing all the world's time zones.

Entering new information and recalling existing data is extremely simple, the whole process being very user friendly. The accompanying manual explains everything clearly with useful diagrams and lists of the key presses you have to make.

The procedures for entering and recalling data are roughly the same in all modes, so once you have discovered how to cope with, say, setting up and using the telephone list, learning how to use the other modes will be simple. It should take just a couple of hours to become fully conversant with the organiser.

The SF-9500 can hold up to 2,660 telephone numbers,1,860 appointments and the internal calendar runs up to 2099; imagine the size of your Filofax binder if you tried to note down that lot.

But if you do need to store information externally the unit incorporates an IC card system; the equivalent of floppy disks for PCs. You can use them to store information you have input into the organiser, but equally they can be used to run software.

The software available for the SF series is bit limited to spelling checkers and directories of legal and medical terms, but Casio is promising that "quite a few goodies of a more practical nature should be ready later in the year".

*• The Casio Digital Diary SF-9500: it looks good, but is it attraction more than aesthetic?*

## TRANSFERRING DATA

Two peripherals already available, however, are Dataprint and Datalink. One of the major problems with hand-held computers is trying to transfer data to other hardware. Both these packages are specifically designed to make such operations on the SF-9500 simple and painless.

Dataprint allows you to print out data from the organiser on any centronics interface printer. The package consists of nothing more than a lead which runs from the SF unit to the printer. Once connected all you have to do is select the print mode on the organiser to create hard copy.

You can print individual entries, such as one business client, or all the data stored in a certain mode, ie the complete telephone list. You can also print out calendar months with the days when you have appointments marked out. The only drawback is that you cannot control the positioning of the printout on a sheet of paper from the organiser; it always starts at the extreme left.

Datalink allows the SF-9500 to send data to, and receive it from, a PC. The package comprises the connecting cable and the Datalink software for the PC (supplied on 3.5-inch and 5.25-inch disks). The actual software can be run on a PC without connecting it to the SF-9500; it produces a simulation of the operations available on the organiser on the PC, complete with pull down menus and full colour. But once the PC and organiser are linked, data can be easily transferred between the two.

This requires little more than plugging in the connecting cable and setting the parameters on the PC. All the necessary information for baud rates, parity , and so on is clearly listed in the manual, and the whole operation should take just a couple of minutes.

Unfortunately, you cannot transfer individual items of information, only groups, such as all the entries listed in the telephone list. Also you must make sure to lock the information on the receiving unit, whether it is the PC or the organiser, otherwise any incoming data will overwrite any existing data. Locking data is as simple as pressing a function key, but it is all too easy to forget and lose some important information.

The Casio Digital Diary SF-9500 compares very favourably with other electronic organisers, both in terms of price and functions. But if you are looking for something that looks stylish and is functional then this is the organiser for you. ■

*The SF-9500 retails for £195. The Digital Diaries range starts at £69.99, though the cheapest model which can be linked with a PC (the 7500) is £120. Casio can be contacted on 081-450 9131.*

## SO HOW DOES IT RATE?

**POINTS FOR**

- ▲ Very compact and stylish, but still resilient.
- ▲ Easy to read LCD screen.
- ▲ Simple to install and use peripherals for linking up to printers and other PCs.
- ▲ It features various modes, such as business card and telephone directory, already set up and easy to use.

**POINTS AGAINST**

- ▼ Hinge on the screen is a bit floppy and can only be set in one position
- ▼ You can only transfer groups of data to a PC, not just one individual entry.
- ▼ It is easy to hit the wrong keys.
- ▼ Limited software (at the moment).

## THE COMPETITION: 64K RAM ORGANISERS

**AGENDA £199**
The AgendA has the advantage over the Digital Diaries in that it has limited word processing capabilities, but it is slightly heavier. There is a wide range of peripherals and software for the AgendA, including a fax/modem card, facilities to link it with PCs and Macs and a spreadsheet. Enhanced PC comms software is due out at the end of this month. AgendA is available from Microwriter, contact 061 685 0300.

**SHARP IQ £174**
About the same size and weight as the Digital Diaries, The Sharp IQ has a wide variety of software cards available from around £50 to £100. These include printer cables and PC comms links, as well as language cards and extra memory.

**PSION ORGANISER £190**
The Organiser is a lot bulkier than the Digital Diary, but the main difference is that it does not have a Qwerty keyboard. It has diary, memo, alarm ,etc, facilities built in and is well supported with software.

# £ 19.95 The Lot.

## The very best of Public Domain and Shareware.
## Selected from thousands available, 40 separate programs.
## Over 9 megabytes of code covering all the major applications.
## All disc formats, All guaranteed to read & virus free

### Database.

**PC-File V.**
The definitive flat file database for the PC, very popular, in use by thousands.

**Wampum.**
The best dBase III Clone, supports all major dBase functions and file formats.

### Word processing.

**PC Type.**
The most popular shareware word processing program on the PC. A personal favourite.

**PC Write.**
Full featured word processing including spell checking and mail merge and outstanding printer support.

### Spreadsheets.

**As Easy As.**
All singing and dancing spreadsheet for the professional user, can read and write Lotus 123 files.

**PC Calc.**
Lotus 123 clone, shareware at its best, outstanding quality.

### DTP & Graphics.

**VGA Paint.**
Fantastic drawing program complete with easy to use tutorial and demo files, a real must.

**DAN CAD 3D**
Outstanding 3D CAD package, outperforms many commercial programs.

### Communications.

**Procomm UK.**
One of the first, much copied, but still one of the best.

**Eazilink.**
Supports Prestel and Viewdata formats on a PC, has to be seen to be believed, excellent.

### Printer support.

**Print Partner.**
Print banners plus all manner of other goodies for your printer.

**Sideways.**
Print files sideways on your printer, invaluable for large spreadsheets.

**Xprint.**
Re-direct printer output to a file.

### Games.

**Captain Comic.**
The best shareware game available, you will be amazed at the colours (EGA).

**Cyrus Chess.**
My favourite chess game, very powerful (EGA).

**Golf.**
The best version of this popular classic.

**Concentration.**
A real classic game in stunning VGA colour.

**Adventures of Kroz.**
75 play fields and more than 1000 characters will run on all systems.

### Utilities.

**Time Run.**
Automatically execute a DOS command, program or batch file at a specific date and time, very useful.

**Quickmenu.**
Neat menuing system that searches hard disc and automatically creates menus for most major applications.

**List.**
Now up to version 6, superlative file viewer.

**Menu.**
Very small but powerful menuing program for batch files, a personal favourite.

**Clock.**
Puts a clock on screen.

**Go.**
Jump to the sub directory that contains the specified file.

**PKArc.**
The premier file archiver, very latest version, smaller and faster than ever.

**Global.**
Performs any DOS command on all subdirectories.

**Dos-Edit.**
Remembers DOS command lines for easy recall, every AUTOEXEC.BAT file should have this.

**Memory.**
Short and sweet, shows how much memory you have.

**Re-boot.**
Causes the computer to re-boot.

### Utilities cont.

**Hard Disc Backup.**
Safe but quick, a comprehensive hard disc backup utility.

**Calculator.**
The best calculator there is, its got everything.

**Disc Commando.**
Knocks Sidekick into a cocked hat. Includes Menuing, graphic tree support, calculators, appointment calendar etc. etc. etc.

**Automenu.**
The finest menuing system for PC's includes mouse support and on line help.

**Masterkey.**
Un-delete files and much more.

**HD Test.**
One of the most thorough hard disc testing programs available.

### Educational.

**PC-Touch.**
Typing tutor with constant display of your performance.

**Spellbound.**
Superb spelling tutor with animated colour graphics.

**Computer tutor.**
A must for all new computer users.

**DOS Learning system.**
Covers all aspects of DOS especially recommended for new DOS users.

**Word Wizz**
Very good vocabulary quiz.

Make cheque for £ 21.45 (Includes £ 1.50 Post & Packing) payable to W.P.S.

### Quick response coupon.

Name. _____
Address _____
_____
_____
Tel. (Day). _____
Disc size. 5.25" or 3.5"
Hard Disk Yes / No

### Mail Order

WPS
9A Ingrave Road,
Brentwood,
Essex CM15 8AP
0277 263200

# DMR ELECTRONICS

## *THE* NAME FOR USED COMPUTERS

COMPUTERS AND PERIPHERALS BOUGHT, SOLD AND PART EXCHANGED.

### XT MACHINES

| | |
|---|---|
| AMSTRAD 1512 SD COLOUR | 299 |
| AMSTRAD 1512 20mb COLOUR | 399 |
| AMSTRAD 1640 SD ECD | 399 |
| AMSTRAD 1640 20mb ECD | 499 |
| IBM PS/2 20mb HD MONO | 475 |
| IBM PC XT DD MONO | 250 |
| ZENITH XT DD MONO | 250 |
| COMMODORE PC10 DD 20mb MONO | 395 |

### AT MACHINES

| | |
|---|---|
| ELONEX 386-33 8mb 100mb HD SVGA COLOUR | 1795 |
| APC 286 DD 20mb HD MONO | 495 |
| AMSTRAD 2286 40mb 12HRCD | 695 |
| BLUE CHIP 286 10mb HD MONO | 450 |

### AT MACHINES

| | |
|---|---|
| ZENITH 286 40mb HD VGA COLOUR | 695 |
| IBM 286 30mb MONO | 495 |
| TANDON 386SX 40mb HD VGA COLOUR | 795 |

### OTHERS

| | |
|---|---|
| CMB AMIGA A500 | 213 |
| ATARI 520 STFM | 165 |
| ATARI ST MEGA 2 + 20mb HD + HIRES MONO MONITOR + 804 LASER PRINTER | 895 |
| AMSTRAD PCW 8256 | 212 |
| AMSTRAD PCW 8512 | 309 |
| AMSTRAD PCW 9512 | 319 |
| SEGA MEGA DRIVE | 109 |
| PC ENGINE | 95 |
| ATARI PORTFOLIO | 95 |

### PRINTERS

| | |
|---|---|
| EPSON LQ2500 + S/F | 250 |
| AMSTRAD LQ5000 | 125 |
| HP THINKJET | 150 |
| HP LASERJET III | 750 |
| HP 7475A A3/A4 PLOTTER 8 PEN | 395 |
| STAR LC24-10 | 125 |
| CANON BJ10E | 195 |

### PORTABLES

| | |
|---|---|
| TOSHIBA T1100 512K LCD | 275 |
| TOSHIBA T1200 640K 20mb HD LCD | 750 |
| ZENITH SUPERSPORT 286 20mb LCD | 895 |
| ZENITH DD XT 640K | 395 |
| KAYPRO PORTABLE 10MB HD MONO | 195 |
| AMSTRAD PPC 640D | 350 |
| COMPAQ SLT 286 40mb HD VGA LCD | 1395 |
| IBM XT DD MONO LUGGABLE | 250 |

**ALL PRICES +VAT AND CARRIAGE** **STOCK CHANGING DAILY - PLEASE PHONE**

**WANTED URGENTLY** - AMSTRADS WITH COLOUR VGA, PCW'S, PPC'S, TOSHIBA PORTABLES, IBMS AND COMPATS WITH COLOUR VGA, 9 & 24 PIN PRINTERS, LASERS, PLOTTERS, ATARI ST's, AMIGA'S, ARCHIMEDES A3000. NATIONAL COLLECTION AND DELIVERY SERVICE - OPEN MON-FRI 9-5.30 SAT 10-1PM

# ELONEX

### PC-286M/12

286-12MHz, 1Mb, RAM, VGA COLOUR OR MONO, 3.5" FDD 40-300Mb, HD, MSDOS 4.01 WORKS 2, MOUSE.

***CALL FOR PRICES***

### PC-386SXM/16

386SX - 16MHz, 1Mb RAM VGA COLOUR OR MONO, 3.5" FDD, 40-300Mb, HD, MSDOS 4.01, WINDOWS 3, MOUSE

***CALL FOR PRICES***

### LT-386SX/P

386SX - 16MHz, 1Mb RAM VGA, GAS PLASMA DISPLAY, 40 OR 100Mb HD, CARRYING CASE WINDOWS 3, MSDOS 4.01 MOUSE

***CALL FOR PRICES***

### *SPECIAL OFFERS*

**SMALL BUSINESS SYSTEM**
PC286, 40MB, VGA MONO + PANASONIC KXP 1123 24 PIN **£845**

**LOW COST D.T.P. SYSTEM**
PC286, 40MB, VGA MONO, HP LASERJET IIIP 1MB + TIMEWORKS **£1449** OR WITH JETSETTER V5.1 **£1599**

**BEST SELLER**
PC386SX, 40MB 1MB, VGA COLOUR WINDOWS 3, + HP DESKJET 500 **£1299**

**PORTABLE POWER**
LT386SX/P, 40MB, 1MB, VGA GAS PLASMA DISPLAY + CANON BJ10E PRINTER **£1399**

### PC-386B/25

388-25MhZ, 2Mb, RAM, VGA COLOUR OR MONO 3.5" FDD 40-300Mb, HD, MSDOS 4.01 WINDOWS 3, MOUSE.

***CALL FOR PRICES***

### PC-386/33E

386 - 33MHz, 2Mb RAM, VGA COLOUR OR MONO, 3.5" FDD 100-1.2Gb HD, MSDOS 4.01 WINDOWS 3, MOUSE

***CALL FOR PRICES***

### PC-486B/25

486-25MHz, 4Mb RAM, VGA COLOUR OR MONO, 3.5" FDD WINDOWS 3, MSDOS 4.01

**DMR ELECTRONICS**
**UNIT 7, DRUMHILL WORKS, CLAYTON LANE, CLAYTON, BRADFORD, WEST YORKS, BD14 6RF**

**TEL: 0274 817889, 884266, 881308**
**LICENCED CREDIT BROKER**
**H.P. AVAILABLE CALL FOR DETAILS**
**FAX 0274 817023**

# Horsforth Computer Centre

**249 New Road Side, Horsforth, Leeds, LS18 4DR**

## Atari

520 STFM Discovery Pack inc 4 games, STOS, Neochrome, Basic, Free Weekend Break £249.00

520STE Turbo Pack inc 8 Games Joystick and Music Maker Software £329.00. 1/2 Meg Upgrade for STFM only £65.99 External Drive with built in PSU/Fuse £65.00

## Amiga

A501 Screen Gems Pack 4 Games, 1Mb RAM only £389.00 with Free Mouse Mat, 10 Disks, Disk Box and Dust Cover and Free Weekend Break. 1/2 Meg Upgrade without Clock only £31.00. External GVP 3.5 Disk Drive £62.50

## High Quality Bulk Disks

10 3.5" Disks £5.50
50 3.5" Disks £26.99
with Free 40 Cap Disk Box
100 3.5" Disks £49.99
with Free 80 Cap Disk Box
**Available in Red, Blue, Grey, White, Yellow or Orange.**

## PC

| | |
|---|---|
| 286 10MHz with Single Drive | £389 (+VAT) |
| PC Twin Joystick Card for XT, AT, 386 | £14.99 |
| PC Twin Joystick Card for XT only | £12.99 |
| PC Warrior Joystick | £14.50 |
| 1.44Mb 3.5" Teac Disk Drive | £55.00 |
| 1.2Mb 5.25: Teac Disk Drive | £60.00 |
| Sony Branded 3.5" HD (Box of 10) | £12.50 |

## Accessories

| | |
|---|---|
| 100 Cap 3.5" Disk Box Lockable | £6.99 |
| 80 Cap 3.5" Disk Box Lockable | £6.50 |
| 40 Cap 3.5" Disk Box Lockable | £4.75 |
| Posso Box 3.5" 150 Cap | £14.99 |
| High Quality Mouse Mats | £4.00 |
| Null Modem Cable to Link 2 Amigas/Ataris | £4.99 |
| Atari or Amiga Dust Cover | £3.99 |
| Zoomer Joystick for Flight Sims | £24.99 |
| ZY-FI Amplifier & Speakers for Amiga/Atari STE/Archimedes | £35.00 |
| Amiga/Atari Mouse | £15.99 |

**Tel: (0532) 590020**
**Fax: (0532) 590018**

We offer a free delivery on all orders over £50.00. Orders below £50 please add £2.50 P&P. Please make cheques payable to **TEC-NOL Ltd.**

# PD & SHAREWARE
## who do you get yours from?

BRITAINS No.1 PD Software

There are many PD libraries around but do they offer you....

- ☆ Huge collection, thousands of programs on over 3000 disks
- ☆ Same day service - 1st Class post - GUARANTEED
- ☆ Knowledgable staff on hand (no 'phone after six and ask for fred'!)
- ☆ Three years experience collecting and distributing PD & Shareware to satisfied customers all over the world.
- ☆ Send £1.00 for catalogue - free with order - please request and state MAKE of computer CLEARLY.

## AMIGA

currently over 800 disks in our catalogue, including Fred Fish, APDC, AMICUS, PanoramA etc. Our own SOF collection is so good other libraries stock them now and of course we are exclusive distributors of the fabulous UGA disks. All are auto-boot, menu driven and so very easy to use, probably the best collection available! We also run an Amiga Club, ask for details.

## ATARI ST

We currently stock over 800 disks full of PD/Shareware for these machines, containing every imaginable type of program! Choose from ALL the Public Domain, not just "a selection". If you are new to ST'ing why not join "Clubville", our popular user group, £6:50 gets you newsheets, offers, special prices on goods, 5% Off blanks/PD etc.

## IBM PC

(and compatibles)

Thousands of the most popular Public domain and Shareware programs in our current catalogue, all available on either 3.5" or 5.25" format, if ordering (opposite) state which. Whatever type of program you may require, we've probably got it.

MEGA PACK - £19:50 (£14:50)
5 PD disks + 5 blank disks
plus a Library case
(Selection of current popular titles),
INTRO DISK - £1:50
(Atari or Amiga only)
VIRUS KILLER DISK - £1:50
(state machine clearly)
(prices in brackets for 5.25" disks, state preferred)

24 Hour orderline on
**0705-266509**

**SOFTViLLE**
Unit 5, Stratfield Park,
Electra Avenue, Waterlooville,
Hants. PO7 7XN

# MITEK SYSTEMS

## MITEK 286/12

80286 Processor 12MHz Clock Speed
1Mb RAM (exp. to 4Mb)
44Mb Hard Disk (28ms access)
5.25" (1.2Mb) and 3.5" (1.44Mb) Floppies
VGA colour card with 1Mb on-board
Hi-Res VGA Colour Monitor (1024 x 768)
Parallel and Serial Ports
102 Key AT Keyboard
MS-DOS
On-Board Clock Calendar (Battery Backed)
Mini Tower Case
Full 1 Year On-Site Warranty

**£945.00**

## Mitek Systems

Auckland Business Centre
St Helens
Bishop Auckland
Co. Durham
DL14 9TX
Tel: (0388) 609318
Fax: (0388) 606393

## MITEK 386/16

80386 Processor 16 MHz Clock Speed
2Mb RAM (exp. to 8Mb)
44Mb Hard Disk (28ms access)
5.25" (1.2Mb) and 3.5" (1.44Mb) Floppies
VGA colour card with 1Mb on-board
Hi-Res VGA Colour Monitor (1024 x 768)
Parallel and Serial Ports
102 Key AT Keyboard
MS-DOS
On-Board Clock Calendar (Battery Backed)
Mini Tower Case
Full 1 Year On-Site Warranty

**£1195.00**

## MITEK 386/25

80386 Processor 25MHz Clock Speed
2Mb RAM (exp. to 8Mb)
100Mb Hard Disk (28ms access)
5.25" (1.2Mb) and 3.5" (1.44Mb) Floppies
VGA colour card with 1Mb on-board
Hi-Res VGA Colour Monitor (1024 x 768)
Parallel and Serial Ports
102 Key AT Keyboard
MS-DOS
On-Board Clock Calendar (Battery Backed)
Mini Tower Case
Full 1 Year On-Site Warranty

**£1745.00**

All prices exclude VAT and delivery

Please add £10 per item delivery

On-Site Warranty valid only on UK mainland.

Please allow 28 days delivery

Prices and specifications may change without prior notice and are correct at time of going to press. Goods are subject to availability and are supplied solely on the terms of MITEK SYSTEMS.

## MITEK 486/25

80486 Processor 25MHz Clock Speed
16Mb RAM
680Mb Hard Disk (28ms access)
5.25" (1.2Mb) and 3.5" (1.44Mb) Floppies
VGA colour card with 1Mb on-board
Hi-Res VGA Colour Monitor (1024 x 768)
Parallel and Serial Ports
102 Key AT Keyboard
MS-DOS
On-Board Clock Calendar (Battery Backed)
Mini Tower Case
Full 1 Year On-Site Warranty

**£4645.00**

# SEVENTH HEAVEN

**Over two years in development, the Apple Macintosh's new System 7 operating system has finally arrived. Ian Wrigley takes a close look at the front-end to end all front-ends...**

It's been a long, long time coming but Apple finally released System 7 to a waiting world this week. And the early indications are that it has been well worth the wait. Apple has made what many see as the decisive move in the user interface battle, guaranteeing that it will be years before the likes of Microsoft's Windows can claim to offer the same sort of functionality.

For until Windows appeared – and, realistically, until Windows 3.0 hit the scene – PCs could rightly be seen as coming a very poor second to the Mac in the user interface battle. Windows 3 changed that to some extent – Mac users still claimed that their machine's interface was far superior, but at least PC users had something to argue with. So, just how much better is System 7 than Apple's previous operating systems and is the Mac once more firmly at the forefront of the user interface race?

The first thing that you notice when booting up a Mac running System 7 is that the interface's visual look has changed somewhat. While not going overboard, the designers have decided on a semi-3D appearance, which make things like scroll bars and zoom boxes look much better than the old-style, black-and-white versions. Unfortunately, users of mono Macs – like the Classic, Plus and SE – will have to make do with the old look – the new appearance is only for those with greyscale or colour monitors. And, sadly, the new look does not extend as far as the dialogue boxes – they are just the same as they always were; at least, they are at present, although it's up to programmers to decide if they remain that way or if they will change to fit in better with the new look of the rest of the interface.

The Mac now permanently runs a new version of MultiFinder, called the Process Manager. MultiFinder was Apple's solution to some form of multi-tasking on the Mac, and was loved by some users and hated by others. The Process Manager is a far more sophisticated beast and allows a far higher degree of multi-tasking – but only for those programs which make use of its facilities, which means that those currently available are unlikely to multi-task any more than they do at present.

## UP UP AND AWAY

To fit in with the image of the Macintosh as a user-friendly machine, System 7 has something called 'Balloon help', which can be switched on at any time, simply by selecting a menu choice from an always-present icon on the menubar. When active, balloon help is context-sensitive: small 'speech bubbles' appear wherever your cursor points, telling you what each item does – not only menu choices, but also things like close and zoom buttons, scroll bars, the wastebasket and so on. New programs written to take advantage of System 7 will have support for balloon help built in, so that, for example, turning help on in a paint package will enable the user to point to the painting tools and get a description of exactly what each one does without having to resort to the manual all the time.

Some programs already implement a context-sensitive help system of this kind, but Balloon help will mean that all applications will, in future, implement help in the same way – another example of Apple's philosophy that all programs should appear as similar as possible to the user, to reduce the time spent learning a new application.

## GET CONNECTED

An area that Apple has targetted very strongly with System 7 is networking. This is an area where Macs have always been prominent – unlike PCs, which require an extra plug-in card to network together, Macs have a built-in network called LocalTalk. But until System 7, users had to use either free software such as Public Folder or Apple's own AppleShare software to take advantage of the networking. But now, each Macintosh on a network can appear to other users as a fileserver, meaning that files and even applications can be shared by any Mac on the network.

A Mac's user can decide which files or folders should be shared, and can allow only certain users to connect to them, password-protecting some or all of the files. And all this comes at no extra cost – Macs are automatically networked together simply by connecting them to a printer; there's no extra cable to buy, and no interface cards required.

## DATA TRANSFER

When the Macintosh first appeared, Cut and Paste were fairly radical concepts – suddenly, users could transfer data from one application to another without worrying about file compatibility and the like. System 7 takes this idea a step further with Publish and Subscribe – which can be likened to 'live Cut and Paste'.

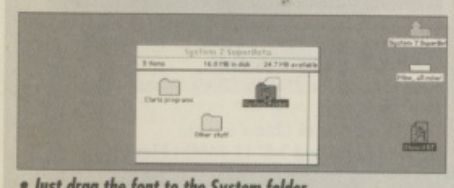
Rather than copying data from an application to the clipboard, a user can choose to 'publish' a selection of data from an application. Any other application which supports the protocols (and almost all new applications will) can then 'subscribe' to the data, which appears rather like it would if it were pasted from the clipboard. But if the data is changed in the publishing application, that change is echoed through to the subscribers, meaning that the data is always up to date. So, for

## INSTALLING FONTS

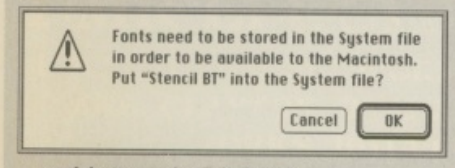
**One of the major complaints that Macintosh users have always had is that installing fonts is such a complicated business. You had to put the printer font loose into the System folder, along with the afm file if you had any applications which used it. Then came the nightmare of Font/DA mover: Would the font install, or would the Mac crash – sometimes damaging the System file itself so that it had to be re-installed?**

**System 7 cures all these problems with the introduction of a 'smart' system folder, an easier way of installing fonts, and best of all, the introduction of the new TrueType font technology. Installing fonts is now a simple, one-step process: just drag the font to the System folder, and the Mac will do the rest.**

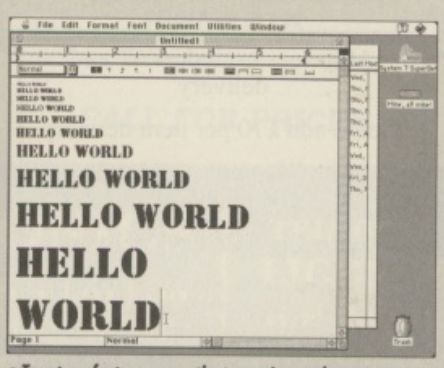
**If you are still using PostScript fonts, you also still need to put the printer fonts into your System folder, but you can at least put them into a sub-folder, keeping the System folder tidy.**



*• Just drag the font to the System folder...*



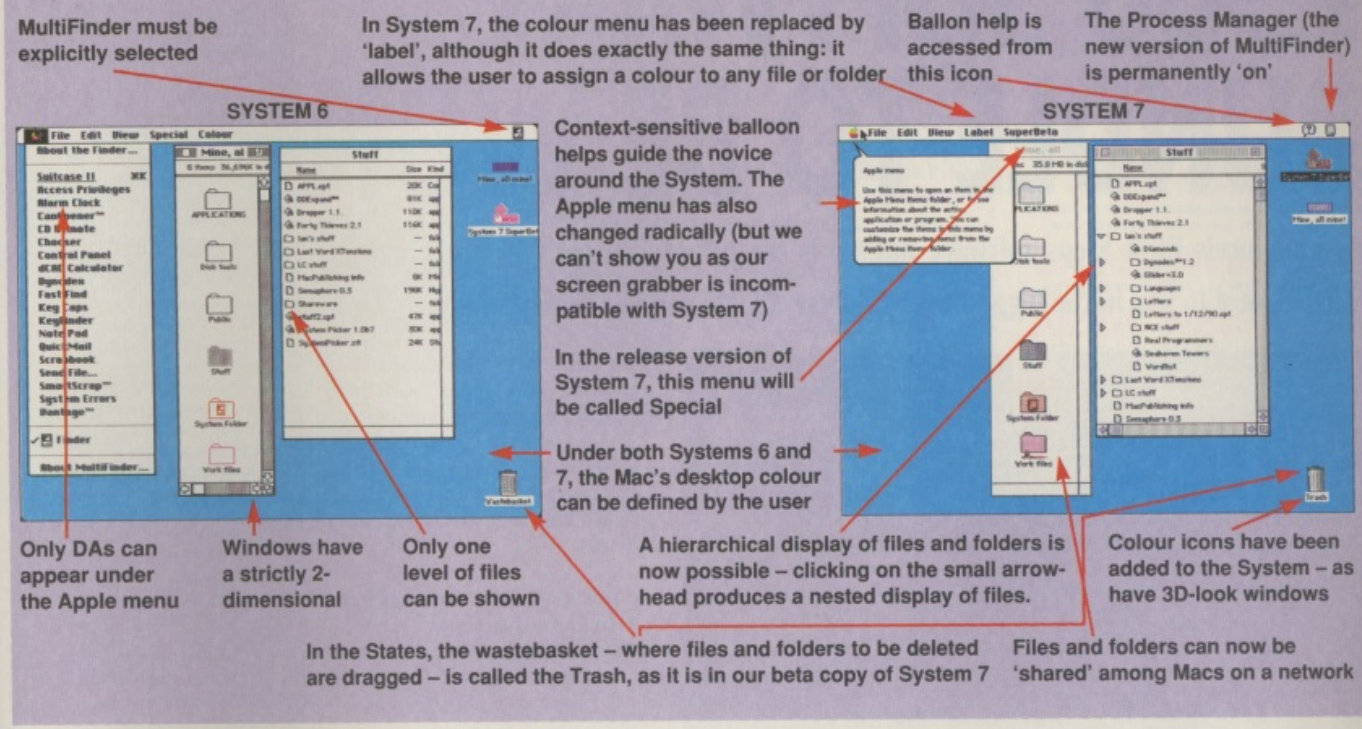

*• ...and the Macintosh will do the rest.*




*• True type fonts are smooth at any size on the screen...*

*• ...and smooth at any size when printed out.*

## SYSTEM 6 VERSUS SYSTEM 7




instance, if figures from a spreadsheet were subscribed to by a graphics program to create a pie chart of the values, then that pie chart would always be accurate – changing the numbers in the spreadsheet would change the pie chart. Microsoft says that it will produce a similar facility in the near future – probably in Windows 3.1 – but Apple has got there first. Indeed, there are already some applications using Publish and Subscribe – notably Claris' new programs. Developers are being urged to implement Publish and Subscribe in their new applications and to upgrade existing ones; it won't be long before the majority of applications use this system to share data.

### SMALL THINGS...

Some of the benefits of System 7 don't, at first glance, seem to be particularly spectacular. It's only after they have been used for some time that the true benefit becomes evident. For example, the Apple menu has changed radically. Whereas before only desk accessories could be accessed from the menu, now any application, file or folder can be set to appear in the menu, simply by placing it in the 'Apple menu items' folder. Also, desk accessories can now be launched simply by double-clicking on them – so there is no difference between DAs and applications as far as the user is concerned.

Any Mac with a memory management chip (which means most of them except the LC and the 'compact Macs' – Plus, SE, Classic and so on) can now take advantage of virtual memory. If you have a top-of-the-range Mac (a IIci or IIfx) and a large enough disk drive, you can fool your machine into thinking that it has a stunning four gigabytes of RAM to play with! For those with more modest needs, and a fair bit of hard disk space, a virtual 12 or 16Mb of RAM is no problem (although Apple recommends that you limit this at double your actual RAM size, so if you have a 4Mb Mac, don't set more than another 4Mb of virtual memory – because of speed considerations).

Even small things like the way lists of files are displayed have been improved. Any folder's contents can be displayed without actually opening another window, simply by clicking on the small arrow next to the folder; the display will then expand to show the contents of the folder.

### THE FUTURE

System 7 means that the Mac's user interface is unquestionably the best available for small computers (the NeXT machine doesn't really fall into the 'small computer' category). Windows has a long way to go before it can even equal the new standard set by Apple, while interfaces like those on the ST and Amiga are left well and truly in the shade.

And it doesn't stop there. Rumour has it that when asked about the progress of System 7 over the last few months, programmers at Apple's Cupertino headquarters replied: "System 7? Hell, we're working on System 8 already!" ■

## THE HISTORY OF SYSTEM 7 – AND WHAT'S NEXT?

System 7 was first announced over two years ago by Apple; since then its launch has been postponed numerous times due to 'technical difficulties' – indeed, few people actually believed the 13 May launch date until a few weeks ago when it became clear that Apple had announced the date to too many people for it to be postponed.

The programming is done by a team of software engineers at Apple's headquarters in Cupertino, California. The software teams are led by people known in Apple terminology as 'Software Evangelists'. Yes, this is a genuine job title, which dates from the days of Steve Jobs, Apple's co-founder, who wanted people to think of Apple and the Mac as 'a way of life', rather than just another company and product.

The release of System 7.0 is not, of course, the end of the story. The software teams will be spending the next few months tweaking the system as it goes through the inevitable releases 7.0.1, 7.0.2 and so on. Then attention will be turned to 7.1, which will contain a number of upgrades to features like Publish and Subscribe which will improve their functionality, as well as new features – one much-rumoured possibility is the inclusion of built-in electronic mail.

And, of course, System 8 is on the far horizon. Although not even officially acknowledged by Apple yet, it is inevitable that a new release of the System will occur at some time in the future. It's likely to be a couple of years before System 8 appears, but when it does it will contain features such as true, full multi-tasking and quite possibly built-in UNIX.

Watch this space for details...

## MACINTOSH JARGON

**APPLICATION:** programs are known as applications in Mac circles.

**DA:** short for Desk Accessory. A DA is a mini-application which, prior to System 7, could only be run by accessing it from the Apple menu. Typically, things like calculators were DAs, since they can be easily accessed while another program is running. To some extent, MultiFinder made DAs less necessary. In System 7, a DA can be run by double-clicking it, in the same way as any other application.

**DOCUMENT:** Mac-speak for 'file'. Any file created by an application is known as a document.

**FOLDER:** a folder on the Mac is the equivalent of a subdirectory on most other computers. Files, applications and other folders can be placed in folders.

**MULTIFINDER:** the Mac's solution to multi-tasking. When MultiFinder is running, more than one application can be open at once.

**WASTEBASKET:** files and folders are deleted by dragging them to the wastebasket. Then, when 'Empty wastebasket' is selected from the 'Special' menu, the file is deleted.

## COMPETITION

**WIN! WIN! WIN! WIN! WIN!**

# £500 SOFTWARE BUNDLE TO BE WON

**Commodore's First Steps software bundle is the prize on offer this week in your third chance to win in the biggest ever *Express* £5,000 software competition.**

Third time lucky, or so they say.This week's your third chance to have a go at the *Express* Commodore £5,000 giveaway. Take a third *First Step* with the software bundle from Commodore's *Class of the 90s* series.

*First Steps* is an integrated software bundle designed to offer a learning package that takes in productivity, applications and leisure. Although education is normally thought of as the domain of the youngsters, *First Steps* has something to offer whether you're nine or ninety.

Included in the pack is an emulator that allows the Amiga to run BBC educational software. Although running BBC software on a BBC must be a waste of the Amiga's potential, it allows access to the thousands of programs already at use in schools

There's Logo too, a graphic and list processing language that uses a turtle to teach drawing on the screen. This version can talk too interacting with the user.

*Music mouse* is a program that allows the user to produce complex musical arrangements using either the Amiga's internal sounds, samples or a full MIDI orchestra if you fit a MIDI interface and connect it to modules.

Putting prose to paper is handled by word processor *Pro Write*, with multiple font sizes and multi-task ability included.

*Infofile* is a database that comes with templates for many often used methods of storing data including accounts, phone book, addresses, etc.

Artistic ability is catered for with *Deluxe Paint II* and output to a printer can be enhanced by *Deluxe Print II*

Finally, a couple of tutoring packages offer a more structured approach to the educational side of *First Steps* and the package follows the requirements of the National Curriculum.

We're giving away thousands of pounds worth of *First Steps* over the next few months and to win this week's *First Steps* bundle (worth more than £500) all you have to do is answer the following questions and complete the tiebreaker.

Send your entry on the back of a postcard or envelope to: The *Express First Steps* Compo, 29 Monmouth Street, Bath BA1 2BW to arrive no later than 18 May 1991.

**1) What did O and A level stand for?**

a) 'Opeless and 'Arrassed
b) Only and Also
c) Oratory and Astignated
d) Ordinary and Advanced

**2) What computer language was used as the basis of the Amiga operating system's development?**

a) Basic
b) BCPL
c) C
d) Belgian

**3) What add-on could you use with a MIDI port?**

a) A MIDI hi-hfi system
b) A vacuum cleaner
c) A synthesiser or sound module
d) A digital steam iron

**4) What company is there a little of in all of us?**

a) Crosby Stills Nash and Young
b) Private Shop PLC
c) Palethorpe's sausages
d) Commodore

Complete the following in a humorous manner in no more than 12 words:

***The bit of Commodore in me is***

.....

## MAKE SURE YOU GET A COPY OF NEXT WEEK'S EXPRESS

**Complete this form and hand it to your newsagent**

**TO THE NEWSAGENT: Please reserve me ..... copy/copies of *New Computer Express* every week, beginning with issue 133, out on 16 May.**

**NAME** .....

**ADDRESS**.....

.....

**TELEPHONE NUMBER** .....

**To the newsagent : *New Computer Express* is published by Future Publishing and is available from your local wholesaler. Send back all your Future shop save coupons for entry in a free draw to: Kate Hodges, Future Publishing, 30 Monmouth Street, Bath BA1 2BW.**

## COMING NEXT THURSDAY

**24-BIT AMIGAS**
16.7 million colour cards compared

**Living Colour**
The top-notch SpectraStar wax transfer colour printer

**Queuing up for Quefax**
Direct fax from your PC or Mac

**PLUS**
- Hot news
- Front End
- Games Week
- Whole Wired World
- Tech Tips
- Circuit City
- Express On-line
- Express Mail
- The PD Column
- Programming
- Columns for: Amiga, Archimedes, CPC, C64, Macintosh,PC, Spectrum and ST

**AND**
**At Last - The winners of all the competitions**


NEW COMPUTER EXPRESS

EDITOR • Andy Storer
NEWS EDITOR • Tim Smith
TECHNICAL EDITOR • Keith Pomfret
PRODUCTION EDITOR • Julie Tolley
ART EDITOR • Amanda Cook
SUPPLEMENTS EDITOR • Colin Campbell
STAFF WRITER • Dave Golder
CONSULTANT EDITOR (GAMES) • Gary Penn

CONTRIBUTORS:
• Steve Gold • Jason Holborn
• Frank O'Connor • Hadyn Fitz-Williams
• Mary Branscombe • Robin Alway
• Ken Coumarin • Andrew Roberts
• Andy Hutchinson • Ian Wrigley
• Rod Lawton

CIRCULATION DIRECTOR • Sue Hartley
AD MANAGER • Helen Kirkhope
SENIOR AD EXECUTIVE • Cheryl Beesley
AD EXECUTIVES • Tim Partridge
• Siobhan Kennedy-Coyne
AD PRODUCTION • Frances Wasem
AD TYPESETTING • Terry Mackereth
PUBLISHER • Graeme Kidd
ABC audited circulation July-December 1990:20,204 copies per week
We regret we cannot enter into any personal correspondence. Technical enquiries should be addressed to Tech Tips at the address below. While every care is taken in the preparation of *New Computer Express*, Future Publishing cannot be held responsible for the consequences of any errors that may occur.
• Subscriptions: The Old Barn, Somerton, Somerset (0458) 74011
• Printed by Redwood Press, Melksham, Wilts
• Distributed in UK and Eire by Future Publishing (0225 442244), rest of world by Comag (0895 444055)

© Future Publishing Ltd 1991


**CONTACTS**
Tel: 0225 442244
Fax: 0225 482018
E-mail : CIX @ astorer
GOLD @ 84:TXT152
PRESTEL @011112623


### 'Your guarantee of value'

30 Monmouth Street, Bath BA1 2BW

This magazine comes from Future Publishing, a company founded just six years ago, but which now sells more computer magazines than any other publisher in Britain. We offer:

**Better advice.** Our titles are packed with tips, suggestions and explanatory features, written by the best in the business.

**Stronger reviews.** We have a cast-iron policy of editorial independence, and our reviews give clear buying recommendations.

**Clearer design.** You need solid information fast. So our designers highlight key elements by using charts, diagrams, summary boxes, annotated photographs, etc.

**More reader interaction.** We draw strongly on readers' contributions, resulting in the liveliest letters pages and the best reader tips. Buying one of our magazines is like joining a nationwide user group.

**Better value for money.** More pages, better quality: magazines you can trust.

Future PUBLISHING

*Home of Britain's finest computer magazines.*

**Amstrad Action • 8000 Plus • PC Plus**
**Amiga Format • ST Format**
**New Computer Express • Your Sinclair**
**Commodore Format • Sega Power**
**Amiga Power • Amiga Shopper**
**MacPublishing**

# CITIZEN PRINTERS

Silica presents some great offers on the award winning range of high quality dot matrix printers from Citizen. Each Citizen printer is built in the UK to exacting standards, ensuring superb reliability and a very high quality of output. Our confidence in the quality of Citizen printers is such that we are pleased to offer a unique two year guarantee with every printer. Plus, if you purchase your Citizen printer from us, we will give you a Silica Printer Starter Kit (worth £29.95), *FREE OF CHARGE!*

**FREE DELIVERY**
Next Day - Anywhere in the UK mainland

**FREE STARTER KIT**
Worth £29.95 - With every Citizen printer from Silica.

**FREE COLOUR KIT**
Worth £39.95 - With Swift 9 and Swift 24 printers.

**2 YEAR WARRANTY**
Silica offer a 2 year warranty (including the printer head) with every Citizen printer purchased from Silica.

**WINDOWS 3.0**
Free Windows 3.0 driver - In the Silica Starter Kit.

**FREE HELPLINE**
Technical support helpline open during office hours.

**MADE IN THE UK**
Citizen printers are manufactured to high standards.

## 144 CPS DRAFT 9 PIN

### CITIZEN 120D+

The Citizen 120D+ is one of the UK's best selling printers. It has a stylish appearance and excellent features and performance for such an inexpensive printer. The 120D+ is available with either a serial or parallel interface and is an ideal first printer.

- *9-pin Printhead*
- *Print Speed 144cps Draft*
- *30cps NLQ*
- *Epson & IBM Graphics Emulation*
- *Pull Tractor & Bottom Feed*
- *Superior Graphics - 240x216dpi*
- *FREE Starter Kit*

RRP ..... £233.83
STARTER KIT ..... £29.95
*TOTAL RRP:* £263.78
*SAVING:* £112.20
***SILICA PRICE:*** **£151.58**

**£129** +VAT = £151.58

## 144 CPS DRAFT 24 PIN

### CITIZEN 124D

The award winning Citizen 124D brings high quality 24-pin dot matrix printing within every computer users reach. It is the ideal choice where high quality printing is required at a budget price.

- *24-pin Impact Printer*
- *Print Speed 144cps Draft*
- *2 LQ Fonts (48cps)*
- *8K Buffer*
- *Epson, IBM & NEC P6+ Emulation*
- *Advanced Paper Parking*
- *Superior Graphics - 360x360dpi*
- *FREE Starter Kit*

RRP ..... £292.58
STARTER KIT ..... £29.95
*TOTAL RRP:* £322.53
*SAVING:* £112.20
***SILICA PRICE:*** **£210.33**

**£179** +VAT = £210.33

## 192 CPS DRAFT 9 PIN

### SWIFT 9 - COLOUR!

The Citizen Swift 9 is perfect for those who require high quality dot matrix black or colour printing at a budget price. The print quality of Swift 9 rivals that of other manufacturer's 24-pin models.

- *9-pin Impact Printer*
- *Print Speed 192cps Draft*
- *3 NLQ Fonts (48cps)*
- *8K Buffer*
- *Epson & IBM Graphics Emulation*
- *Advanced Paper Parking*
- *FREE Starter Kit*
- *FREE Colour Kit*

**FREE! COLOUR KIT**

RRP ..... £280.83
STARTER KIT ..... £29.95
COLOUR KIT ..... £44.65
*TOTAL RRP:* £355.43
*SAVING:* £133.35
***SILICA PRICE:*** **£222.08**

**£189** +VAT = £222.08

## 192 CPS DRAFT 24 PIN

### SWIFT 24 - COLOUR!

The Citizen Swift 24 is one of Europe's best selling printers and has won awards including Printer Of The Year 1990. Its rapid print speed, quality and black or colour options, make it a natural choice.

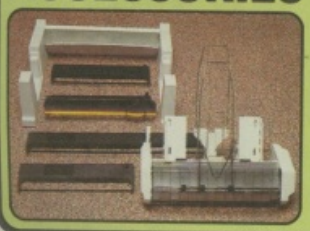
- *24-pin Impact Printer*
- *Print Speed 192cps Draft*
- *4 NLQ Fonts (64cps)*
- *8K Buffer*
- *Epson, IBM & NEC P6+ Emulation*
- *Advanced Paper Parking*
- *FREE Starter Kit*
- *FREE Colour Kit*

**FREE! COLOUR KIT**

RRP ..... £428.88
STARTER KIT ..... £29.95
COLOUR KIT ..... £44.65
*TOTAL RRP:* £503.48
*SAVING:* £199.15
***SILICA PRICE:*** **£304.33**

**£259** +VAT=£304.33

## PRINTER ACCESSORIES



***SHEET FEEDERS***

PRA1200 120D ..... £71.38
PRA1215 124D/Swift 9/24 ..... £88.70
PRA1228 124D/Swift 9/24 ..... £42.00

***SERIAL INTERFACES***

PRA1189 120D+ ..... £56.45
PRA1209 Swift 9/124D ..... £32.25
PRA1709 Swift 24 ..... £26.38

***PRINTER STAND***

PRA1242 124D/Swift 9/24 ..... £24.03

***ORIGINAL RIBBONS***

RIB 3520 120D/Swift 9 Black ..... £4.11
RIB 3924 124D/Swift 24 Black ..... £4.70
RIB 3936 Swift 9/24 Colour ..... £15.63

***COLOUR KITS***

PRA1236 Swift 9/24 ..... £39.65

All prices include VAT and Free delivery.

## FREE! STARTER KIT

Every Citizen printer from Silica, comes complete with the Silica Printer Starter Kit, including everything you need to get up and running with your new printer immediately, FREE OF CHARGE!

- *3½" Dual Format Disk with Amiga & ST Printer Drivers*
- *3½" Disk with Drivers for Microsoft Windows 3*
- *2 Metre Parallel Printer Cable*
- *200 Sheets of High Quality Continuous Paper*
- *200 Continuous Address Labels on Tractor Feed*
- *5 Continuous Envelopes on Tractor Feed*

If you already own a printer, and would like a Silica Printer Starter Kit, you may order one (ref: KIT 5000) for the special Silica price of £24.95 - £5 off RRP!

NORMAL RRP **£29.95**

## SILICA SYSTEMS OFFERS YOU

- ***FREE OVERNIGHT COURIER DELIVERY:*** On all hardware orders shipped in the UK.
- ***TECHNICAL SUPPORT HELPLINE:*** Team of PC technical experts at your service.
- ***PRICE MATCH:*** We normally match competitors on a "Same product - Same price" basis.
- ***ESTABLISHED 12 YEARS:*** Proven track record in professional computer sales.
- ***£13M TURNOVER (with 60 staff):*** Solid and reliable with maintained growth.
- ***BUSINESS/EDUCATION/GOVERNMENT:*** Volume discounts available for large orders.
- ***SHOWROOMS:*** Demonstration and training facilities at our London & Sidcup branches.
- ***THE FULL STOCK RANGE:*** All of your PC requirements from one supplier.
- ***FREE CATALOGUES:*** Will be mailed to you with offers and software/peripheral details.
- ***PAYMENT:*** By cash, cheque and all major credit cards.

Before you decide when to buy your new printer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals or software, or some technical help and advice. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. Silica Systems is one of the UKs leading independent computer dealers and provides a quality service to users at home, in education and in business throughout the nation. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now, for our latest Free literature on the Citizen printer range and begin to experience the "Silica Systems Service".

SILICA SYSTEMS

| | | | |
|---|---|---|---|
| **MAIL ORDER:** | 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX | **Tel: 081-309 1111** | |
| Order Lines Open: Mon-Sat 9.00am-6.00pm | No Late Night Opening | Fax No: 081-308 0608 | |
| **LONDON SHOP:** | 52 Tottenham Court Road, London, W1P 0BA | **Tel: 071-580 4000** | |
| Opening Hours: Mon-Sat 9.30am-6.00pm | No Late Night Opening | Fax No: 071-323 4737 | |
| **LONDON SHOP:** | Selfridges (1st Floor), Oxford Street, London, W1A 1AB | **Tel: 071-629 1234** | |
| Opening Hours: Mon-Sat 9.30am-6.00pm | Late Night: Thursday until 8pm | Extension: 3914 | |
| **SIDCUP SHOP:** | 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX | **Tel: 081-302 8811** | |
| Opening Hours: Mon-Sat 9.00am-5.30pm | Late Night: Friday until 7pm | Fax No: 081-309 0017 | |

To: Silica Systems, Dept NCE 0591 - 55, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

**PLEASE SEND CITIZEN PRINTER INFORMATION**

Mr/Mrs/Ms: ..... Initials: ..... Surname: .....

Address: .....

.....

..... Postcode: .....

Tel (Home): ..... Tel (Work): .....

Company Name (if applicable): .....

Which computer(s), if any, do you own? .....

E&OE - Advertised prices and specifications may change - Please return the coupon for the latest information.

# VIZ

## THE COMPUTER GAME.

Available On:

| | |
|---|---|
| Amiga | £19.99 |
| Atari ST | £19.99 |
| CBM 64 Cass | £9.99 |
| CBM 64 Disk | £14,99 |
| Spectrum Cass | £9.99 |
| Spectrum Disk | £14.99 |
| Amstrad Cass | £9.99 |
| Amstrad Disk | £14.99 |

Spectrum & Amstrad versions out now!

Virgin GAMES

© 1991 Virgin Mastertronic and John Brown Publishing/House of Viz