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NEW COMPUTER EXPRESS

BRITAIN'S BIGGEST SELLING COMPUTER WEEKLY

AMIGA

- A brace of samplers
- 16 million colours!
- Mouse with no tail

ST

- Software for sounds
- Going to the dogs
- Twin World action

PC

- Budget CD-ROM PC?
- £159 portable printer
- Sub-£2K SX portable

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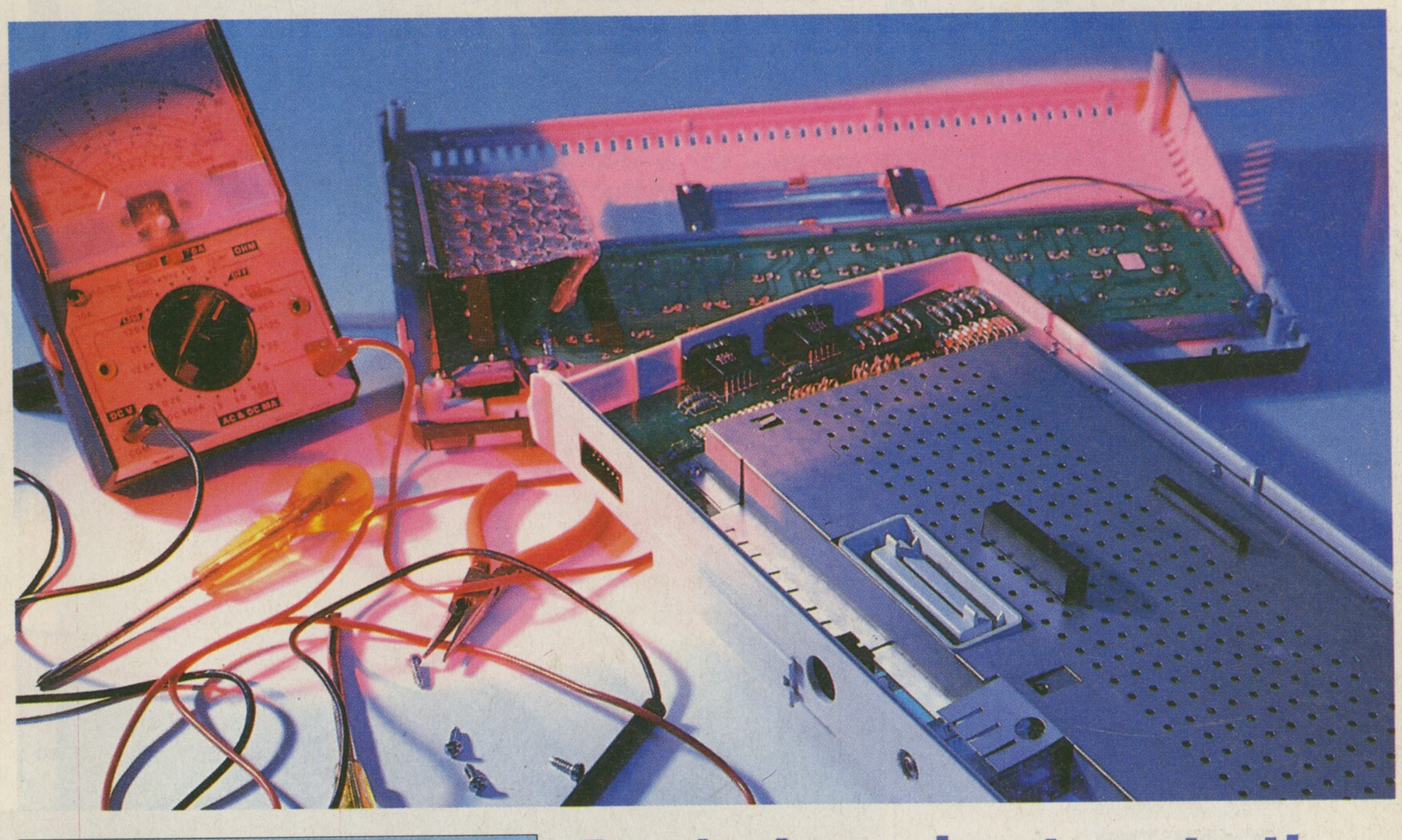
BBC•C64•MSX ATARI XE•CPC SPECTRUM•QL

SPECIALIST COLUMNS

GET YOUR ACT TOGETHER!

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BROKEN BY BOXING DAY?



HAPPY NEW YEAR

The leading launches that will get the 1990s off with a bang page 62

Don't despair – turn to the Express in-depth guide to first aid treatment for your Christmas casualties page 56

50 ST ESSENTIALS

Read Shopping Express for 32 pages of Britain's best computer bargains

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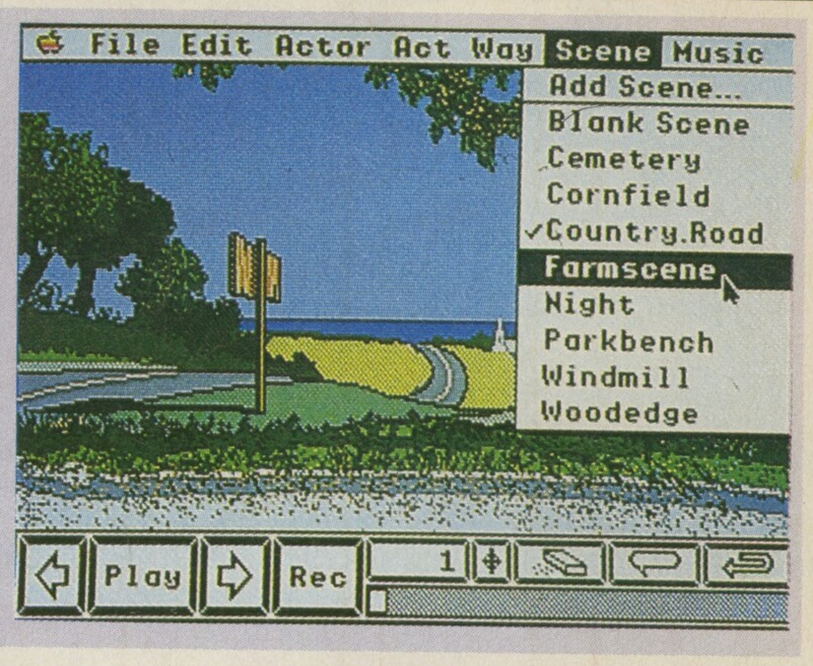
Cartoon time

Kids love watching cartoons, and now they can create their own colourful characters.

Electronic Arts is to launch *Cartooners* for the PC which is aimed for an audience aged from 6 to 12. The program is a cartoon studio with which users can create and animate cartoon stories together with musical accompaniments.

Users can choose from over 40 characters such as dogs, cats or bunnies, all of which can be animated an a variety of ways. Speech balloons can also be applied.

EA says the program is a lot of fun and can motivate youngsters to express themselves. *Cartooners* is compatible with *DeluxePaint* and *DeluxePaint II* and costs £24.99.



• *Cartooners*: (right):creative fun for the kids

LOW COST CD-ROM PC

Philips – the originator of the compact disc – is pondering bringing a low-cost CD-ROM PC into the UK at the end of this year.

Its US subsidiary, Headstart Technologies, is already marketing such a machine in the US. Reports that the Headstart PC will arrive in the UK later this year for as little as £500 were being described as 'premature' by Philips, although the firm admitted that it was contemplating a launch in the near future.

Philips says it is looking at the possibility of bringing the Headstart range over here or at a mysterious 'other PC' based on CD technology.

The Headstart range consists of two machines. The first comes with a CD-ROM drive, a standard 3.5-inch drive and a basic 8088 chip. It costs $2,000 in the US. The second III-CD machine is 286 based and comes with 1Mb of RAM expandable to 3Mb.

They are both bundled with a number of CD-ROMs and magnetic-based programs including *Office Manager* and *Publish-It*.

Headstart's executive vice-president Peter Rijnierse told trade paper *Computer Trade Weekly* that the machine would be here within the year. Philips has responded cautiously to this, saying Rijnierse was "speaking out of turn".



• *Philips PC: CD-ROM on the cheap*

Buyers of a CD-ROM PC can expect to hold large databases of information based on anything from business rivals to the *Guinness Book of Records*.

Sales of CD-ROM software are expected to take off during 1990.



• *Portable printing from ASD*

Printing on the move

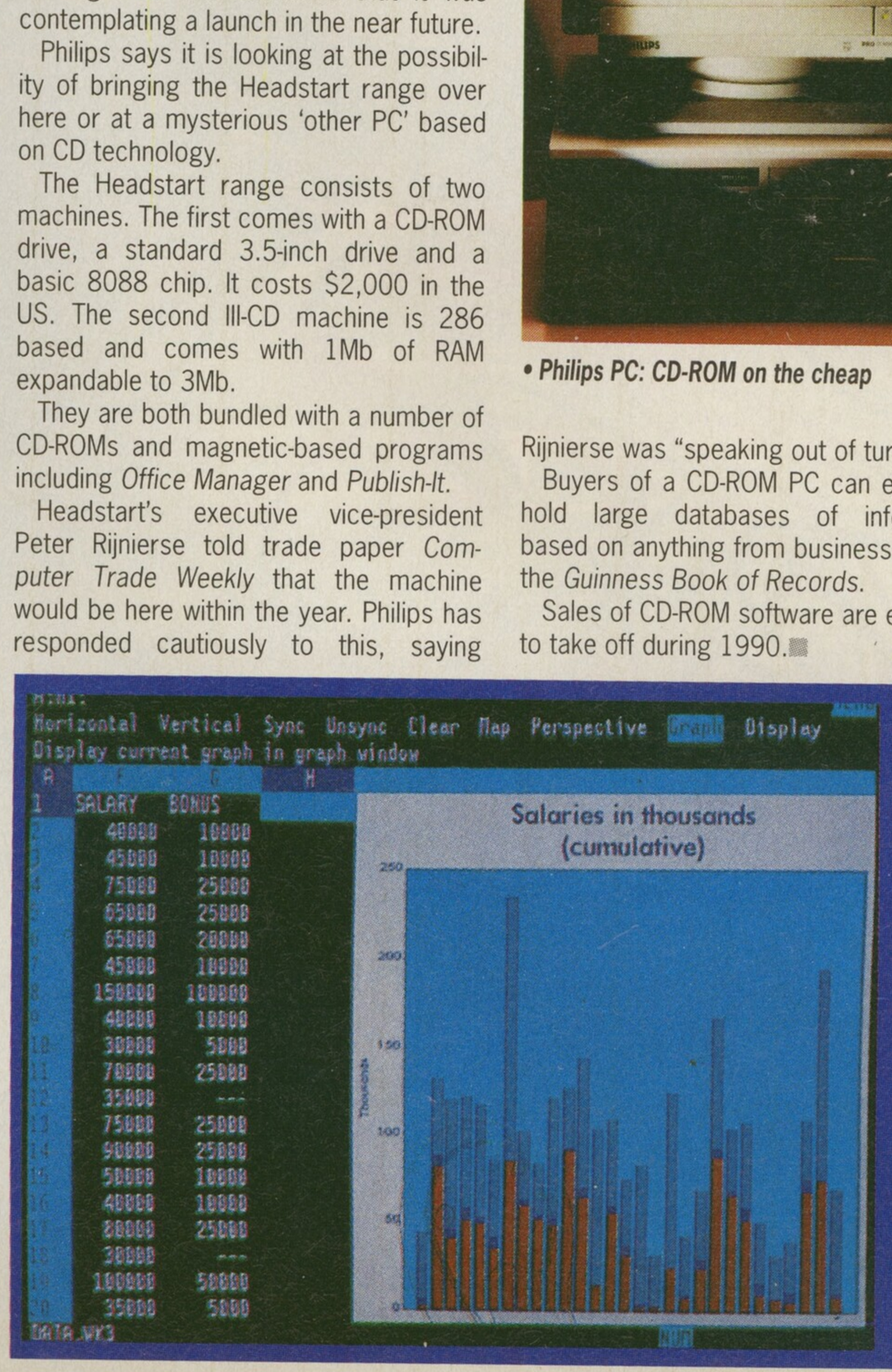
If you need to produce hard copy while on the move then you might be thinking of getting your hands on a portable printer.

Applied Systems Development will this week release just such a device with a price tag of £159. It can run by battery, mains or from a car cigarette lighter and weighs just under three pounds. ASD says it won't bother any fellow passengers because it is "almost totally silent", running at 56 decibels.

It's about the size of a small box of Milk Tray and runs at 80 characters per second. There's a mains-only version available which costs £99.

The printer is a thermal device and will connect to most computers via a parallel interface.

Call Applied Development Systems on 0724 280222 for more details.



Lotus 1-2-3 gets networked

High-powered accountants will be pleased to learn that a network version of Lotus *1-2-3* Release 3 has been launched.

1-2-3 is one of the most popular software packages in the world, and demand for this 3D spreadsheet is expected to be high. Number crunching users can benefit by sharing data on a network. "Everyone can do more work with less effort," says Lotus.

The server edition costs £550 with nodes retailing at £315.

Lotus *1-2-3* is recognised as the industry-standard spreadsheet, and virtuaally all other programs are compatible with it.

Programmers who ignore Atari guidelines hit compatibility problems

ATARI WARNING AFTER DOUBLE STE PROBLEM



Atari has urged software developers to stick to its strict technical guidelines when writing for the new STE, following compatibility problems with two major titles.

Ocean's *New Zealand Story* and Mandarin's games creator *STOS* have been found to be incompatible with the upgraded ST. Atari wants to iron out all problems as soon as possible and has urged software developers to not to attempt any programming short cuts.

It has emerged that Ocean's hit *New Zealand Story* would not run on the STE. The machine was first sold in France and Ocean managed to change the program before the STE hit the UK. Sources suggest it was the programming of the protection which had snagged on the STE, although no-one at the firm was available for comment.

And Mandarin has been forced to move quickly with its popular program *STOS*. Neither the basic program nor games created under it will run on the STE.

Mandarin's Peter Lee told *Express:* "We found out the problem and had to go back to the author Francois Leionet. He sat down and put everything right. We don't really know where the problem was. It was all really in the head of the game's programmer."

Lee said that any users who find problems should send their disks back to be re-adjusted. He also said that all new stocks of the game will be fully compatible with the STE.

MEMORY MAP

Atari's software development manager Bob Katz told *Express:* "The main worry is that programmers aren't writing to the ROM which is now larger, and it is in a different place in the memory map. But we've told them about that.

"If the programmers have written to our specifications then there won't be any problems. We've done everything we can in terms of giving out information.

"We know of a few programs where there have been problems but it's up to the publishers to sort them out. Ocean found the problem with *New Zealand Story* and acted commendably quickly to sort it out."

Katz would not comment on suggestions that many public domain programs, quirky desktop utilities and demos which had been written for the ST would not work for the STE.

Writers of public domain software are notorious for taking short cuts which could be incompatible with the STE's operating system.

He said: "We're sure it will only affect a small number of programs. Writers of PD have access to technical information through third party sources."

Mike Goodman of Goodman PD is currently testing all his PD selection on an STE. He claims that up to 60 per cent of free programs like the Carebears' demo could be incompatible.

A spokesman for Atari stressed that the STFM and the STE are "One hundred per cent compatible".

What's it all about?

In the past, authors of ST software may have found ways of improving the performance of their programs or speeding them up by deviating from Atari's official technical specifation. While these programs have run perfectly on previous versions of the ST they might have problems with the upgraded versions of the machine.

Atari has always been keen to dissuade programmers from using their own short cuts because of the dangers of them showing up on upgrades to the machine. However, many software developers, especialy those without commitments to large companies (such as public domain writers) will ignore these warnings.

If you have had any problems write to *Express* at our new address: *New Computer Express*, 30 Monmouth Street, Bath, Avon BA1 2AP.

The Joker is a virus and Batman is the antidote

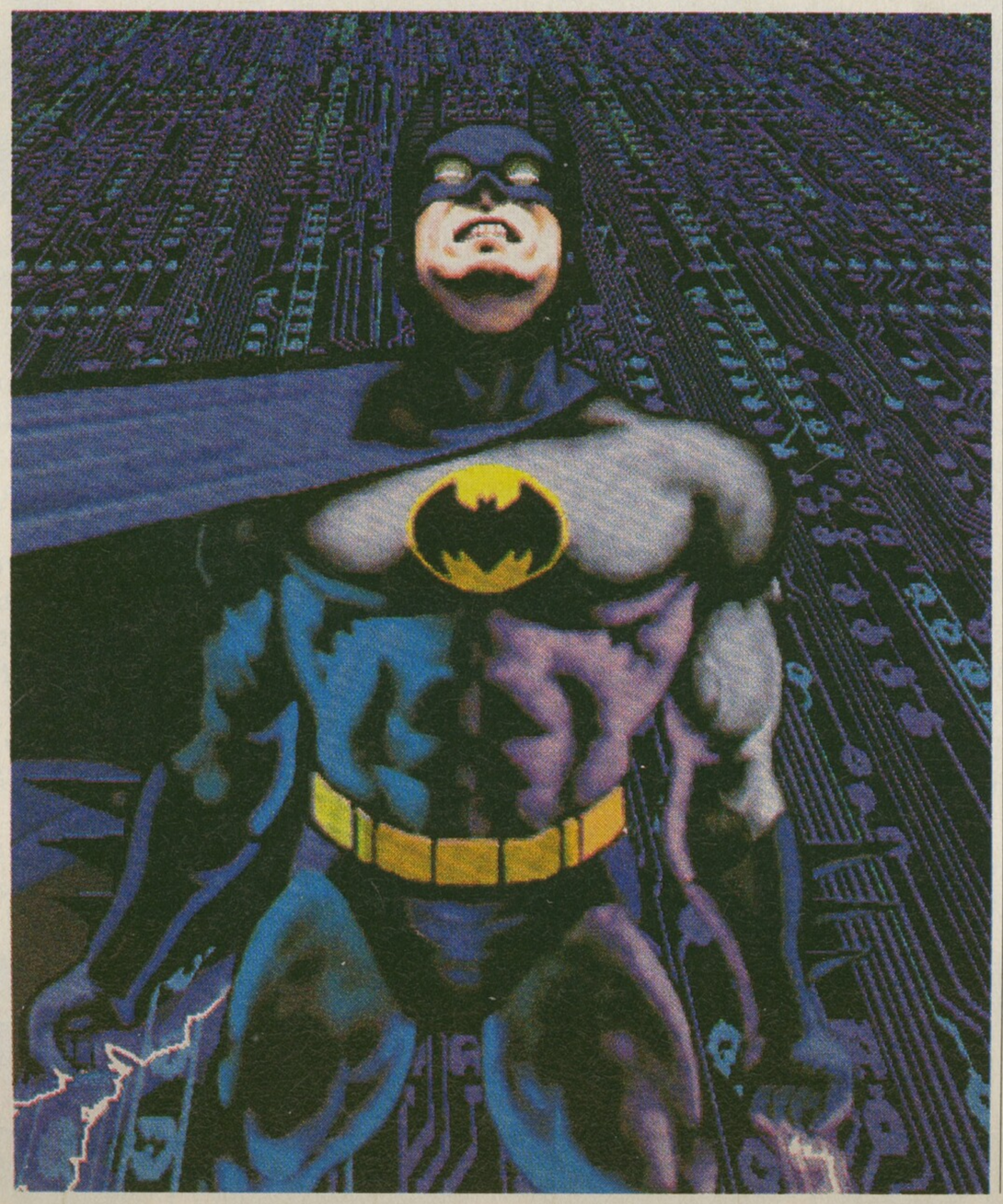
A new comic is to be launched which follows a new Batman and a new set of villains. *Batman: Digital Justice* is set in a computer and all the characters are computer generated (pictures below and right).

The first issue of *Batman: Digital Justice* will be launched in February and comes from DC Comics.

The storyline centres around The Joker, a computer virus which controls the cyberspace world. His enemy is an antidote program, Batman.

The comic itself will be put together on Macintosh computers using 3-D imaging and high resolution graphics.





Chess man loses at last

International chess master David Levy's attempt to beat the world's strongest chess playing computer Deep Thought has ended in failure.

Levy was thoroughly beaten four to nothing by the extraordinary machine. But Levy still says that computers will not be able to beat all men at chess for at least 25 years.

"I expected to lose because it's a very strong player," said Levy. "It's beaten three international grandmasters."

However, Deep Thought lost to World Champion Gary Kasparov last November in 52 moves.

Levy explained: "The thing about chess is that it's hard to become good, but it gets even harder to get better at the top. I think it will be at least 25 years before Deep Thought's successor can beat every player in the world."

Levy has been involved in computer chess since the 1960s. In 1969 he said that it would take 10 years for a computer to beat him. In the event it took 20 years.

Deep Thought is a dedicated chess playing computer which can think through 720,000 possible moves every second. The team behind Deep Thought are working on a machine which can analyse a billion moves per second.

ANNOUNCING THE NEXT GENERATION OF PBP GAMES

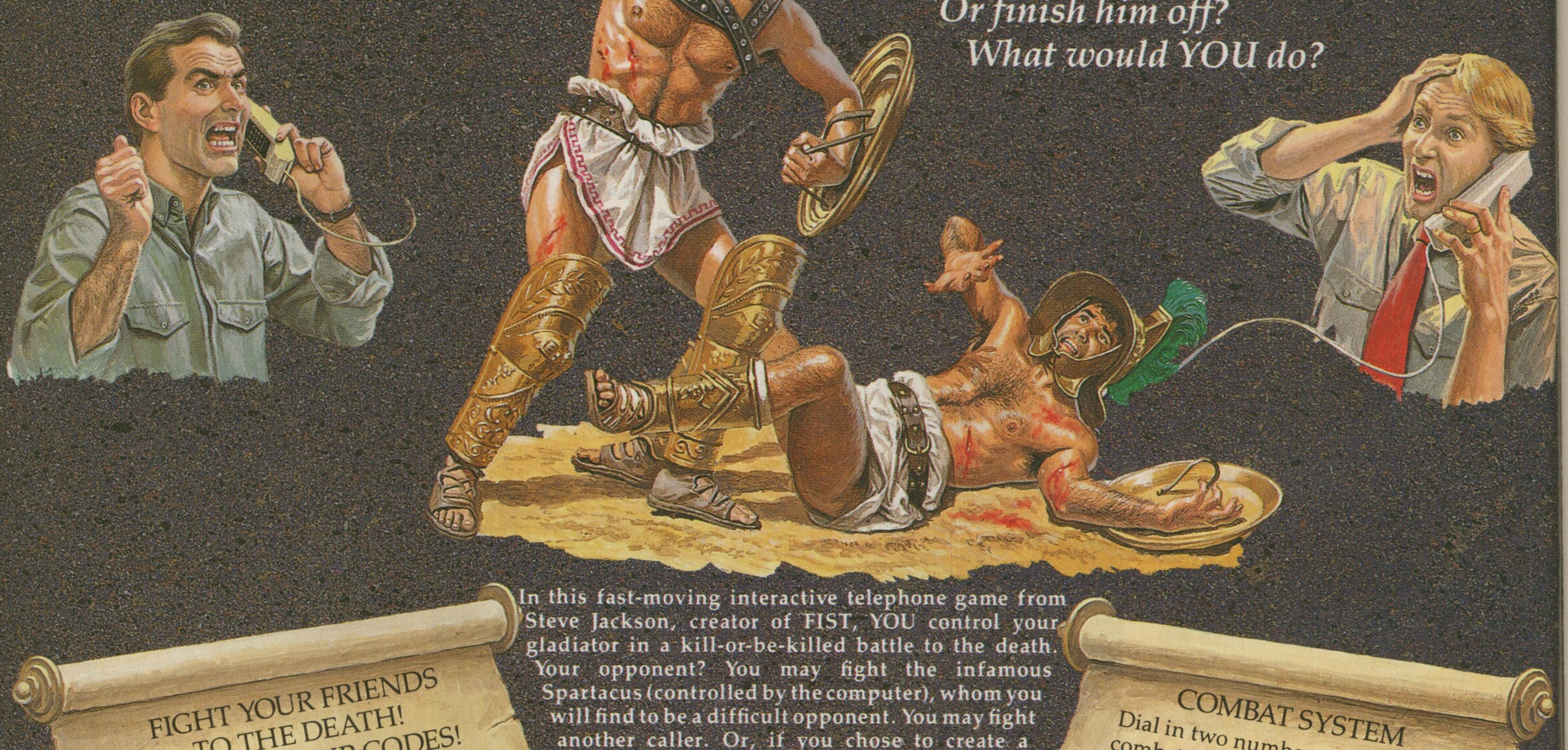
STEVE JACKSON'S

GLADIATORS

OF THE ROMAN EMPIRE

Your opponent falls!
He's badly wounded!
He can't continue!
Yes! HABET!

He holds his finger up
in a plea for mercy!
The choice is yours.
Spare his life?
Or finish him off?
What would YOU do?



In this fast-moving interactive telephone game from Steve Jackson, creator of FIST, YOU control your gladiator in a kill-or-be-killed battle to the death. Your opponent? You may fight the infamous Spartacus (controlled by the computer), whom you will find to be a difficult opponent. You may fight another caller. Or, if you chose to create a Match-Up Code, you may even fight a friend who has arranged to call in at the same time! Your instructions – which body area you wish to attack and which you will defend – will be carried out faithfully by your gladiator. And you will HEAR the moans, the screams and the roar of the crowd as sword meets flesh! The game couldn't be simpler to understand. First choose your gladiator from an authentic list of real gladiators from history. Then enter the arena....

FIGHT YOUR FRIENDS TO THE DEATH! USE MATCH-UP CODES!

If you wish to fight a friend through the *Gladiators of the Roman Empire* computer, you must first of all:

- Decide a 4-figure *Match-Up Code* between you. A number you will both remember.
- Arrange to dial in at the same time.

As you enter the game, you can enter your Match-Up Code. If you do so, you will ONLY fight an opponent with the same Code.

So settle your differences in the noble way in a battle to the death in the arena!

COMBAT SYSTEM

Dial in two numbers from 1-4 each combat round to represent where you will attack and defend. 1-2-3-4 equals Head-Body-Arms-Legs. The computer does the rest. Listen to the commentary to find out whether your attack was successful. Hint: The area you choose to defend is not the only area you guard. You will also defend one of the two adjacent areas as well.



0898-800-891

Calls charged at 25p per minute cheap, and 38p per minute other times. Computerdial Ltd, 7 Leapale Road, Guildford

Board and art package turn ST graphics professional

By JASON HOLBORN

SOL Research have announced the release of their *Chimera f(x)* professional art package for use with Elmtech's revolutionary ParSec graphics board for the Atari ST.

Chimera provides an easy-to-use, icon-orientated user environment, similar to a 2D CAD system, for the manipulation of images (or parts of images) as structured objects. *Chimera* is designed to grow as your needs grow with the addition of add-on modules. Planned for future release are animation, ray-tracing and fractal graphic generation modules.

To make your works of art more realistic, *Chimera* offers realistic painting tools such as oils, chalks, pencils, water colours, crayons and different paper textures. The system offers fine control of painting operations, such as allowing the adjustment of the pressure, texture and angle of a brush.

The system supports many different file formats including standard ST *Neochrome*, *CyberSculpt* and even Amiga IFF. Also due for future release this year is a genlock upgrade module to include Chromakey colour separation overlay and tracking of moving images.

New From Elmtec themselves is the new budget priced ParSec 4768 graphics card which offers variable screen resolutions of up to 1,024 by 768, with a maximum palette of 4,096 colours. The board offers blindingly-fast operation, such as 50 million bits per second on horizontal fill operations, 25Mbits/sec on blit move operations etc. To help you get started, the 4768 comes as standard with an art package.

For professionals, Elmtec also offer both the ParSec 8768-8 and 8768-16 graphics card. The 8768-8 is a cut down version of the 8768-16 which offers 256 colours on-screen from a palette of 16 million colours. The 8768-16 offers 32,768 on-screen colours with display memory ranging from 1.5Mb (for the 8768-8) to 2.2Mb (for the 8768-16).

The Elmtech boards include a whole range of backup software packages such as *Topaz*, a GEM emulator, a C compiler and an assembler. Both SOL and Elmtech can be contacted on 021-472 5719.

GAMES OF THE YEAR: THE INDUSTRY AWARDS

The backslapping and mumbled speeches were still going on at the annual industry awards celebration long after most people wished they were snuggled up in bed

Every year lots of the games industry's 'decision makers' assemble to get drunk and make fools of themselves. They also decide which games had been outstanding over the previous 12 months.

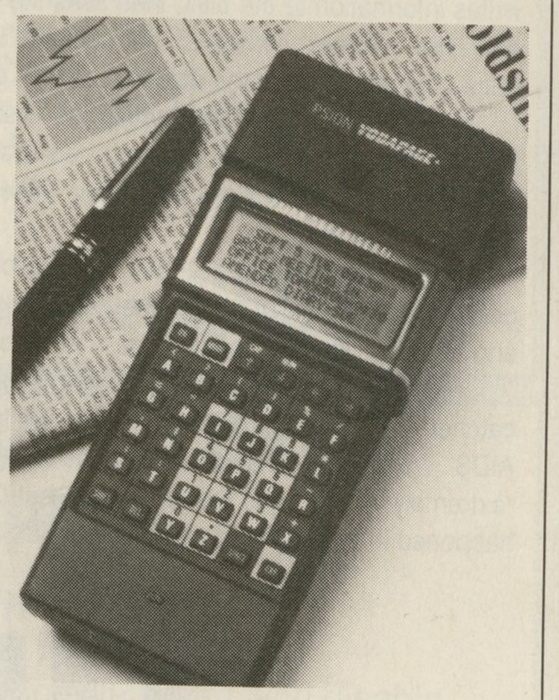
Curiously, there's no simple award for Best Game of the Year. Everything had been split into sub-sections. But the standing ovation for Anco's managing director, Anil Gupta, when he received Best 16-bit Arcade Game for the brilliant *Kick Off* left most convinced that, had the organisers thought of arranging such an award, that game would have won.



• Kick Off: *award winner*

THOSE WINNERS IN FULL

CATEGORY	WINNER	PUBLISHER
Budget 8-bit	Postman Pat	Alternative
Budget 16-bit	Super Grid Runner	Llamasoft
Adventure 8-bit	Times of Lore	Origin
Adventure 16-bit	Indiana Jones III	US Gold
Simulation 8-bit	Stunt Car Racer	MicroProse
Simulation 16-bit	Falcon	Mirrorsoft
Arcade licence translation 8-bit	Chase HQ	Ocean
Arcade licence translation 16-bit	Operation Thunderbolt	Ocean
Arcade game 8-bit	Untouchables	Ocean
Arcade game 16-bit	Kick Off	Anco
Overseas award	Future Wars	Delphin
Sound and music 8-bit	Turbo Out Run	US Gold
Sound and music 16-bit	Xenon II	Mirrorsoft
Graphics 8-bit	Myth	System 3
Graphics 16-bit	Fiendish Freddie	Mindscape
Translation of non-arcade licence 8-bit	Batman	Ocean
Translation of non-arcade licence 16-bit	Batman	Ocean
Programming award	Bullfrog for Populous	
Originality award 8-bit	Myth	System 3
Originality award 16-bit	Populous	EA
Best advertisement	Fiendish Freddie	Mindscape
Best software house	Ocean	



• *Organiser: driving force*

Psion's on the road

A British route finder is to be released this week for the hand-held Psion Organiser. Astonishingly, the whole thing has been squeezed onto a 64K EPROM.

Routewise from Titan Software includes 250,000 different routes and will help users to travel from anywhere in the British Isles to anywhere else. Drivers can also print out a hard copy of the instructions to guide them on their cross-country trip.

To fit such a large amount of information onto a tiny EPROM is an extraordinary feat of compression.

The program costs £49.95, and the company is running a special offer to *Express* readers whereby you get £5 off if you are one of the first 50 to send in an *Express* logo.

"It's taken us a year to get it on such a small EPROM," said Titan's managing director Glenn Muller. "Psion wanted to buy it from us and sell it themselves but we decided to go it alone."

Call Titan on 0274 544586.

Action on hackers soon

The Government has confirmed that it intends legislating against computer hacking "as soon as the opportunity arises".

Since such a bill was not included in the Government's yearly agenda announced in the autumn, there have been more calls for action. The Government has been criticised by industry bodies, MPs and much of the press.

Trade and industry minister Eric Forth has said that he is convinced that law should be passed. Legislation will be based on the Law Commission's report.

Euro supercomputer ready

After years of research, Esprit, Europe's information technology research programme, is ready to show its Supernode supercomputer.

The machine has computational power the equal of the Cray, yet at a price measured in thousands instead of millions of of pounds.

Developed by a combined British-French research group, the Supernode machine is Europe's answer to the Japanese national project to develop the first fifth generation computer. Supernode deals with concepts and ideas rather than numbers to perform its computation and its success has given Europe a significant lead over America and Japan.

At the heart of Supernode is a series of 64 nodes each consisting of 18 transputers. When communicating together, these nodes provide a power quotient which equals – in many cases surpasses – supercomputers from other countries.

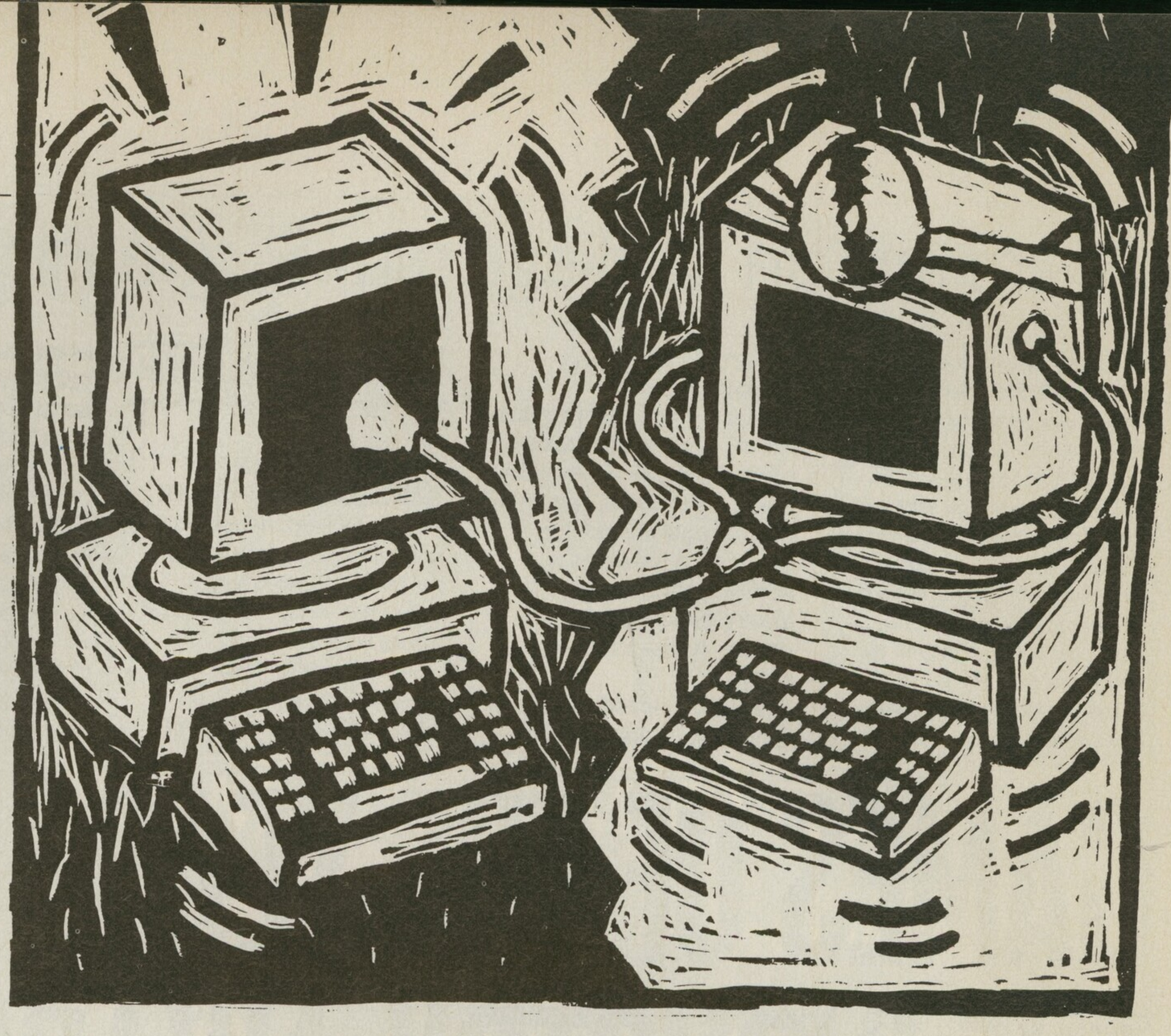
Esprit has also completed two dedicated software packages intended to exploit the power of Supernode. The first, developed by a team from UK electronics giant Thorn-EMI, is a graphics application which enables users to depict 3-D images and view them at any angle. The second is a solution to the problem of simulating complex models such as economic situations.

Both Supernode and the software packages will be marketed as commercial products very soon.

Our new address

***Express* has now moved to new premises Send your letters and tips to *New Computer Express*, 30 Monmouth Street, Bath, Avon, BA1 2AP. Telephone: 0225 442244. Fax: 0225 446019.**

AIDS VIRUS
ANALYSIS



The arrival of an organised attack on computers in the form of the 'AIDS virus' has re-opened the issue of computer security. Edmund Blake looks at the implications

THE VIRUS THREAT

The 13th of the month or some other vaguely notable date and the virus and Trojan writers are out in force, foisting their wares on unsuspecting computer users. The latest and most sinister of these is that accompanying the AIDS Information Disk. Unlike the run-of-the-mill silicon infection, the AIDS Trojan has a level of sophistication not seen before in the UK.

If allowed to reach fruition, this complex program asks for $378 to be sent to an PO box in Panama, then encrypts the computer's hard drive. But where the Trojan gets really clever is by blackmailing its victims into infecting other previously clean, computer systems.

The blackmail routine takes the form of a message which offers sufferers temporary respite from the effects of the program. By agreeing to install the Trojan on another machine, victims are told that their machines will be usable for another 30 days. A message appears on-screen asking the user to insert a blank floppy into the drive. The program writes information to the disk, then asks the user to put the disk into another computer and type A:SHARE. Once done, they must return the disk to their own computer.

Unfortunately, after re-loading the disk, victims find that the AIDS information program has lied to them, they don't have 30 more days and they have now infected another machine.

In an attempt to trap those responsible for the program, the police have traced the Panama postal address and are investigating their findings – yet to be disclosed.

At home, Dr Alan Solomon – famed self-styled virus catcher – is one of the leading lights in the fight against the AIDS Trojan. He has described the program as being "extremely wicked, and probably the worst thing that's ever happened in the personal computer world". Solomon thinks that the program may take months to unravel, such is its complexity. "If it has been installed then I would advise [users] to seek urgent help because it is a nasty thing," he said. "If you have not installed it, then don't. It seems to be some kind of sabotage". The AIDS Trojan cannot create copies of itself in the way that the virus replicates, but because of the scale of the initial mail-out of AIDS disks and the blackmail function, experts fear that the problem may be extremely widespread. A spokesperson for Scotland Yard's Fraud Squad estimated that at least 10,000 installations may already be infected, with many more being corrupted every day.

Perhaps the strangest thing about the AIDS program is that the perpetrator must have spent a large amount of money in order to produce the disks and mail them to victims. Solomon: "You don't spend this sort of money to have a joke even if you have got the warped sense of humour that would see that as a joke."

Virus researchers suggest that each disk would cost at least 50p. After printing the letters and paying for postage the total cost could be as much as £10,000. Dr Solomon also warned that although experienced computer users may think twice before installing software from an unknown source, novice users will happily feed anything into their machines and consequently are at great risk. He likened it to "finding an open beer bottle by the side of the road and drinking from it on the assumption it contained good beer". As computer users prepare to lose vast amount of data or be relieved of vast amounts of cash to have the Trojan destroyed, police are still unsure as to whether a criminal offense has being committed. The AIDS disk is accompanied by a letter warning of the consequences if users don't pay the 'licence' fee. Those responsible for the Trojan have tried to exploit this to carry out their deeds, beleiving themselves safe from prosecution.

INOCULATION TIME

The AIDS information is insidious and can harm large amounts of data. However, it is not unstoppable, and if infected you can fight back.

If you receive an AIDS diskette in the post then the most obvious form of defence is to bin it. If you don't install the software it contains, then it can't harm your data.

If you have already installed the dreadful program, here's what to do.

The AIDS program perverts your `AUTOEXEC.BAT` file then hides it by making it 'invisible'. It then creates a file called `AUTO.BAT`. This is a counter which determines how many times you've switched on your computer since installing the Trojan. After between 100 and 125 times, the program comes to life, so it is essential that you rid the system of the `AUTO.BAT` file. To do this, type `DEL AUTO.BAT` and `DEL AUTOEXEC.BAT` at your system prompt. If the file remains after performing this command, then `AUTO.BAT` and `AUTOEXEC.BAT` have been set to read-only. To reset the attributes for this file, simply type at the DOS prompt `ATTRIB -R AUTO*.*`. You should now be able to delete both files with the command given above.

Now all you have to do is to create an `AUTOEXEC.BAT` file containing the system commands you would normally use at boot up. Obviously, you must delete all the other files that were copied from the original disk.

And that's it! You should have returned your system to normality. For abolute security, however, if you have a backup, format your hard disk and restore the files. ■

UNDER THE MICROSCOPE.

The virus can assume many forms. As well as the more common boot-sector virus in which a virus program fragment is hidden away among the boot-up code on a floppy disk, there are Trojan horses, logic bombs and time bombs, and various hybrid strains all lurking in the background waiting for the right moment to perform their outrageous deeds.

Probably the most widespread virus is the boot-sector virus. This takes the form of a few tens of bytes of code which are patched into the genuine disk boot-up code. When a floppy containing a boot-sector virus is inserted into a drive, the virus code comes to life and installs itself in the RAM memory of the computer. From then on, every disk inserted into the drive is checked by the virus to determine whether or not it is already infected. If not, then the virus writes an exact copy of itself to that disk. When a pre-determined number of replicants have been made, the virus performs whatever heinous crime it's been programmed to do – wiping clean the hard drive, destroying floppies and so on.

Trojans perform in a slightly different way, although the outcome is usually the same. Recall your childhood memories of the story of the Trojan horse and you'll have an idea of how the Trojan works. Dressed up to look like an innocent file cataloguer, spelling checker or other program, these outer covers are just a mask, for buried deep within the program are a few bytes of code capable of destroying your hard drive, wiping all your files, regaling you with outrageous messages or any one of a number of other shocking actions. When you use the file cataloguing utility or spell checker, the naughty code gets to work and does its deed. There have even been Trojans dressed up to look like virus killers! In the world of the Trojan, nothing is what it seems.

Logic and time bombs are similar to Trojans in that they take the form of a few lines of code secreted away within a program on a computer or network. When a triggering action such as a date, or user action is performed, the bomb does its stuff, killing files, floppies and hard drives.

Dowling COMPUTERS

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Sandy, Beds, SG19 1RB
Tel: 0767 81750/60
Fax: 0767 81730

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ALL FOR ONLY £349.95

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★ 124 Mono Monitor
★ Metacomco Basic (worth £25)
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★ New Zealand Story
★ Deluxe Paint II
★ F18 - Interceptor

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AMIGA DELUXE 1 MEG PACK

EVERYTHING AS PER BATMAN PACK PLUS:
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★ Dungeon Master
(1 mega game worth £25)

ALL FOR ONLY £489.95

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COMMENT

'Computing for the masses' emerges from a hit-and-miss decade – can we expectsomething better in the run-up to the turn of the century?

Here we are, then, at the beginning of a new decade. Of course, life never resolves itself into neat little parcels like that – and if you wish to be pedantic, you may correctly point out that decades actually change when the year ends in 1 not 0 – but it does seem a convenient moment to reflect briefly on the 80s, and more importantly to look ahead to the next ten years.

The past decade was either a shambles or it was marvellous, depending on your point of view. Perhaps the only truthful thing to say is that it was both. The technical brilliance, business acumen and outrageous lack of foresight of the last 10 years have left us with intriguing and exciting possibilities. But the legacy is still something of a mess.

At the beginning of the 1980s the Express Editor, then a 'cub' reporter, was cutting his teeth on feature assignments about Britain's great Government-backed voyage into the uncharted realms of Information Technology. Future-gazers were repeating with confidence their already five-year-old or so predictions that we were within a few years of the demise of the office as we knew it.

Everyone would be working from home on a terminal which they could also use for their banking, shopping, entertainment and what have you. Villages would flourish again, with cottage-based employees in permanent contact with company headquarters hundreds of miles away thanks to an umbilical cord of fabulous fibre optics.

PATCHY PROGRESS

The predictions of the 1970s bear only a patchy relation to the realities of the early 1990s. To be sure, some of those technological advances arrived bang on schedule, and others had barely been canvassed at all. That young reporter would never have dreamt that the wizardry involved in the electronic newsrooms of a tiny number of American newspapers might lead to widespread desktop publishing by the end of the decade.

It is true, too, that home computing has mushroomed over the last ten years – but certainly not in that 'terminal per household' fashion envisaged by 70s prophets. PCs here, Amigas there, STs, PCWs, BBCs – a society that is far more computer literate, perhaps, but all too often one in which we barely speak the same language as each other.

The next decade will and must deliver a logical convergence of much of what has happened to date. Education, funding for the future, greater usage of the computer at home, more choice coupled with a sensible approach to compatibility and standards – all these areas need forethought and understanding, not ten years of the apparently random develoment born of relying entirely on the power of market forces.

Unfortunately, one body in Britain is so powerful that it can either push everything forward at an alarming rate or else slow progress to a snail's pace – the Government.

The proliferation of home computers has a major disadvantage. The Government sees millions of young Britons getting to grips with computers in their homes and wonders why it is spending millions on teaching them much the same thing at school.

Funding for computer education is currently restricted to a paltry £5 million per year. Youngsters are not getting much-needed 'real world' use of computers. Even if up to 30 per cent of under-15s have access to a computer at home, that doesn't mean they are learning how to use them properly.

Without more commitment from the Government, the best we can hope for is another band of hugely talented 68000 programmers offering the world brilliant games for the ST and Amiga. Meanwhile the rest of the Western world is teaching people how to use computers to their advantage in business and scientific applications.

This magazine would, of course, be the last to knock some of the marvellous and eminently affordable machines which occupy pride of place in homes all over the country, but when it comes to computing in schools, Intel's range of chips, not Motorola's, should be the designated targets to master.

The whole system for computer education lacks uniformity or vision. Schools and students have been offered a small token in place of a real pledge. A few City Technology Colleges set up in predominently middle class areas hardly represent adequate commitment from the state.

In the early 1990s, we know of schools which are setting up jumble sales in order to buy computers. This is not only not the way forward, it is a scandal.

LONG TERM VIEW

Even with some major technical advances within our grasp, the Government is also failing to back projects which could have great significance for computing.

For example, it has already been widely established that the development of neural technology is essential for the next generation of computers. Over the next decade the Americans, Japanese and Germans will be sinking millions of dollars into the development of machines which can recognise speech and which can see.

All this has enormous implications for robotics and the automation of industrial processes. There are half a dozen academic projects under way in the UK dedicated to developing neural networks – they are working with desperately small allowances.

Scientists at the University of Bangor have made remarkable discoveries in neural technology, but the Government refuses to fund the project even though it is only asking for £75,000. This really is a pitiful state of affairs. As is the case with education, the crux of the matter is whether as a nation we are prepared to take a considerably longer-term view of 'UK plc' than how many pence might come off income tax in the next budget.

But computing in the 1990s can draw some comfort from advances and developments in the 1980s, for compatibility and integration have been two dominant themes in the last decade. We now have a firm platform for digital data exchange whereby computers, video, fax, CD, and even musical instruments can all be linked and used in conjunction with each other. Despite an outdated telephone system, on-line data transfer is also firmly established and will offer an ever-wider range of services.

The Seventies' dream of integrated home entertainment/ business systems comes nearer by the day. It's now certain, for example, that by the end of the decade we'll be able to call up directories of TV series and selectively view the material we choose.

And the future is bright for gamers too. Once the victims of a squalid fly-by-night business, they are now being treated to a hugely impressive range of entertainment software befitting ten years' home computer developments.

Over the past few years we have been able to hold up games such as *Populous, Purple Saturn Day, Stunt Car Racer, Elite* and *Balance of Power* as examples of leisure computing's growing maturity.

The scorned clichés and tired old formulas of yesteryear are slipping away as software house after software house succumbs to an increasingly demanding user base.

Fascinating progress with hardware is finally being matched and even surpassed by the genius of games programmers keen to exploit their medium. We can confdently predict that this trend will continue.

The first decade to witness genuine moves towards the opportunity of 'computing for all' was one which saw success mixed with failure, genius with thud and blunder. An arbitrary division of time will always play host to both good and bad, and there is no point in glibly hoping otherwise. But the 90s can see a shift in the balance between unplanned, almost organic growth and some more coherent and coordinated vision of where we want to be at the turn of the century – indeed, of the millenium.

The next decade represents a chance for computing as a mass pursuit to grow up. The best most of us can do is cross our fingers and hope that those with the power to do so grasp the opportunity and make them ten years worth remembering.■

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© Future Publishing Ltd • 30 Monmouth St, Bath, BA1 2AP • Tel: 0225 442244 • Fax: 0225 446019
Subscriptions: The Old Barn, Somerton, Somerset (0458) 74011
• Printed by Redwood Web Offset, Trowbridge, Wilts • Distributed by Comag, West Drayton, Middx

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SOUND MOVE

Manchester's Gajit Software has launched *Sequencer One*, a new 32-track sequencer. The £89 program has a resolution of 192 pulses per quarter note, real- and step-time recording, a graphic note editor page, a graphic song arranger and all the usual editing facilities such as cut, paste, quantise, transpose and so on.

At the same time Gajit has announced a new range of 'sound development programs' (as opposed to unsound ones, perhaps?) for *Sequencer One*, enabling easy editing of all instrument sound parameters over MIDI, and including extensive librarian facilities and sophisticated random-tone creation.

The first two in the series cover most of the current range of Roland electronic musical instruments, including the new computer music modules. CMpanion is for the MT-32, CM-32L, CM-32P and the CM-64; while 4D Companion works with the D-5, D-10, D-20 and D-110. The programs cost £99 each.

Get in touch with Gajit on 061-434 2768, or with the program's distributor Hugh Symons 0202 745744.

COOL FOR KIDS

Educational software for the ST is notoriously scarce, and good educational software is even more scarce. After the extraordinary success of Database's best-selling *Fun School II*, however, which took everyone by surprise – including even Database itself, I'll wager – it does appear that these deficiencies are beginning to be rectified.

Two new programs from Children's Learning Software suggest that there is nothing inherently limiting about the ST as an educational machine. *Let's Spell at The Shops* and *Let's Spell at The Shops in French* are both colourful, entertaining and genuinely helpful in teaching youngsters languages.

These packages are aimed at children from the ages of about four years old to, I'd guess, about eight, and the packages present the child with a shopping arcade where he or she can 'buy' items from different shops.

The items can then be spelled out, thereby teaching spelling and what the program's authors call 'product identification' (this doesn't sound something that children really have to be exposed to at such an early age, but let that pass).

The French version is very similar to the English one, except that (you guessed!) it requires you to tap in the French names. Get them wrong in either language and the wrong letters are 'shot' by an unseen gun: correct letters are read aloud by a charmingly gruff voice.

The programs, written by husband and wife team Richard and Jayne Dunn, cost £25 and may be obtained from Rosie Wolf at Children's Learning Software: phone 01-878 8761.

POUNDS FOR HOUNDS

What with Christmas and all that nonsense just over (bah, humbug) you're no doubt as poor as a church mouse that's just lost its last ha'penny down a hole in its little trouser pocket *(That's enough Blackadder – Ed)*. Join the club.

But fear not, for this column is happy, nay proud, to let you in on a marvellous moneymaking scheme. Can't miss. Absolute certainty.

All you do is part with – or 'invest' as you may choose to think of it – a mere £49.95 on a program called *Top Dog*. It is, to date, the only greyhound racing analysis package for the ST, and John Whale, spokesman for producer Forecast Software, swears that it will 'greatly enhance the chances of selecting winners in any greyhound race'.

It's billed as 'The Program the Bookies Tried to Ban,' though through some oversight the names and addresses of the turf accountants concerned have not yet been made available to me.

Anyone, it is claimed, regardless of their knowledge of greyhound racing, can analyse a race in 10 minutes or less. Convinced? Rush your investment off to Forecast Software who can be found at 60 Thornhill Road, Llanishen, Cardiff, South Glamorgan CF4 6PF.

PRODATA GETS ON WITH IT

You can't accuse those chaps at Arnor of hanging about all day doing nothing. Well, you can, but you'd be wrong.

Not content with releasing *Prodata*, a database that will look and feel familiar to any user of Arnor's *Protext* word processor (which I'm using at this very minute), the Peterborough perfectionists have rushed out version 1.1.

This upgrade, which seeks to address the minor complaints and observations made by reviewers and users of the original, includes multiple-line headers and footers, global totalling of data, use of mouse to speed layout editing, string search, faster filtering and optimised use of memory.

Prodata is £79.95, but is being supplied – or 'shipped' as the computer terms goes, I believe – free to all existing users of version 1.0.

Arnor's phone number is 0733 67299.

PLAYING TIP

POPULOUS

Want to get through *Populous*? Look no further. Here are the passwords to selected levels of the game – well, we couldn't print the lot, could we? That wouldn't make it any fun.

Just choose a new game and type one of the following lands:

5	Swaver Desert
10	Moringill Ice
18	Hobdietory Rock
26	Verymeend Rock
31	Douusick Grass
41	Burmpall Ice
53	Coropert Grass
63	Douperbar Rock
69	Scomphill Desert
78	Weaveaed Grass
84	Shadkopend Ice
94	Suzogoboy Desert

Many thanks to P.W. Smith.

ST GAME of the WEEK 1

GHOSTBUSTERS II

Activision • £19.95

Now that the film is out, Activision are cashing in on all the hype. The game is split into three levels – each one taken from strategic scenes of the film.

In the first level you use your proton laser on the ghosts popping out from the walls of a ventilation shaft; level two sees you inside the Statue of Liberty – tossing fireballs at ghosts; and, level three takes you into the museum, searching out demons. Got the idea?

The plot isn't exactly inspiring, but then neither was the film. The first 10 minutes of play are actually a lot of fun, especially since the graphics are excellent – large sprites and great colour add a lot of sex appeal to a game, but they don't make it playable.

Having been overwhelmed by the graphics, you begin to scrutinize the gameplay and this is where you're severely underwhelmed. When will software houses realise that it's not possible to produce plotless games, relying on a film-tie in for sales? When we stop buying them, that's when.



• Ghostbusters II: *excellent graphics, little gameplay*

• Llanelli-based Sphinx Software is proud to announce a £4 ST-to-hifi interface lead: talk to Nial Grimes at Sphinx Software, Erw Fynydd, Carmel, Llanelli, Dyfed SA14 7SG.

TREAT TO COME

At last Electronic Arts' very wonderful *Starflight* is to make its appearance on the ST. As anyone who has played it in its PC incarnation will know, this ranks without doubt as one of the classics of all time. We're to expect it early in 1990, and it's said that Bullfrog, the team behind the also very wonderful *Populous*, have been involved in the project. If this isn't an *Express* Game of the Week I'll eat my boot disk.

HISOFT RELEASES KNIFEST

Greetings to *KnifeST*, a well-implemented disk editor, repairer, copier and formatter. The disk also includes *Undel*, a separate file recovery program, can restore deleted files (hence, I suppose, the title) – in itself a remarkably useful item. The main program, however, is the kind of stuff you'd expect from such a thing: disk editor, formatter with numerous options, damaged disk back-up and restorer. At £29.95 from HiSoft (0525 718181) it's one of those affordable compilations which the ST seems to be well served with.

PLUG FOR ST FORMAT

ST Format's next issue shows just what can be done with *STOS*. They've taken a new Mandarin *STOS* game, entitled *Skate Tribe*, and put it – complete, playable and free – on the cover disk. And I have to say, having seen the game, that it's brilliant. Although it isn't in the Bitmap Brothers league, it's a very enjoyable and entertaining game.

Steve Carey

ST GAME of the WEEK 2

TWIN WORLD

UBI Soft • £19.95

We haven't heard a lot out of UBI Soft for a while, but it is now poised to release *Twin World* – a horizontally-scrolling action game. It's set in a colourful and ancient land where you control an elf through a sequence of progressively harder levels, picking up an amulet from each.

There are two levels, running in parallel – hence the name. The above-ground world tends to contain more useful bonuses, while going underground brings you into contact with score bonuses. Your trip through the netherworld is, of course, complicated by hoardes of monsters. Most of them are cannon-fodder, although they sometimes get in the way when you least want them to.

The ground level is littered with layers and you can kick your way through to the layer below by stamping on the ground. This can often lead you to find keys which take you behind locked doors. It's on levels like these that you find one of the hardest enemies to defeat – the three-headed monster. You must shoot all three heads to kill him properly but take too long and the heads split up. If you lose any, you'll meet them later in the level where they fire missiles at you and are harder to defeat.

** 
**

• Twin World: *great fun*

***Twin World* is great fun to play if you enjoy this type of horizontally-scrolling adventure. It's enormously addictive and the chance to wander all over the levels gives it more appeal than games like *Ghouls 'n' Ghosts*. But the problems aren't as numerous and the graphics can become boring with time.**

COLOUR CORKER!

Add-on graphics cards for the Amiga 2000 are pretty old hat these days. Although they offer an amazing specification that rival machines like the Quantel Paintbox, they usually require multi-megabytes of memory and very expensive high-resolution multisync monitors.

Quantel-like graphics power, however, could soon be within reach of the average home user with the announcement by the Amiga Centre Scotland of a 24-bit 16-million-colour frame buffer card for the Amiga 2000. The card accepts 24-bit RGB files as produced by packages such as Byte-by-Byte's *Sculpt-Animate 4D* and the card also offers a hefty maximum display resolution of 900 by 600 pixels – displayable on a standard 1,084-colour monitor!

The Amiga Centre Scotland hopes to sell the final frame buffer card for under £1,000. At that price I'll be one of the first in the queue! Contact the Amiga Centre Scotland on 031-557 4242 for more information.

WHAT IS MORE...

For Amiga owners who want a professional-quality sampler and are prepared to pay out the neccessary readies, Roland Paquette in Canada has released the Genuine Sound sampler.

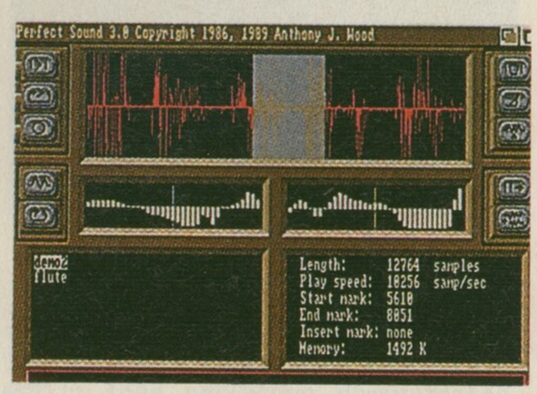
Although the basic Genuine Sound unit sells for just a few cents under $400, Roland Paquette claims that the unit offers professional-quality sound sampling. Indeed, Genuine Sound is the first Amiga sound sampler to offer true flat sound reproduction of the input from 5Hz to 20KHz. For those of you in the know, this is approximately a +/- 0.05dB error range on the audio spectrum. According to Roland Paquette, the unit intoduces virtually no hiss or interference.

Genuine Sound is also the first Amiga sampler to offer multiple mixing inputs using a built-in audio mixer on the hardware itself. Further, the hardware offers sampling rates of 200KHz mono and 100KHz stereo (Fairlight eat your little heart out).

Contact Roland Paquette on 0101-514-435 4442 for more information.

Any of you who use an Atari for musical applications will no doubt have heard of the 2-Bit Systems range of Atari samplers. According to a source close to the company, the soon-to-be released 16-bit Atari sampler has been designed in such a way that it can be used with other systems with very little modification.

According to my sources, the company is already giving serious thought to producing an Amiga version. Let's hope this happens, as I can see the unit doing particularly well among Amiga musicians and video professionals.



• Sunrize Industries' new user interface for Perfect Sound 3

AMIGA MULTIFACE LIVES!

After originally declaring that it would definitely not be producing an Amiga version of the ST Multiface cartridge, Romantic Robot has announced that work has indeed restarted on Multiface Amiga. According to the company, progress is still in the early stages and Multiface Amiga will not be ready before June of next year.

SAMPLING CORNER

Sunrize Industries has announced the release of version 3 of its popular *Perfect Sound* sampling system. *Perfect Sound 3* includes a vastly improved user interface with much faster and smoother access to impressive sampling facilities.

To compete with Aegis' *AudioMaster 2* sampling system, *Perfect Sound 3* has also built in many new editing facilities such as mixing, ramping, echoes, reverbs and real-time interactive loops.

Sampling rates have been knocked up to a maximum of 40KHz. Additionally, for improved reproduction, *Perfect Sound 3* now uses an external hardware clock that reduces distortion introduced by the software timing systems.

Also, input volume is now controllable through software, therefore avoiding the need to reach for your hi-fi volume knobs everytime you wish to take a new sample. *Perfect Sound 3* is available for $100 from Sunrize Industries. For more information dial 0101-409-846 1311.

LAME EXCUSE

I've received quite a few letters from both *New Computer Express* and *Amiga Format* readers concerning the Workbench DiskCopy operation.

Basically, when trying to copy a disk from Workbench, the machine seems to lock up, leaving a blank window and the drive whirring. What's going on? Is there something wrong with my machine? I hear them ask. All can now be revealed.

The reason for this phenomenon is not a hardware fault, as many of you believed, but a virus called the Lamer Exterminator. As with all viruses, the solution is to treat yourself to a decent virus-killer disk such as the one sold by Softville PD, UGA UTIL9, which can be used to destroy both boot block and memory resident viruses. Contact Softville on 0705 266509.

GAME NEWS

Spectrum Holobyte's *Tetris* must be one of the most popular computer games on any computer. Forget your *Elites* and your *Interceptors*, *Tetris* is the business for every trendy computer game-player.

Now the Amiga has got a version of a *Tetris* follow-up – *Block Out* from US software house, California Dreams. Fans, for more information contact California Dreams on 0101-408-435 1445.

Infestation, the latest release from Psygnosis, is a solid 3D arcade-type play that sees you trying to eliminate the threat of alien life forms by seeking out and destroying eggs on space station Alpha II. This is achieved by sealing the creatures inside their incubating chamber and poisoning them with deadly cyanide gas.

If *Infestation* sounds like the kind of game you've been looking for, then check out the latest issue of *Amiga Format* magazine for a playable demo.

CORDLESS MOUSE

Late arrival from US hardware producer, Practical Solutions Inc – a mouse that uses infra-red signal technology to give Amiga users freedom of movement without having to worry about getting tangled-up in connecting cables. The mouse employs its own 12MHz CMOS CPU and can be used up to five feet away from the receiver unit.

Can't wait? Try contacting Practical Solutions on 0101-602-322 6100.

Jason Holborn

AMIGA GAME of the WEEK

CHASE HQ



Ocean • £24.99

Chase HQ, a coin-op on the Ocean stand, attracted a lot of attention at this year's PC Show. And now that the Amiga version has arrived, we can see what kind of job Ocean has done in converting the popular arcade version of this game.

Instead of a simple 'beat the clock' race, *Chase HQ* gives the player a more tangible object to aim for. As a member of the LA Police Department's finest crime-busting team, it is your job to pursue criminals through the hazardous LA streets in your turbo-charged Porsche 928 (a monster of a vehicle).

Your on-board computer tells you of the best route to take to catch the escaping car, which must be slammed off the road before the timer runs out. If you fail, the perpetrators cross the state line and pass out of your jurisdiction. If you succeed, Nancy at Chase Headquarters will contact you so that you might get on the tail of yet another escapee.

On first sight, *Chase HQ* doesn't look exceedingly wonderful. The 3D is far from the best seen on the Amiga, and the cars are a little on the feeble side. The sound isn't too impressive either. Sure the samples from the coin-op are there, but the tune and other effects are well below par.

On the other hand, there is parallax scrolling on the backgrounds, which has been well implemented, adding a fair amount of depth to the horizon.

And in playing the game a different story emerges. Once you've started racing along, it becomes a challenge to catch the continuing series of villains – and an enjoyable challenge at that. The control is initially a little fiddly, but you soon get into the swing of things.

An accurate conversion it may not be, but it is good fun and should please dedicated fans of the original.

AMIGA GAME of the WEEK 2

GALAXY FORCE II



Activision • £24.99

Last year the huge craze in the arcades was to produce 'throw the player around' racing and flying games. One of the companies heading this craze was Sega, who gave us *Outrun* and the frenetic *Galaxy Force II* (and to save any confusion, no there wasn't a Galaxy Force I).

In *Galaxy Force II* you are the pilot of a futuristic jet fighter, flying around a distant solar system attacking enemy forces which have settled on planets, ranging from jungle worlds to lava-covered globes.

Each planet has a fortress to conquer, which requires some pretty nifty flying to accomplish. You start off with self-aiming misiles, but extra-powerful weapons can be collected throughout the game. Your task is to defeat each planet and escape before your energy supply fails, otherwise your craft will explode – taking you up with it.

Rather unsurprisingly, the super-fast 3D graphics and hydraulic action made the game a great success with arcade fans, but once the novelty of movement had worn off the game left little with which the player could get involved – other then a simple bang-bang-bang and hope for the best experience, that is.

Now that Activision has converted the game to the Amiga, the lack of gameplay becomes even more apparent. Unfortunately, the conversion also lacks the impressive 3D graphics seen in the original coin-op, relying on an age-old animation technique seen as far back as *Buck Rogers* .

Indeed, when playing the game, success seems to be more by luck than judgement, since you have hardly any control over what happens to your craft. For 25 pounds I expect a good deal of gameplay and unfortunately *Galaxy Force II* has hardly any.

CRYSTAL BALL

Allow me, if you will, a small indulgence at the beginning of a new decade. Two of the most exciting markets for the 90s will, I believe, be palmtop and A4 computers. The likes of the Atari Portfolio and Poqet PC represent the first steps in the palmtop arena, with the Psion Mobile Computer and replacement Z88, if and when it shows, the first of the true A4s. I see both of these groups of machines growing fast, with a possible convergence in their shapes and sizes.

I would like to make a prediction. Within three years I believe there will be a machine with something very close to the following specification. On the basis that the microcomputer market nearly always moves twice as fast as the predictions made for it, it may easily arrive by 1992.

The machine, probably A4 in format, will weigh three pounds or less, have at least 2Mb of main CMOS memory, and storage on RAM cards with capacities of several megabytes. Larger storage capacities – 40Mb to 80Mb – would be available on ultra low-power 2.5-inch hard drives. Display will be one of the colour LCDs currently being prototyped, at around six-inches square. The graphics standard will be 16-colour VGA, or EGA at the least. Battery life will be a respectable 50 to 60 hours.

Price? Well that depends whether it's released by Atari or Compaq. If at the Atari end, you might see it for around £500. The Compaq version, which isn't so far from their current 286-based laptop, would probably be nearer £3,500.

If it does happen, remember where you saw it first; if it doesn't, kindly forget I wrote anything.

NO PREMIUM

From fantasy to reality. Elonex, the well-known, high-value Taiwanese PC importer has introduced a 386SX-based portable which, it claims, includes no price premium for its portability. Priced at £1,795 plus VAT, the LT386SX weighs 6.5kg and offers a 16-grey-shade VGA resolution gas plasma display. 1Mb of RAM is provided as standard, as are a 40Mb hard disk and 1.44Mb 3.5-inch floppy.

The machine has a dual-mode power supply for international travel and three internal expansion slots, two of which sit on a 16 bit AT bus. Software includes MS-DOS 4.01, Windows 386 and the Microsoft *Works* integrated package. All in all, a pretty good machine to spend all your loose Christmas presents on. Unfortunately Elonex (01-965 3225) won't accept book tokens.

LASER LABELS

If you own a laser printer, beware using address labels designed for dot-matrix or daisywheel printers. The backing material used on pin-fed labels or ordinary self-adhesive label rolls is not good at high temperatures and can deposit glue all over the rollers within the machine.

You can buy labels especially intended for laser printers, which either have a paper surround to each label, or have the labels butting up to each other on the label strip. These are suitable for use with lasers, but you must make sure that you can feed the labels straight through to a face-up paper tray.

Don't try and use the labels if the paper path involves turning them round rollers into a face-down tray.

Label types which Hewlett Packard recommends for its laser printers come from Avery Lasergraphic and Fitchburg Co. These makes of labels may not be available in the UK, but other types are, including Inmac numbers 4742, 45625 and 45627. Ask your dealer or risk your laser's health.

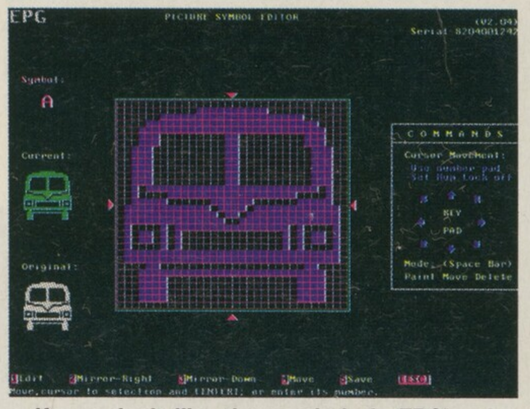
LASER PRINT ON DOT-MATRIX

Laser printers have opened up a whole new printing industry, with considerable emphasis on fonts and high-resolution (300DPI) graphics. But it seems a bit mean that those who can't afford lasers should be left out of the fun. There's now a way around this, though, by making your dot-matrix printer think it's a laser. In a similar way to *Freedom of Press*, which makes a LaserJet think it's a PostScript printer, *LaserTwin* fools a variety of dot-matrix and ink-jet printers into thinking they're LaserJets.

This is a software emulator which enables printing to the highest resolution available with any given printer. The list of supported units is long and covers 9-pin, 24-pin and ink-jet machines. At £125 plus VAT, it all looks very promising. You will be able to read a full review in the March issue of *PC Plus*, but if you can't wait that long, you might like to talk to Metro Software on (0491) 579857.

BROWN BAG IN THE BAG

Shareware Marketing has pulled off something of a coup in grabbing the UK marketing rights for Brown Bag software. Brown Bag is the innovative US software house which brought you such programs as *PC Outline*, the outline processor, and *MindReader*, the word processor which guess the ends of the words you type. All marketing for Brown Bag in the UK will now be conducted by Shareware Marketing (0297 24088).



• If you don't like the symbols in EPG's pictograms, see if you can do better

One of Brown Bag's latest products is *Easy Presentation Graphics*. This business graphics program, coming in at £199, offers all the usual line, bar and pie charts, as well as a useful pictogram option and an icon design utility for customising the pictograms.

It can import data from *Multiplan*, Lotus *1-2-3* and *dBase* as well as in ASCII format. You can also enter data directly from the keyboard, of course.

SEEDY ROMS

Isn't it just typical? The only letter this column received in December asked for details of the best CD player to attach to a PC. The typical part is that CD-ROM is one area I admit to knowing very little about. There are a number of CD-ROM drives on the market and several CDs with useful information, though most of it in specific vertical market applications. Few, other than MicroSoft's *Bookshelf* are general purpose, but I suspect more will be introduced in 1990.

The letter asks if any of the audio players can be used for CD-ROM. As far as I'm aware, the answer is no, though the corollary isn't true. Several of the CD-ROM players on the market can also be used to play audio CDs. It's this area you need to look into if you're trying to find a player for both purposes. If any suppliers would like to contact this column, care of *Express*, I'd be glad to pass on their information to the world.

HYPERPAD HYPE

An interesting item in the trade paper *PC Week* which is worth passing on is the selection of *HyperPAD* as a front-end environment by 'international accounting giant' KMPG Peat Marwick Main. The organisation apparently looked at Windows and Presentation Manager, but in the end recommended the £114 text-based hypertext package to all its corporate clients.

While I've gone on record several times in this column as disliking OS/2 and Presentation Manager, and while I have enthused about *HyperPAD* in a *PC Plus* review (August '89), I do wonder if KMPG Peat Marwick Main – what a snappy name – evaluated the same program.

Yes, it has a very pleasant, easy-to-use front end. Yes, you can put together simple applications quickly and with little programming experience, but a replacement for either Windows or PM it certainly isn't.

For one thing, it's very difficult to display the details held in *HyperPAD* records as a list or table. It can be done with some complex fiddling, but it's not built into the program. There's also no support for graphics.

Indeed I am surprised any firm of accountants can plump for a text-only application – what about all those lovely colourful histograms and pie charts?

Anyone who wants to check out *HyperPAD* independent of all heckling, however, can simply obtain a copy from Software Paradise on 0222 882334.

SPECIFIC DIRECTORIES

Did you know that you can use wildcards with the MS-DOS command DIR to call up the details of specific files from the current directory? For instance, typing `DIR *.EXE` will show just the files with a .EXE filetype and `DIR FROG.*` will only show those whose names are 'FROG'. It can make ploughing through a massive directory of obscurely-named files so much easier if you use this feature.

Simon Williams

DOS EDITING

With all the DOS improvers around its easy to forget the editing tools provided within the MS-DOS command interpreter itself. They do, in fact, provide comprehensive editing of commands, once you've learnt how to use them. Their big advantage is that they are completely standard within DOS and you don't have to run any other software to use them.

To learn how to edit DOS, though, you first have to grasp the idea of a template. Basically, when you type any command at the MS-DOS prompt, a copy of the command is made internally. This is termed the template, as it can be the basis of several subsequent commands.

The functions keys [F1] to [F6], together with [Ins], [Del] and [Esc] manipulate this template.

For example, say you've typed the command

`DIR *.COM`

to display all the .COM files in the current directory. The file you want is not displayed, and you realise that it must have a .EXE filetype, instead. There are two simple ways of repeating the command, both of which take fewer keystrokes that retyping from scratch.

Press [F3] and the previous command is copied from the template to the command line. Three backspaces will then remove the 'COM', leaving DIR *. as the command. Add 'EXE' and press [Return] to execute the new command. Alternatively, you can press [F2] [C] which will copy all the characters from the template up to, but not including, the first 'C'. Again add 'EXE' to complete the command.

Another example; say you had typed `TYPE TROUBLE.DOC` to display a text file, and now wanted to enter the command `TYPE TROLL.DOC`. The [F2] [U] sequence would take you to the first 'U' in the previous command, displaying 'TYPE TRO'. Type 'LL' and then press [F4] [.]. The [F4] command skips over characters until it reaches the specified character. In this case it will skip over the UBLE in the old template. Pressing [F3] now copies the remainder of the template, .DOC, onto the end of the command. [F5] copies the new command back to the template, so you then have `TYPE TROLL.DOC` to work on.

The editing keys have the following functions, and once you've learnt to use them, you'll find the whole system quite quick and efficient:

[F1] Copies one character from the template to the command line

[F2] [x] Copies characters from the template up to, but not including, the first occurrence of [x]

[F3] Copies all the remaining characters from the template to the command line

[Del] Skips over the next character in the template

[F4] [x] Skips over characters from the template up to, but not including, the first occurrence of the characterrepresented by [x]

[Esc] Abandons current input and leaves the template unchanged

[Ins] Switches between overwrite and insert editing modes. Overwrite is the default

[F5] Copies the current command line back to the template

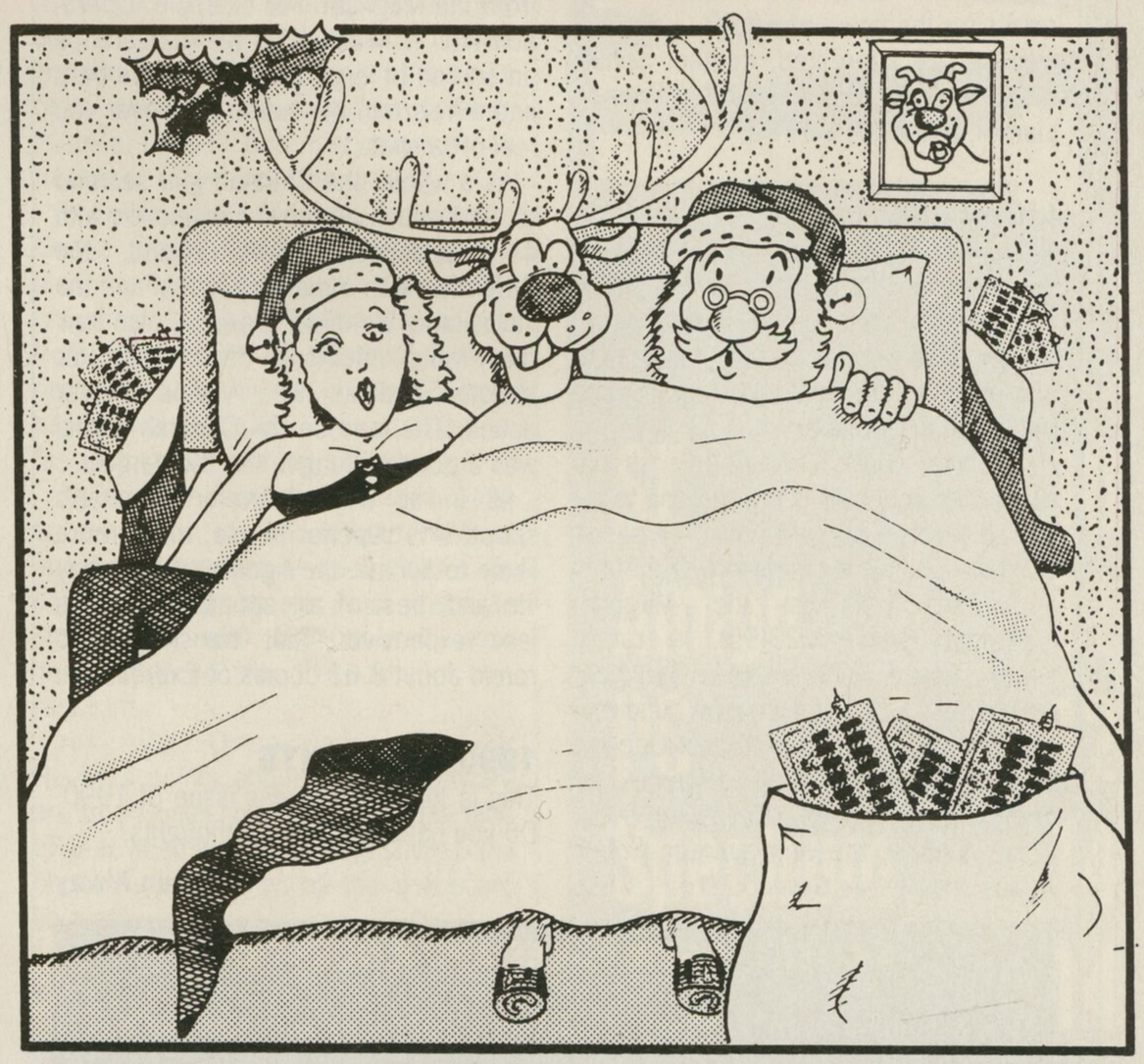
[F6] Adds an end-of-line character ([Ctrl]-[Z]) to the current command line

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SPECTRUM

SNIPPETS

Video Vault seems to be establishing itself as one of the more important Speccy hardware outlets. As well as the 128K upgrade module that I told you about last week – the Clive Drive and printer (which I hope to have a look at soon) – there is now an interface which is purported to let you connect two peripherals to your Spectrum at the same time. There will be more details when I get them.

Another interesting snippet I've picked up from one of my many industry sources is news of a ST to Spectrum compiler written by Dr David Aubrey Jones. Watch a space like this one for more information.

LEAD-IN

If your Spectrum and stereo live within a decent proximity of one another, then you might very well be interested in uniting them with a natty little lead from Sphinx software.

This new device connects any plus2 to a hi-fi, giving improved sound, even if that sound is in good old glorious mono. The lead, two meters long, retails for the figure of £2.99.

If you are interested, contact Sphinx software at Erw Fynydd, Carmel, Llanelli, Dyfed SA 14 7SG.

LIGHTGUN

Next to a joystick and possibly trousers, the one thing a games-player shouldn't be seen without is a lightgun. Choice is somewhat limited, basically to two models: the Amstrad Magnum and the Cheetah Defender.

Loyalties have remained strictly divided up until now about the one to go for, so here's a back to back, ten paces and fire duel between the two of them.

At one end is the Magnum (48K/plus2/plus3 £29.95), a rather flimsy, Space 1999-inspired gun that comes with a decidedly mixed bundle of software. Said bundle includes: Ocean's superb *Operation Wolf*, elderly and dodgy darts game *Bullseye*, so-so *Solar Invasion*, the very average *Robot Attack* and *Missile Ground Zero*.

And at the other end is the Cheetah Defender (48K/128K/plus2/plus3 £24.95), a much heavier, sturdier looking weapon with an angled handgrip to make it easier to point at the screen. Accompanying software is once again a mixed bag.

Defender sports the following games: *Advanced Pinball Simulator* (weird choice of game that works fairly well with the gun), *F16 Fighting Falcon* (another slightly strange type of game to pair with a lightgun – not bad), *Bronx Street Cop* (excellent shooting gallery game – blow away the crooks and don't blow away the innocent bystanders), *Jungle Warfare* (pretty good *Op Wolf* clone), *Supercar trans Am* (pretty awful – control the viewed from car by shooting at left and right icons) and *Billy The Kid* (decent shoot-out type of game).

So how do they compare with each other? Well, software-wise, the Cheetah bundle is quite a bit better than its rival in my opinion. Indeed, it's not so much the actual games in the Amstrad pack that I didn't like (apart from *Bullseye*, of course), but the poor response the majority of them seemed to provoke from the Magnum. For example, *Operation Wolf* is wrecked by the appearance on screen of large black and white bars and a freeze in the action whenever you reel off a shot.

As a whole, the Cheetah gun seemed to work much better in conjunction with its respective games. Indeed, the Defender, with a more solid feel and the inclusion of a rapid-fire switch, also handles more effectively than Amstrad's shooter and its wet, insipid trigger action. The lead on the Cheetah model was a good bit longer into the bargain.

All in all then, I prefer Cheetah's shoot. It is superior in use, much more likely to survive the rigours of everyday life and, best of all, about five pounds less expensive. That translates into round about 8.63 copies of *Express*.

1990 COMMENTS

This is the first *Express* issue of 1990. Do you have any Speccy thoughts?

Robin Alway

A CHEAT, A FEW POKES AND A QUESTION

Here's a cheat from Matthew Wilson that should work with some of the many multi-load games out there:

Load in the program as usual and when it is searching for the multiload bit, only load in the header. (That's the part which prints 'Loading Level 1' for example). Press fast-forward on the cassette player and when you have reached the position on tape of the level you want, miss out the header and load in the main chunk of code. You should now start on your chosen level with the lives etc., from the previous one.

Matthew also offered the following old but useful Multiface pokes:

Scooby Doo	29614.0 - Infinite lives
Robocop	25424.0 - Infinite lives
Crystal Castles	63733.0 - Infinite lives
Driller	48246.0 - Infinite lives

In return for all this free help, Matthew would like to put a question to you. 'Is it possible to change my very old Spectrum (a 16K issue 1 upgraded!) so that the sound comes out of the television?' Other than suggesting the possible purchase of a sound output device that Cheetah used to sell, I am, as usual, hopeless. If you've got any ideas write in and share the wonderful gift of sound through the TV.

PCW

BARGAIN BASEMENT

It is worth looking, because Amstrad dealers could well be offering a load of goodies cheap to entice you to buy your next 9512.

Indeed, Amstrad is offering bundles to pass on to purchasers which include blank disks, a disk holder – whatever that is – spare printer ribbons, dust covers, a VDU cleaner and a 13-amp plug.

There's also a training voucher redeemable against training courses. This pack, worth £100 nominally, will probably be inexpensive (say around £30), and when added to the free sheet-feeder currently bundled with the 9512, makes it an attractive purchase.

Amstrad's marketing department, after the troubles of last year, is clearly back on form.

EASY DOS IT

CP/M is very unfriendly, compared to *LocoScript* anyway. Its habit of repeating the first word of a sentence you type in that it doesn't understand, however, can be put to use in repartee with your PCW as follows:

A>What do you do with a wombat?
WHAT?
A>Play wom!

The joke wears thin after a bit and most of us yearn for the comfy *LocoScript* environment. If only someone would bring out a similar-looking version of CP/M...

DON'T LOOK NOW

Well, now they have. SuperDOS is a 'DOS shell' type of program, which means that it's a way of tarting up CP/M so that it looks and works in a more friendly way, with *LocoScript*-like menus and information lines. You can also write very sophisticated SUBMIT files using two additional commands the shell gives you, called IFNOT and COPY. There's also a built-in text editor enabling you to create short text files.

The system needs 512K of memory – unfortunately ruling out the PCW8256 – and it should be a boon to anyone who dislikes that A> prompt and those incomprehensible error messages.

SuperDOS is available now for £29.95. Details on 0270 811890.

DASHED CLEVER

Users of *LocoScript 2* with a dot-matrix printer can get nice long dashes instead of hyphens. The sequence

```
[+]P10D[ENTER]dash[-]P
```

inserts a nice long one. An alternative is to use the wacky symbols in *LocoScript 2* to make a nice wavy dash:

press [SHIFT][ALT][f7],
then [SHIFT]hyphen,
then [SHIFT][ALT][f1].

Anyone with a daisywheel printer can fake a long dash – like this – instead of a boring old hyphen by using an underscore character printed half a line up.

Basil Pigg

MSX

A GAME A DAY...

Japanese import *Laydock* for the MSX 2, produced by a company called T&E soft, is a classic vertical-scrolling shoot-'em-up, with many levels to complete: My version was supplied on 3.5-inch disk, but it is also available on ROM.

I can confidently predict that this game is going to be one of my favourites, as it has excellent graphics, superb music (although it does become repetitive), and very smooth scrolling.

I heartily recommend that if you see *Laydock* advertised anywhere, eg. MPT computers, or Nightdare Ltd, buy it. You won't be disappointed.

SAM, I AM

In previous articles I have mentioned the similarity of the new SAM to the MSX 2 computers. I now see that even the price of this 'new' computer matches that of the MSX 2s that were selling in Europe.

The SAM will sell for about £329.00 – a figure not too far away from the £349.00 that the Philips and Sony machines were being offered at.

If you ask me, the decision at Philips to stop producing MSX 2 computers was a little premature. It would have been interesting to see the MSX 2 and the SAM fight it out. Now it looks as if SAM will only be rivalled by the ST – a pity.

Keith Neal

THE SHADOW KNOWS NOT

I have a letter from the MSX Shadow Weaver 2, who then spoils his pseudonymous quality by putting his real name underneath. Therefore, for Shadow Weaver 2 read Jonathan Gladwin.

He asks if anyone can help with the games *Timetrax*, eg which guardian owns which item, and which tiles can be used for magic. For *Rasterscan*, anything of use would be helpful, and on *Octogon Squad*, where is the hidden edit feature? Also, he appeals for help with *Elite*, as I have often done in the past. Hasn't anyone out there cracked the MSX version of these games yet?

Additionally, for a copy of the *Elidon* map Shadow 2 supplied, send an SAE to the MSX column, *New Computer Express*, and I will pass one on.

THE SHADOW KNOWS

The Shadow Weaver also includes a host of tips for MSX games, here's a couple:

For *Special Operations*, Press F5 instead of return when faced by guards, etc.

For *Elidon* by Orpheus, to get past the electric barrier at the bottom of one of the screens, drop the Elf Horn and it will sound a note, the barrier will then disappear. For the screens that are dark you need the torch which you can get by standing on a table that you will find two screens above the start screen.

BBC

RINGING THE BELL

Microtext may not be a name that rings any bells with you. It certainly didn't with me. But when a press release from publishers The Soft Option (TSO) landed on my doorstep recently, I undertook some research and came up with a few interesting facts.

For example, I learned that until six months ago there was a Microtext Users group, that British Coal and British Gas made extensive use of that group, and that Microtext was originally developed by the National Physical Laboratory. So what is Microtext? And what of it still exists? And in what form?

In essence Microtext is a language that allows experts to generate programs without ever having to learn a programming language. But the truly interesting part is that TSO has developed extensions to that language which allow interfacing with videodisc players.

So if you've ever used an interactive videodisc, the chances are you've utilized a form of Microtext – perhaps unaware that you were doing so. I'll let you know more about it when I'm in possession of a Domesday system with which to play.

MODERN MODEM

If you own a BBC computer, then the chances are high that you also own a modem. But do you use it frequently?

If the answer is yes, then you probably also have a large phone bill. If the answer is no, then the high cost of using that modem may well have put you off.

Now, however, a solution to spiralling dialing costs may be at hand in the shape of the Hi-Tec EC2400 quad speed modem. Priced at only £399, this device, it is claimed, undercuts the competition by a staggering £300.

The features offered by the EC2400 certainly seem comprehensive, although to be quite honest, I'm not absolutely sure what all the terminology means. But Steve White, sales director at Hi-Tec Modems Ltd was confident that the market would succumb to the charms of the EC2400, particularly as most of the bulletin boards in the country already own one!

Andrew Brown

THE 1990s AND ACORN

As this is the first *Express* issue of the decade, here is a prediction for the brave new 1990s that have recently come at us with alarming speed 'round the bend. It is now not a question of 'if' but a question of 'when' Acorn finally severs its link with 8-bit computing by ceasing to sell the marvellous Master 128.

Three possible dates for this severance spring to mind: April, at the Which? computer show; July in time for Acorn User; or September at the Personal Computer show. Acorn will undoubtedly couple the announcement with either price cuts on the A3000, or the launch of a spanking new home/educational Archimedes machine. As with many things, only time will tell.

CPC

FROM THE SUBLIME...

Straight out of this morning's crop of press releases comes some pretty exciting news from Domark/Incentive. Those two noble bodies are to join forces to produce a blockbuster scheduled to appear in April.

Castle Master will be an action adventure where your aim is to rescue a princess imprisoned within one of four towers in a 16th-century castle. Sounds pretty standard fare so far, but what's exciting (and presumably, this is where Incentive's 3D know-how comes in) is that *Castle Master* will be 'the first action adventure to use solid polygons'.

There will be animated sequences in the game, and apart from having to rescue the princess you must also attempt to flush out the castle's evil spirits.



• Castle Masters: Mark Strachan, Andy Tait, Ian Andrew and Dominic Wheatley

LORD OF THE CASTLE

Talking of castles, *Iron Lord* from UBI Soft is reportedly on its way. Again. I seem to remember the CPC version being previewed exactly twelve months ago, so don't go holding your breath.

In case you didn't know (or you've forgotten), *Iron Lord* is supposed to be an arcade adventure that casts you in the role of a warrior freshly returned from the crusades, only to return to find a country full of 'traitors, spies and assassins'. UBI Soft reckons release is imminent, so maybe this time it's really on its way. The graphics do look tasty...

SOUND ADVICE

I received a letter from a Mr D W Havard of Fareham the other day:

"It has long been my opinion that there is more to gaming than pretty graphics and sound, and this is the main reason why I upgraded to a 6128 and no higher.

"Although the vast majority of 8-bit software now seems to be of the 'if it moves, blast it, or (even worse) kick it' variety, I am sad though not surprised to see 16-bit going the same way.

"There was a time when I would have considered 16-bit as a serious proposition, but watching all the youngsters trooping off with their Batpacks etc at the Shopper Show has finished that idea for good.

"With so much money in the pockets of impressionable children (7-14), I suppose it's obvious that for every £10 spent on hype, £20+ rolls into the coffers. Watch out, 16-bitters, you are about to bring yourself down to our level! (Speak for yourself – ed)

"Another example of 'progress' has been the advent of the 'computer expert'. Only last Saturday I witnessed one of these displaying all his mastery on a 6128. A lady had returned some software to the shop saying it would not load. The title is irrelevant, but it was a disk game.

"He first attempted to load it using the RUN DISK command on the inlay card, and when that wouldn't work he explained that sometimes the computer benefits from being reset, and I watched stupefied as he promptly switched it off at the back SEVERAL times, WITHOUT removing the disk.

"It was at this point that I suggested he not continue with that practice but try the ICPM command instead. Not surprisingly, it worked, and the lady went away happy. What I would like to know is why do software companies continue to put incorrect information on inlays?

"Would it not be an idea to produce a beginners' guide to software, explaining things like: 1) don't switch off the computer with the disk in; 2) try more than one loading method – the inlay is usually wrong; 3) how to use *Disckit3* to make back-ups. (You can't do this with protected software, but with many adventures and programs you can.)

"Although the manual supplied with any Amstrad covers some of these points, who really looks at the book when all you want to do is play games?

"In fact, I would lay money on the notion that if you displayed something akin to 'The Beginner's Guide to Loading and Running Software' on the cover of an issue, you would get an increase in sales. Let's face it, everyone has had trouble at some time with loading."

I'm with you all the way, Mr Havard. On the games front, I have to admit that (neck on the block time) the prospect of rescuing hostages/girlfriends/children from the hands of terrorists/kidnappers/psychotics by means of your bare hands and ninja skills alone is about as fascinating as watching paint dry.

As far as I'm concerned, karate, kung fu, tae kwon do and origami are all about as interesting as each other – i.e. not interesting at all. Blast them to smithereens with high-powered laser cannon spread fire, that's what I say, rant rant...

Yes, well. On a saner note, Mr Havard's points about loading software are good ones, particularly at this time of year when you only get to unwrap the blasted games when all the shops are shut anyway.

It doesn't help that you're probably already wound up through having to listen to yet another of Uncle Jack's abominably tedious war stories and sit through yet another showing of *Chitty Chitty Bang Bang* (try saying that after 5lbs of sherry trifle). Under these circumstances, software that doesn't load first go is as likely to end up in the bin as go back in the box for later.

One tip that I've found handy for tape-based games, however is as follows:

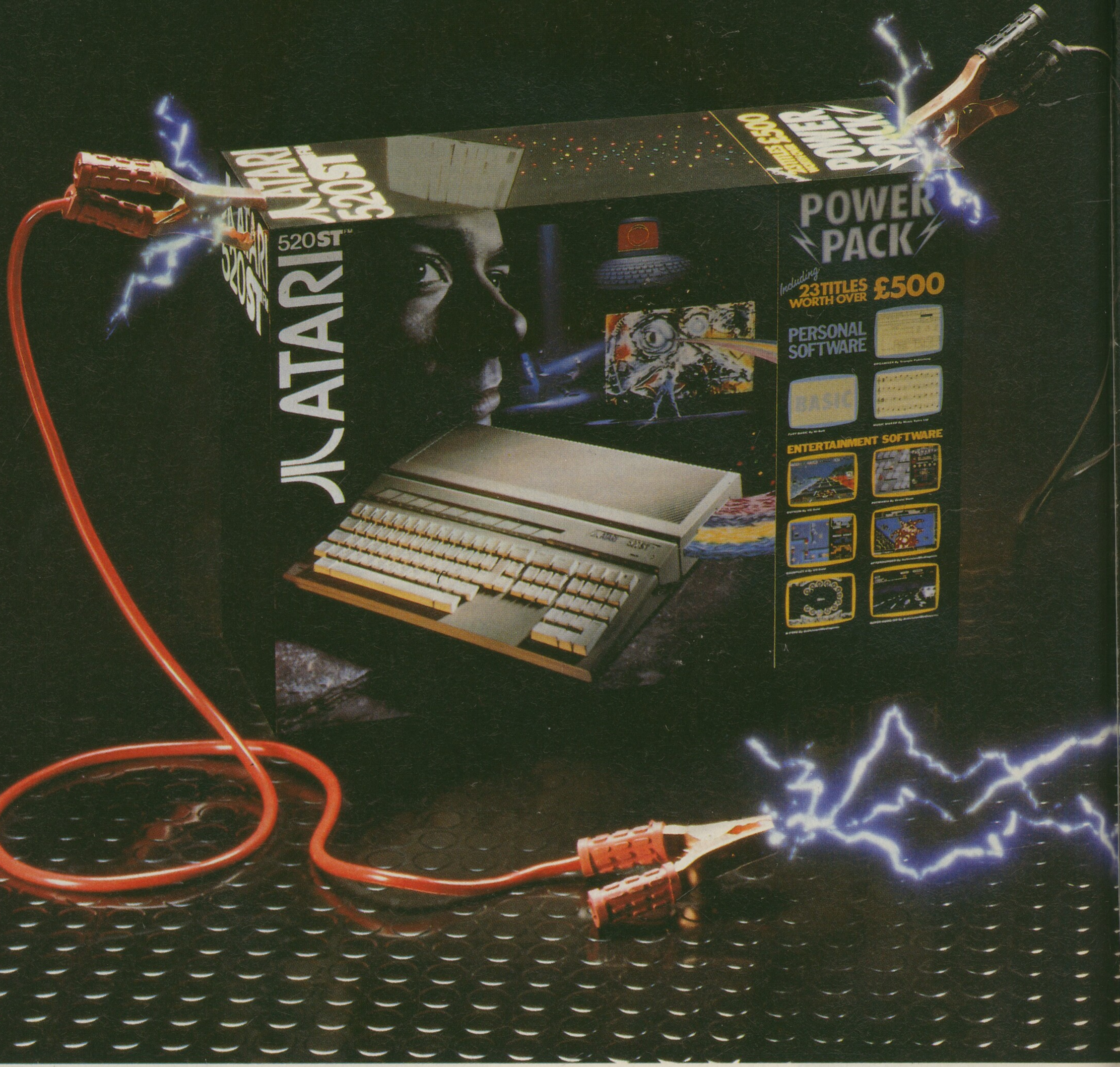
If you keep getting a loading error, and you've got the tape wound right back to the start etc etc, don't panic! Simply remove the cassette, hold firmly between the index finger and thumb of the right hand, and bring it down sharply on Uncle Jack's cranium.

With any luck the loading problem was caused by a sticking cassette mechanism – a less severe solution, by the way, is simply to rewind and fastforward the whole length of the cassette a couple of times.

Rod Lawton

YOUR FORMAT

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Amiga 11
PC 12
Spectrum 14
PCW 14
MSX 14
BBC 15
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Atari 8-bit 18
QL 18
Archimedes 18
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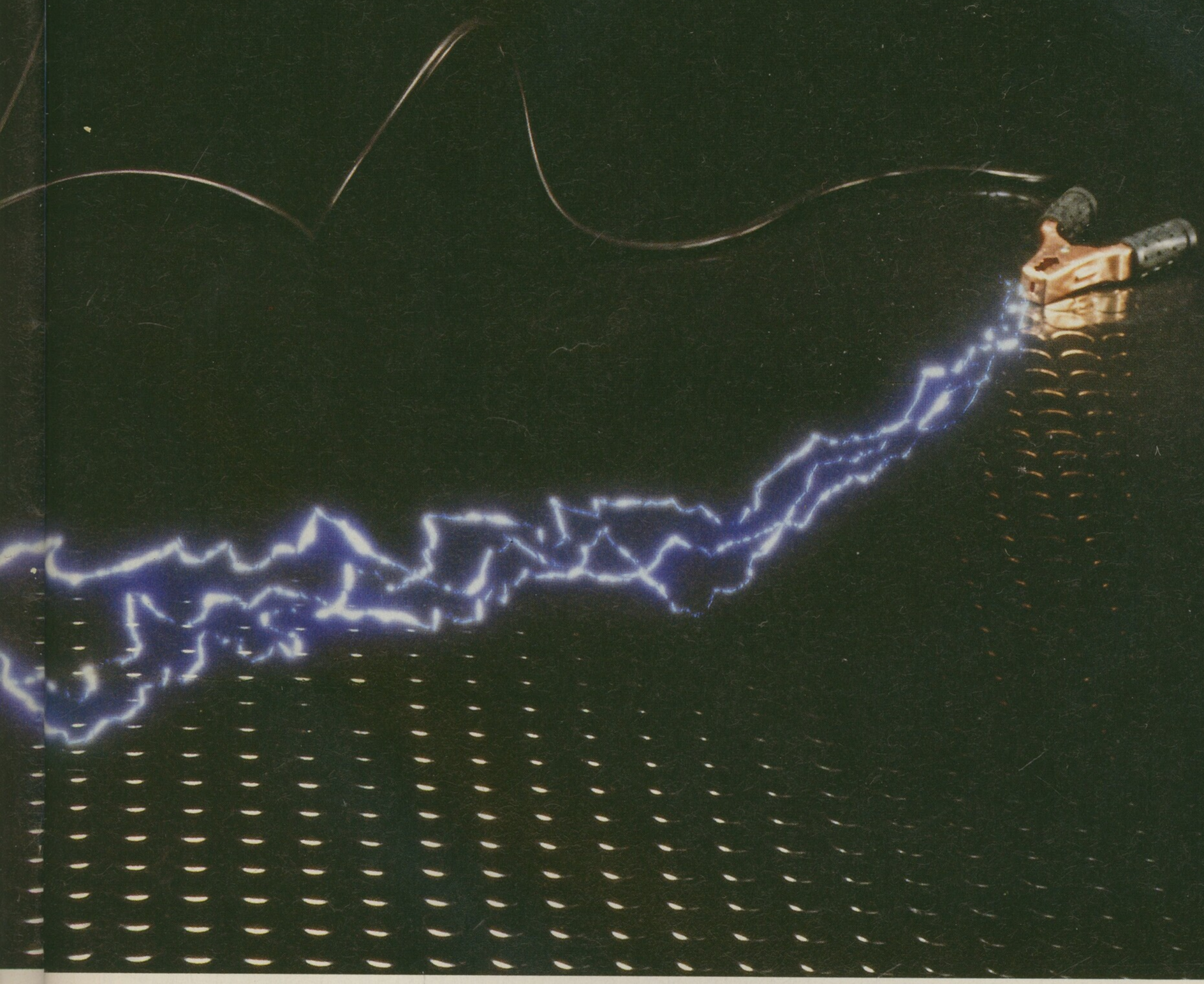


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QL

QL KERMIT

Richard Alexander of CGH Services has just sent me a copy of *Kermit*, the popular error-checking file transfer program which is available for virtually all micros, minis and mainframes. It originated with the French QL group (very appropriate)

Richard has added it to his PD library, and it is available for £3 (plus disk or three cartridges) from CGH Services, Cwm Gwen Hall, Pencoder, Dyfed, Wales, SA39 9HA.

A PROGRAMMING LANGUAGE

A Programming Language (APL) is one of the more esoteric languages to be developed for the QL.

As the brainchild of Dr Kenneth Iverson of IBM, APL makes use of a very concise mathematical notation that functions as an extremely powerful language – one line of APL can often replace 20 lines of a conventional language like BASIC or C!

APL is generally implemented as an interpreter – and it uses dynamic arrays, making a compiler for the language very difficult – if not impossible – to write. Indeed, one of the more interesting features of APL is the way it handles arrays.

With APL arrays, even multi-dimensional ones, can be manipulated as a single entity. For instance, you can multiply two arrays with a single statement. This means that, long before *Visicalc* (the first spreadsheet program) became available, people were using APL to perform calculations that are now commonly handled by spreadsheets.

HISTORY CONTINUED

MiicroAPL Ltd ported the 68000 APL to the QL in 1986. It came in two versions – a so-called 'Squiggle' version using the APL character set, and a 'Keyword' version, using the standard ASCII character set. An excellent implementation with very good documentation, it was also ported to the Amiga and ST.

I've just checked with MicroAPL, and much to my surprise, it is still in stock, at £99.95. MicroAPL Ltd is to be found at the South Bank Techno Park, 90 London Road, London, SE1 6LN.

HARDWARE ENTHUSIASTS

If you want a single-bit input port (for decoding Morse or radio teletype), the following tip mentioned by Francois Lemay in the August 1986 issue of *Quanta* might be of interest.

Network input is to bit 0 of port PC.IPCRD, located at $18020, or 98336 in decimal. Use the tip of the jack (in either socket) for input, the body is grounded. Plug a dummy jack in the other socket, to disconnect the internal resistive network, if you are feeding in ITL level signals.

John Torofex

C64

WHICH CARTRIDGE?

Agony Uncle again! Which cartridge should I buy, I hear you cry. Well, I've always thought that the Power one (from BDL for £14.99) was one of the best, highly recommended and used by several people that I know. Monitor, turbo-loaders, toolkit, even a printer toolkit – all seems like good value for money.

On the other hand, a friend recommends Action Replay Mark VI Utility cartridge. So advice is: try before you buy!

INTER-ACTION

Another adventure fanzine to appear shortly will be called *Inter-Action*. Set up by four adventure columnists (ex-*zapp*, ex-Newsfield and ex-*Games Machine* among them), it will be a bi-monthly 50-pager covering all aspects of the adventure world.

Cost will be £15 for a year, which also gets you a newsletter and a telephone helpline. For further details write to *Inter-Action*, The Cottage, Ashford Carbonell, Ludlow, Shropshire SY8 4DB.

SPOOKY HELP

Scapeghost from Level 9 is proving a popular number. In part one, getting into the shed is also proving a tricky problem. This is because it requires four ghosts to push the various levers and turn the barrel, and they all have to co-operate in the pursuit of one goal.

The syntax required is of the form 'Joe, wait 3 then push short lever', and I'm sure you can get the rest from there. Then, to pull the handle, you'll need to free the bone from the dog's throat and get IT to pull the handle after you've tried to do it. Two of us couldn't solve this without outside help, and we're credited with the original idea!

Pete Gerrard

SILLY OLD BUFFER

The keyboard buffer on the C64 holds up to nine characters, but to clear it you could `POKE 198,0`.

On the other hand, you might wish to put characters into it, and the locations for doing that start at `631`. **For instance,** `POKE 631,13: POKE 198,1` **would tell the C64 that we've put** `CHR$(13)` **into location** `631: CHR$(13)` **is a carriage return.**

So what? Well, try the following short program:

```
1000 PRINT"(CLR,2CD)RUN(HOME)";
:1010 POKE 631,13: POKE 198,1:END.
```

Anything in square brackets is a symbol, in this case the one for clearing the screen, then two cursors down. Don't enter the square brackets or the commas, just the symbols. Now `RUN` **and watch.**

XE

SHOW NEWS

Recently I mentioned the 8-bit Micro Show which I hoped many of you would attend. I've had a letter from Mr Adrian Betts – one of the organisers – who tells me that the show was a success.

"Overall it was a great show, and we will be organising another one for some time in 1990," Betts said.

TO NOTCH OR NOT?

Most of you lucky enough to own disk drives are still using the 1050 and even the early 810 models. Although praiseworthy, these drives can only access one side of a floppy disk – if you want to use the second side of a double-sided disk you must turn the disk over.

A letter appeared on my desk at the beginning of the week from Ms Y. Smedley of Norfolk who had seen an advert for a disk notcher, a device which can punch holes into the left hand side of a floppy disk so it can be written to by a single-sided drive. Ms Smedley wanted to know if using these disks can damage her disk drive heads.

No harm can come to drive heads by using the flip side of a disk. Unless you use good quality double-sided floppy disks, however, there is a danger that your data could be corrupted.

In fact, you don't even need to buy a disk notcher. Just apply a sharp pair of scissors to the relevant disk while holding another as a template over the top. Make neat cuts and your disk will work perfectly – two for the price of one!

Edmund Blake

ARCHIMEDES

THE SPRITE ONE

Having moved up to the Arc from a BBC Micro with all the trimmings, I imagined I'd have a head start with learning its workings. As time goes on, though, I begin to appreciate that RISCOS is so much more complex than the BBC's operating system, that I might as well start from scratch.

RISCOS actually has more in common with AmigaDOS (perish the thought) in its WIMP structures, and an understanding of that operating system proves substantially useful.

Take the way RISCOS uses sprites. Under a system like GEM or Windows, icons are pre-defined and are thus an integral part of the operating system. The user only sees the icons when assigned to particular applications – they don't exist as separate entities and are generic symbols for word processors, databases, programming tools and the like. With the Arc, icons are sprites and can be edited with pixel-based painting programs, such as *Paint, Artisan* or *Atelier*.

You can take a look at sprites supplied with some of the Arc applications. First install *Paint* on the icon bar, from a copy of Applications disc 1. Now, hold down [Shift] and double-click on any of the applications beginning with a '!'. That application's folder opens, showing the files which make it up. One of these is labelled !Sprites.

Double-click on the !Sprites icon and another window opens, showing the sprites associated with the application. Double-click on any of the sprites and they will be copied into a *Paint* window.

Click Select and up the zoom level to 3 or 4 to 1. Select Show colours from the Paint menu and yet another window will open, displaying the palette used in the sprite.

You can now select any colour on the palette by clicking and then you can use the colour to touch up the icon file. If you don't want to save changes to existing sprites, be careful to answer No to the requester when you eventually close the sprite window.

THE ARCHED WINDOW

The inter-relation of the various parts of the Arc WIMP and programs, either in BASIC V or other languages, is not a simple one. The latest version of Simtron's *Archway* should therefore come as something of a relief.

Billed excitingly as a fourth generation language (4GL), *Archway* is really more like a set of WIMP utilities which take quite a lot of the labour out of writing a RISCOS application.

The utilities come on four colour-coded disks, as a series of 'resources' that you can build into your programs. Calls can be made from BASIC programs, which can be either interpreted or compiled by one of the main compilers such as *ABC* or RISCBASIC.

A number of specialist tools are also provided, including utilities to redefine the mouse pointer, create help systems and turn Maestro music files into extra resources (music while you work?).

There are no royalties attached to marketing applications created with *Archway*, and several are under development by Simtron themselves. These will include a Hypertext system, a personal organiser and a two billion record database – bet you need a hard disk for that one! Price of *Archway* is £99.95 inclusive of VAT and Simtron can be contacted on 0342 328188.

HI-FI ARC

All varieties of Archimedes have a high quality sound system, based around good synthesis chips. To play the sound back through the minute internal speaker (or speakers in the A3000) is tantamount to sacrilege. Even a pair of walkman headphones can't really do the system justice. What you need, according to Neal Grimes of Sphinx Software, is his Arc to Hi-Fi lead.

This comprises two metres of twin-screened lead terminated by a miniature stereo jack at one end and a pair of phono plugs at the other. The jack goes into the Arc's headphone socket and the phonos go onto the line input of your amplifier. The sound is good, and so are the plugs, all metal cased and pukka RadioSpares types.

What will this little lot set you back – a mere £2.99. This would seem to be something of a bargain, and you may contact Sphinx at Erw Fynydd, Carmel, Llanelli, Dyfed SA14 7SG.

Bertrum Carrot

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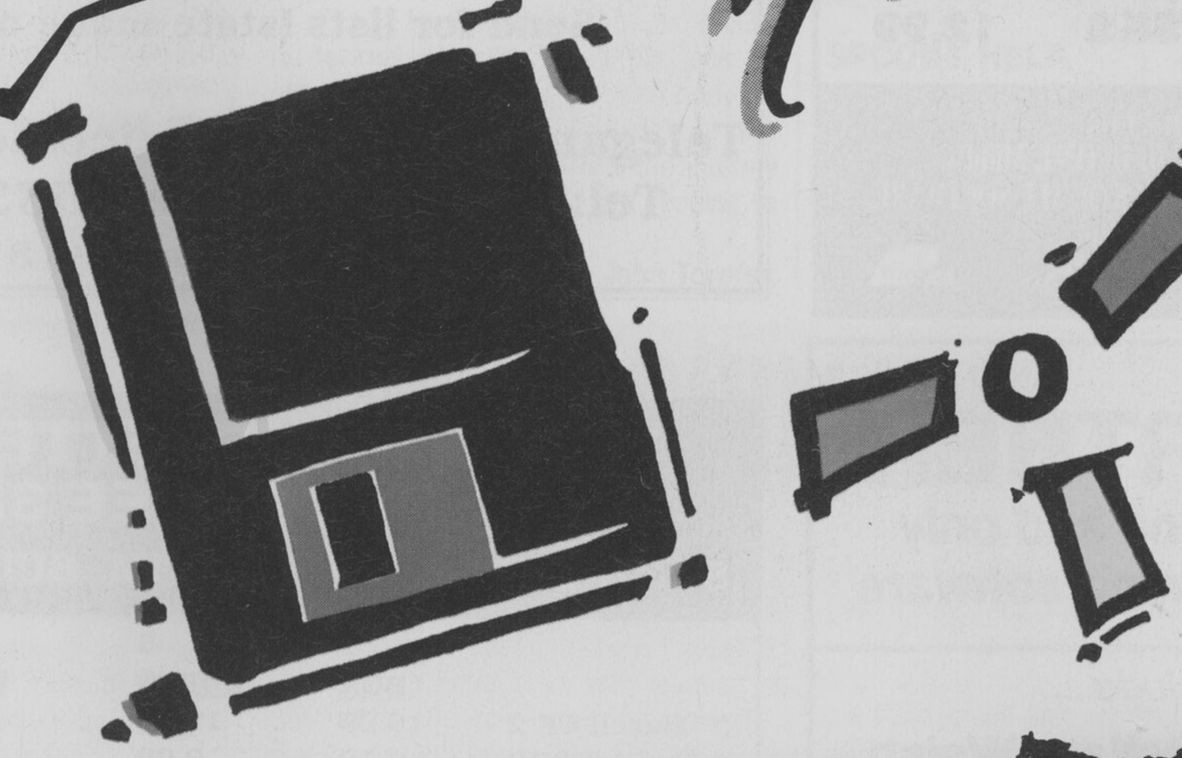
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● THAT'S WRITE!
Cavendish
01-323 4761
£129

Another powerful non-GEM word processor featuring excellent layout control along with a font designer and screen grabber. Also includes useful functions such as auto indexing, contents generation and hyphen control

▲ Brilliant print-out results
▲ Powerful macro system

▼ No spell check or mail merge

● WORDUP
HB Marketing
0895 444433
£ 59.95

Almost qualifies as a DTP package as it includes graphic import, auto text flow around graphics and loads of different type sizes and styles. Excellent for producing stylish documents

▲ Good control over layout
▲ Quasi-DTP capabilities

▼ No spell checker
▼ Can only print its own fonts

SPREADSHEETS

● K-SPREAD 3
Kuma
07357 4335
£24.95

Good entry level spreadsheet which is fully compatible with other programs in the 'K' suite. A powerful Lotus-lookalike using GEM to provide a workspace of 256 columns by 8,192 rows. Many features such as text handling, arithmetic functions make it an excellent all-round business program

▲ Comprehensive low-cost package
▲ Lotus style capability
▲ Good manual

● DIGICALC
Digita International
0395 45059
£39.95

An easy to use spreadsheet which dispenses with GEM to provide a keystroke driven workspace full of popular facilities. 512 columns by 52 rows are supported plus the usual range of numeric functions

▲ Fast recalculation
▲ Holds full sheet entirely in memory
▲ User defined macros available

▼ No graphics
▼ No GEM
▼ No comparison functions

● VIP PROFESSIONAL
VIP Technologies
£149.95

A GEM version of VIP on the PC, supporting 8,192 x 256 cells and following the Lotus *1-2-3* industry standard. Fast editing and simple database functions complement a full range of features including keyboard macros

▲ Lotus controls
▲ Acts a simple database
▲ Graphic output

▼ Slow on large spreads

ACCOUNTING

● FINANCIAL CONTROLLER
Sagesoft
091-284 7077
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Comprehensive accounting package that includes all the features you're ever likely to want. Integrated sales, purchase and nominal ledgers, stock control and printed reports are supported as is auto invoicing.

▲ Fully comprehensive, powerful package
▲ Good manual

▼ Needs a hard disk

➤

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● ACCOUNTANT

Sagesoft
091-284 7077
£171.35

Fast,powerful accounts package that includes integrated sales, purchase and nominal ledgers. No stock control but auto invoicing is supported along with form printing and sales analysis

▲ Good features for the price
▲ Flexible with many features

DATABASES

● SUPERBASE PROFESSIONAL

Precision
01-330 7166
£249.99

The ultimate ST relational database management package. Features videotape recorder style push-button controls to navigate a complex yet easy to use extravaganza which includes text processor, form editor and a built-in programming language boasting over 200 command words

▲ Easy to use and extremely powerful
▲ Infinite field size and number of records

● DATA MANAGER PROFESSIONAL

Timeworks
0954 80318
£ 69.95

A full-featured professional-grade data management tool which can be used with GEM's pull-down menus or directly from the keyboard. Relational operators allow powerful data searches among its maximum file length of 32,000 records and as this is RAM-based, *DMP* can sort at 100 records a second.

▲ Exceptionally easy to use
▲ Impressive report facilities

▼ Manual needs a better index

DESKTOP PUBLISHING

● TIMEWORKS DTP

GST/Timeworks
0954 81991
£129

One of the first medium priced DTP packages, GEM based and compatible with the wide range of Bitstream Fontware. A frame based system incorporating master templates, paragraph styles, page guides and automatic text wrap-around graphics. *Timeworks* also includes a a good range of drawing facilities and is able to handle documents up to 999 pages.

▲ Excellent DTP at budget price
▲ Imports wide range of text and pictures

● FLEET STREET EDITOR

Mirrorsoft
01-928 1454
£184

A GEM style package, Bitstream font compatible, but generally slower to use than real GEM DTPs. Both text and Graphics can be manipulated on the same screen and overlap each other. A wide selection of clip art is supplied but the working document has to be reloaded before insertion.

▲ Good clip art selection
▲ Wide file format supported

▼ No automatic reflowing of text
▼ Relatively slow and unfriendly

● PUBLISHING PARTNER

Clik ST
0753 682 988
£ 159.99

Excellent GEM -based page mak-up system, with multiple-on screen pages, impressive range of fonts and text sizes and facility to import different ST graphics formats. Also includes a range of drawing tools and variable magnification. Fast screen updates and high quality printer output

▲ Comprehensive and fast
▲ Excellent value

● SIGNUM 2

Signa
0252 874406
£184

Billed as a document processor, Signum allows text to be placed and adjusted to accuracies of up to 1/90th of an inch as well as imported graphics and technical fonts and symbols. Dot-matrix and laser printers are supported.

▲ Fast screen updates and response
▲ Compatible with Signa's scanners, digitisers and Mac emulators

▼ Price

GRAPHICS

● CYBER PAINT

Electric Distribution
0480 496666
£69.95

Breathtaking bitmapped animation and graphics package from American Antic. This program features some incredible effects including tweening (changing one object to another a line at a time) and very powerful animation functions. Rivals the Amiga and is highly recommended.

▲ Very powerful animation
▲ Stunning effects
▲ Cheap

● DEGAS ELITE

Electronic Arts
0753 46546
£24.95

Like *Digipaint* for the Amiga, *Degas Elite* was one of the first painting programs for the Atari and it's still one of the best. You can have eight word screens at once, cut and paste between any of them and there are plenty of powerful functions such as zoom, block handling.

▲ 8 screens available
▲ Powerful block handling

▼ Lacking in features ➤

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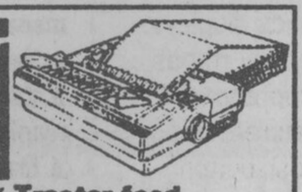
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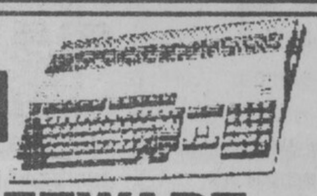
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Amiga



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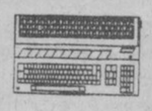
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0480 496666
£79.95

Painting package featuring (as its name suggests) 512 colours. The program is simple to use and effective. There's some very powerful functions too in the form of anti aliasing and gradient fill.

▲ Lots of colours
▲ Easy to use

▼ A little expensive

● ADVANCED ART STUDIO

Rainbird
0606 504326
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Aimed at those with a serious interest in producing quality art/graphics displays. the Advanced Art Studio. An enormous range of fills as well as comprehensive zoom and text handling complete this package.

▲ Lots of fills
▲ Powerful manipulation tools

MUSIC

● CREATOR

C-Lab (Sound Technology)
0462 480000
£285

Rapidly becoming the most widely used of sequencers it has excellent editing and arranging features. Although not cheap, if you are serious about music then this is the one to go for. It can be expanded with hardware to control up to 64 instruments independently

▲ Excellent facilities
▲ MIDI file compatibility
▲ Will also adapt to video sync
▲ Good editing

▼ Handbook can be hard to get to grips with
▼ Expensive if you are not serious

● TRACK 24

Comus/Soundbits
021-733 2063
£75

Well priced budget sequencer with more features than you would expect, rivalling software twice its price. Compatible with their more up-market sequencers and scoring packages.

▲ Cheap
▲ Good sequencing facilities including mixdown
▲ MIDI File

▼ Editing is peculiar

● STEINBERG PRO 24

Evenlode
099389 8484
£285

The has been the industry standard for many upon many years. The soon-to-be-available Amiga version should prove as interesting as the versions previously released on other machine specs. They are pushing their new program 'Cubase' at present, but one should not neglect this easy to use and very popular program. Make sure you get at least version 3 though.

▲ Easy to use
▲ Established program
▲ Easy editing

▼ Price

● VIRTUOSO

The Digital Muse/Audio Software
01-586 3445
£225

A new all British program having its first outing this year. Initial reactions are favourable and it has many things in its favour. It has all the features that are available on much more expensive packages and still remains quite easy and friendly to use.

▲ Very fast – thanks to re-writing of screen management
▲ Very accurate
▲ Can perform disk operations whilst still running
▲ Many excellent features

▼ New and therefore untested in the general market
▼ Price

● SUPER CONDUCTOR

Microdeal
0726 68020
£49.95

Very popular little sequencer that will also control the ST sound chip. Well thought out, especially in the song arrange section. Can also cope with the fine details of MIDI including systems exclusive editing.

▲ Suitable for beginner
▲ Easy arrange section
▲ Well documented
▲ Controls internal sound chip
▲ Good if you want to control MIDI via data

▼ Editing not too easy
▼ Quantize limited

● EZ TRACK PLUS

Syndromic Music
01-444 9126
£49.95

Reasonable sequencer that is fairly easy to use. Compatible with other Hybrid Arts programs that also boast a multi program environment. Limited on quantizing but not bad for the money. Editing in data only but good for organising songs.

▲ Good price
▲ Easy to use

▲ Compatible with Hybrid Arts EZ Score
▼ Limited on editing and quantizing

● REPLAY 4

Microdeal
0726 68020
£59.95

One of the first sampling packages now in its fourth version. Earlier versions available on public domain as sample players only. MIDI well looked after.

▲ Editing very easy
▲ Samples sound very clean
▲ Tried and tested program

▼ The ST is not the best sample player.

● MUSIC STUDIO V3

Activision

➤

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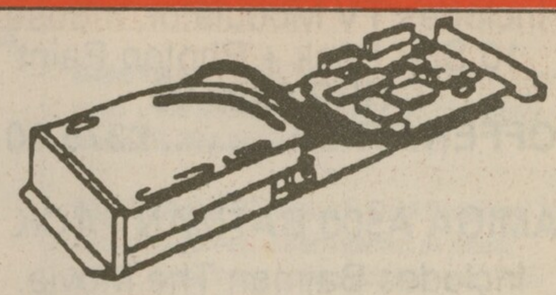
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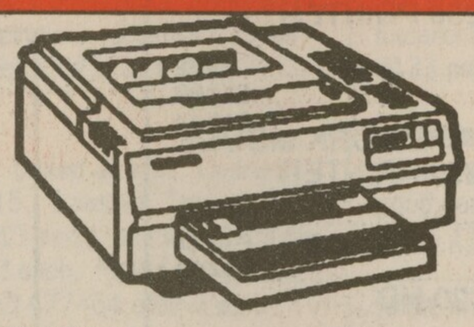
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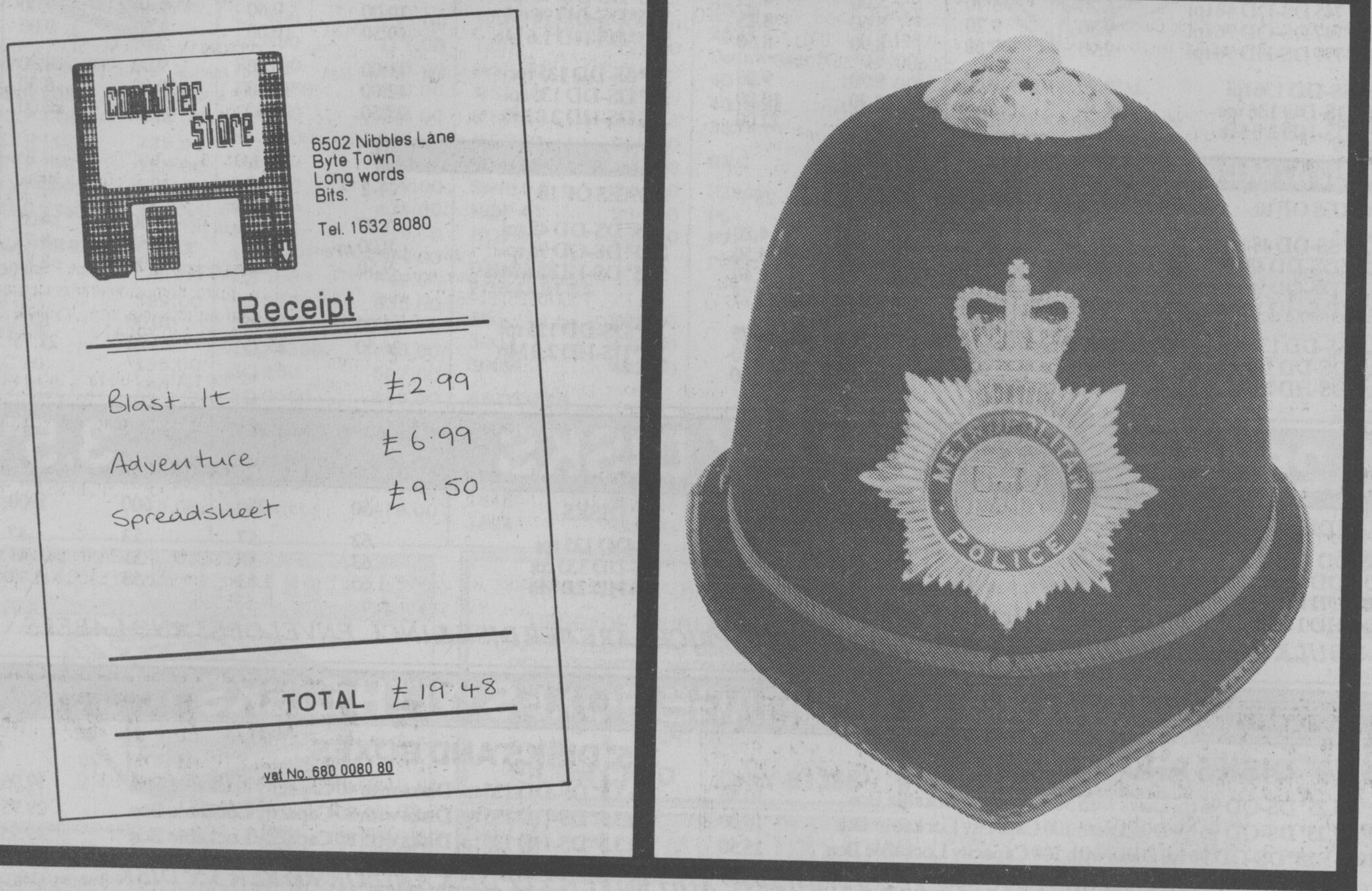
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EXIT THE EIGHTIES

Now that the Eighties are finally over, it's a good time to take stock of the decade that has been. Mel Croucher asked some of the leading industry figures for their memories of the past 10 years

Over and done with, we say farewell to the first full decade of the computer leisure industry. The 1980s began with an avalanche of tacky software provided by a shambolic bunch of amateurs. It ended with an avalanche of tacky software provided by a shambolic bunch of professionals. And didn't we all have fun!

The best moment for me was the Midland Computer Fair, April 28th 1983, Bingley Hall. I ordered the Automata stand to be cleared of all our stupid software and bunged in a nine-piece band. We threw a two-day party for 20,000 kids just for the hell of it.

And then there were the personal bad times, like walking into the High Court after deciding to fight Waddingtons for their ludicrous claim to own the rights of some obscure entertainment called 'Monopoly'.

But I don't want to wallow in nostalgia on my own, so I asked some of the computing survivors of the 80s to admit to their own highs and lows of the last, first and only decade of our business. Some were more revealing than others, but together they give sum up the past 10 years.

ROD COUSENS (Activision)
HI-SPOT "Being a part of the early days, when success and fun were one and the same thing. Revember those trestle tables?"
LOW-SPOT "Being misquoted by you."

JEFF MINTER (Llamasoft)
HI-SPOT "Every new Floyd record, man."
LOW-SPOT "I don't have low spots, I go up the Andes."

STEPHEN HALL (Grandslam)
HI-SPOT "Having lunch with Mel Croucher (and watching publishers become more mature and businesslike)."
LOW-SPOT "Witnessing Mel Croucher throw up his lunch. I've heard of recycling, but that was about as low as you can get."

BRUCE GORDON (Miles Gordon Technology)
HI-SPOT "When I first switched on the SAM Coupé, and it printed 'Hello Daddy!'."
LOW-SPOT "Losing my wallet and my Jaguar on the same day. Then finding out ***** ******* dresses up in women's clothes".

ALAN MILES (Miles Gordon Technology)
HI-SPOT "Meeting Bruce Gordon, and helping at the birth of the SAM Coupé."
LOW-SPOT "Oh dear. Witnessing the vapourisation of Sinclair Research."

RICHARD PAUL-JONES (Interceptor)
HI-SPOT "All the early days, especially the Microfairs. Outfits like Rabbit, Quicksilva and Salamander, they were great."
LOW-SPOT "The last few years. It's all got much too serious!"

STEVE WILCOX (Elite)
HI-SPOT "*Paperboy*, 1983. Matter of fact we've just released it again. Not much progress really, was it?"
LOW-SPOT "We may not have hit it yet. I hate the multi-nationals!"

KEVIN THOMS (*Football Manager*)
HI-SPOT "1982, writing *Football Manager*, and it's still bloody there!"
LOW-SPOT "Rewriting sodding *Football Manager* for the year 2000."

BO JANGEBORD (*Fairlight, The Artist*)
HI-SPOT "My involvement with the graphics package for the SAM Coupé launch."
LOW SPOT "Getting ****ed about by every software house in the 80s, especially Softek."

LEE GINTY (Ex-Microdealer, now Multi-Media)
LOW-SPOT "September 18th 1989, losing the company I founded in March 1983. A sod of a tragedy."
HI-SPOT "June 1984, walking round the floor of the Stock Exchange! The greatest aphrodisiac that's still legal!"

TIM LANGDELL (Softek/The Edge)
HI-SPOT "We've had two: *Fairlight* which is still selling at over 200,000 units, and *Garfield* last year."
LOW-SPOT "Well, we've never had an outright Number One, never."

STEVE GOLD (Superhacker)
HI-SPOT "October 1984, having gained total, absolute access to Prestel."
LOW-SPOT "April 1986, marching out of Southwark High Court after being clobbered for gaining total, absolute access to Prestel."

DOMINIC HEATLEY (Domark)
HI-SPOT "Gawd! Setting up the company in '85, when I was 24 and Mark (Strachan) was 25. Long live the independent software house! And long live the freelance journalist, you old bugger!"
LOW SPOT "Getting mauled by programmers and the press over *Friday the Thirteenth*. I know green is fashionable, but we really were green then."

ANDREW WRIGHT (Virgin/Mastertronic)
HI-SPOT "Hurray for 16-bit machines!"
LOW-SPOT "Losing so many good software companies. It's so sad when they die. Competition is the life-blood of this industry, and we're bleeding-well bleeding to bleeding death."

STUART MATHIE (ex-Accolade, now Multi-Media)
HI-SPOT "Right now! Product is improving every day, companies are more professional, and the public isn't influenced by assholes like you."
LOW-SPOT "I don't have one. It's been one long high, Mel."

PAUL COOPER (Thalamus)
HI-SPOT "1982, fresh-faced and innocent, when I was with Quicksilva. Trouble is, all the hi-spots were over by 1981."
LOW-SPOT "The 1980s has been one continual low spot. Here's to the 1990s!"

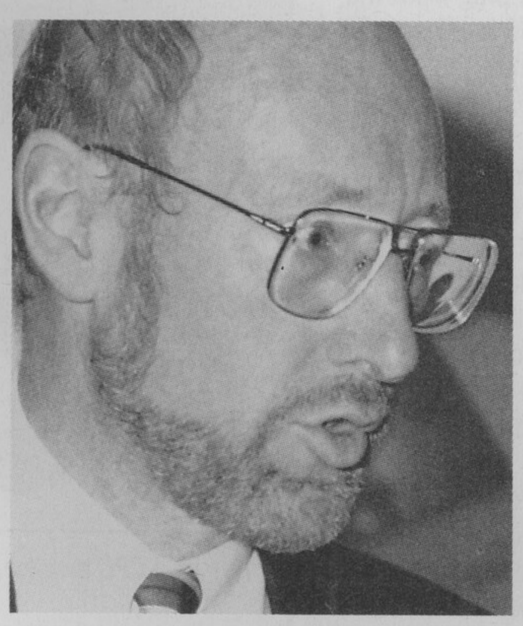
BRUCE EVERISS (Ubiquitous)
HI-SPOT "Opening the first computer shop in the UK as the decade began, and practically everything in between."
LOW-SPOT "The circumstances surrounding Imagine. I still can't believe how that happened!"

JIM MACHONOCHIE (Mirrorsoft)
HI-SPOT "Deciding to avoid 16-bit like the plague, and seeing CD-ROM finally take off."
LOW-SPOT "Absolutely none."

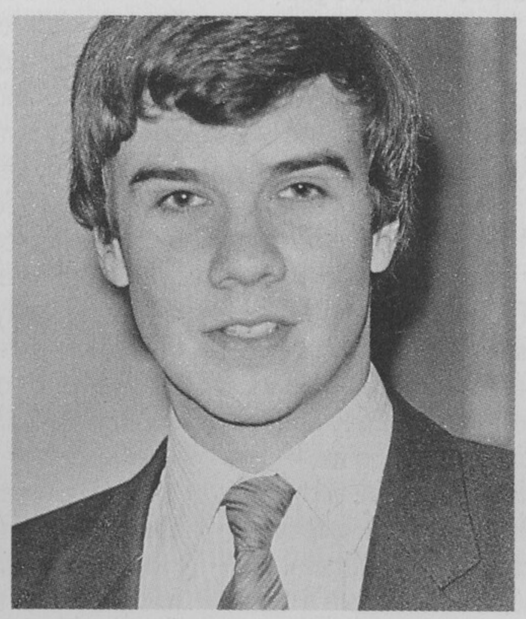
CLEMENT CHAMBERS (CRL)
HI-SPOT "The Rocky Horror Show. Definitely."
LOW-SPOT "No. I'm not prepared to say. Oh, who cares. In two words, Electronic Arts!"



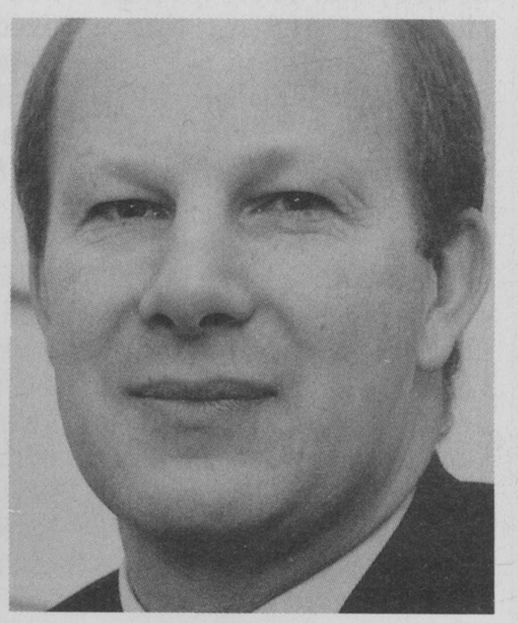
ANDREW HEWSON (Hewson)
HI-SPOT "Midnight, February 28th 1986. When we shipped *Uridium*."
LOW-SPOT "A few hours before the 1987 PC Show, when Steve Turner marched up and said he'd just signed with British Telecom."



SIR CLIVE SINCLAIR (Cambridge Computing)
HI-SPOT "A very good decade, all in all."
LOW-SPOT "Computer games that glorify violence. A corrupting influence, a tragedy."



IAN ANDREW (Incentive)
HI-SPOT "If I'm remembered for taking 8-bit as far as it can go with Freescape, I'll be happy. "
LOW-SPOT "Less and less publishers. It's all so bloody serious these days."



DAVID WARD (Ocean)
HIGH-SPOT "I'll call you back."
LOW-SPOT "I'll call you back."

TECH TIPS



Personal computer problems? Uncle Tech Tip is your man. Write with the agonising details to Tech Tips, Beaufort Court, 30 Monmouth Street, Bath BA1 2AP. Don't forget to tell him which machine you own, as the sorriest story wins a software prize

HELP! PD quick!

I have owned a Commodore 64 computer since the very early days of home computing, and now have a very large collection of hardware peripherals and commercial software. Lately I've been reading in your and other magazines all about public domain software, and although it sounds very good value I'm not quite sure that I understand the principles behind it.

Is it really free? Can I really copy it as I like and give the copies to my friends?

If the answer is yes to these two questions, then can you tell me where I can get some of this software so that I might join in the fun. I have looked about myself, but can't seem to find anyone with public domain software in this area.

Ian Hollender, Brownhills, West Midlands.

Public domain is software which the author has has said that anyone may make copies and distribute those copies in whatever manner they choose, as long as they don't sell it at a profit.

Recipients must not change the software, and must include all .DOC files and other information accompanying the public domain programs. The author retains copyright and can withdraw the software from the public domain at any time s/he so wishes.

So the software is indeed free, gratis and for nothing – pretty fabby, right? And even as the owner of a venerable old a Commodore 64 you can still join in 'the fun' as you call it, because one or two suppliers are in the market with C64 PD software. One of the better of these is the Independent Commodore Products User Group. The user group has PD and other software for every Commodore machine from the PET through the 16 and +4 to the Amiga.

To get at the software you send a blank disk and it is returned free of charge stuffed with more PD programs than you can shake a stick at. There is a slight catch however. You must become a member of ICPUG. For membership details write to Jack Cohen, 30 Brancaster Road, Newbury Park, Ilford, Essex IG2 7EP.

TIP Spectrum hum

With reference to the television humming problem experienced by John Harrison in Tech Tips (*Express* 57), if his Spectrum Plus 2 is an old grey-cased model, then there is a little variable inductor located near the reset switch which can be adjusted with a screwdriver to reduce the hum. The black Plus 2 however, cannot be adjusted.

Peter Skirenko, Leytonstone, London.

HELP! PCW problems

I have managed to avoid all contact with computers for several years, but after my place of work recently had a batch of the beasts installed, I decided that unless I bought one and used the thing at home I would get left behind. So after tramping the electronics shops I decided that the computer most suited to the beginner was the Amstrad PCW. A swift talk with my bank manager later, and I'm now the proud owner of an Amstrad PCW8256.

As a complete newcomer to the world of computing I have managed to get the machine out of the box, but that is just about all I'm afraid. Could you please help by answering some questions that will go a long way towards saving my sanity.

1. With *WordStar 4* at work I have seen typists manipulating text into three adjacent columns, but the technique they use to do this doesn't seem possible with *LocoScript*. I've read and re-read the manual but to no avail. Any ideas?

2. How do I gain access to some of the more useful printer typefaces such as compressed and double width. I have heard of pubic domain programs to print ASCII files in various styles, but I would like to do this in *LocoScript* as well.

3. I saw an advertisement in one of the other computer magazines at my newsagents offering a program called *Pocket WordStar* for around £40. What is this software, and does it use the proper *WordStar* control key commands?

4. With reference to ASCII files. Are they compatible with other computers or have I got the wrong idea about these altogether?

5. And finally, my friend has a Sinclair Spectrum computer that he regularly uses for word processing and keeping a database.

Could my friend connect his Spectrum Plus 2 to my Amstrad PCW's printer, and if so will he have

HELP! Ready with the soldering iron to connect a CPC monitor to an ST

After computing for many years on an Amstrad CPC664 with colour monitor, I have decided that at long last, it is about time I upgraded to a modern 16-bit computer.

To this end I have instructed various in-laws to buy me an Atari ST, complete with a second disk drive and various bits of software for Christmas. I don't need to use my Amstrad anymore because I don't have any valuable word processed files or other data to transfer, so I have decided to sell the machine. What I want to know is, can I use the monitor from the Amstrad as a display for my new ST?

I've had a look at an ST at the local software shop and the monitor sockets are definitely different, so if it can be done, can you tell me how? I don't mind messing around with a soldering iron if that's what the job needs, but I'm not completely familiar with electronics, so it would have to be an easy job.

Asif Iqbal, Kensington, London.

You can indeed use the Amstrad monitor as a display for the Atari ST. The Amstrad device works well with Atari's machine and displays crisp, fat colours. It's excellent for games and low- or medium-resolution work. The method of joining the two together is not especially difficult and here's how to do it.

You need to obtain a standard Atari monitor lead (Silica Shop can supply one for a few pounds. Contact them on 01-629 1234), a six-pin DIN plug and half a dozen 280- or 300-ohm resistors (any electrical or hi-fi store, about £1 for the lot) and two general purpose diodes (two of OA91 from Maplin on 01-748 0926).

Remove the plug from the Atari monitor lead and bare the wires within. Locate the wires from pins 9 and 12 (horizontal and vertical sync) and solder the diodes to each, ensuring that the marked end of the diode points towards the monitor. Failure to orientate the diodes properly will result in their immediate destruction so be careful. Once you've soldered in the diodes, join the two wires together.

Next, locate the red, green and blue lines (pins 6, 7 and 10 respectively) and solder a resistor to each of them. The red, green and blue colour references relate to the signals being sent along these wires and not the actual colour of the cable itself.

Connect the necessary wires to the 6-pin plug which will ultimately be connect to the Amstrad monitor in the following manner: Atari pin 7 to Amstrad pin 1. Atari pin 6 to Amstrad pin 2. Atari pin 10 to Amstrad pin 3. Atari pins 9 and 12 (joined together) to Amstrad pin 4. Finally, connect Atari pin 13 to Amstrad pin 5. The sixth pin of the Amstrad plug is not connected to anything.

You now have a lead which will successfully connect the Atari ST to the Amstrad monitor. Simple, right? Watch that those diodes are the right way round though...



• Wiring up a CPC monitor for the ST is easy – well, easy-ish

to use the monitor as a giant power pack? Any help you can give me will be greatly appreciated.
Daniel Webb, Dulwich, South London.

1. Unfortunately *LocoScript* doesn't allow you to edit text in more than one column at a time.

2. In fact it is very easy to use different typefaces from *LocoScript* itself without having to mess around with printer control codes. (+P17) selects 17 pitch, (+P15) selects 15 pitch and so on. (+P10D) doubles the width of text and prints in 10 pitch. The + is the Plus Set key located next to the space bar. The space bar is on that loose-ish dangly bit located next to the monitor.

3. Normally, I would advise that anything with the words 'pocket', 'cut-down', 'mini' or 'machine-specific' should be avoided like the black death. Many manufacturers have purchased the right to adorn their inferior products with names similar to those of quality software.

However, in this instance *Pocket WordStar* is actually a fairly reasonable word processor which, although not worth the £40 necessary for its purchase, will probably reward you with a document or two after applying yourself to the manuals. It does indeed have one or two keyboard commands that are the same as its namesake. Unless the salesperson is blackmailing you, buy some other more powerful word processor or continue to use *LocoScript*.

4. Yes, ASCII files can be read and manipulated by almost every computer. ASCII is an acronym meaning American Standard Code for Information Interchange and, as its name implies, is a numerical code representing alphanumeric characters and various other bells and whistles (literally). You can port, that is, transfer, ASCII files between computers, then read them into word processors and edit them.

5. No. The Amstrad printer is designed solely and wholly for use with the PCW range of computers and as such will not connect to the Sinclair Spectrum. Amstrad designed the printer without any controlling electronics or interface, it takes its orders directly from the PCW, so other machines can't use it.

HELP! Drive master

Recently, I bought a BBC Master computer for my children so that they could use it to learn things at home, and apply the knowledge to the classroom (they use the Master at school too). Even though we are all computer illiterates, we've managed to compute. But now, I find that there is a problem and no-one I know can help me with it.

The problem is that the disk drive will not make use of floppy disks that have only 40 tracks. When the computer is switched to 40 tracks, it just gives a message saying "Disk error 18".

As the computer is still quite new I was wondering whether I should take it back to the shop from where I bought it, or is there something else that I can do? I'm not very good with soldering irons and things so please don't advise me to to anything with the Master's circuits.
Andrew Myatt, Malvern, Worcestershire.

Firstly, stop worrying. There is nothing wrong with the Master computer or its disk drives. The problem does indeed lie with the switching between 40 and 80 tracks and is the result of Acorn (the Master's manufacturer) setting the disk access time too fast at the production stage. When in 80 tracks mode, the computer can handle the extra speed but if the drive is switched to 40 tracks then a disk read error 18 results. Acorn ship the machine in this configuration because they assume that users will have access to modern, fast, 80-track disk drives.

The solution to this problem is both simple and quick. reconfigure the computer by typing `*CONFIGURE FDRIVE 0`. The drive will now work fine in both 80-track and the somewhat slower 40-track modes.

HELP! Printer problems

I wonder if you could tell me where I could obtain a printer manual for the Oki Microline 192 and the Fujitsu SP3200 letter-quality printer. You see, I obtained these printers at an auction. Now I wish to sell them but I need the manuals first, so any help you could give me towards tracing them would be greatly appreciated.
Paolo Sedazzari, High Grove, Wynstanley.

You could try contacting the manufacturers directly who, for a small fee, may be able to provide the necessary documentation for the devices.

Fujitsu can be contacted on 01-573 4444, and Oki on 01-742 2001. Alternativley, if any Techtippers can help with spare/old manuals, send them in, I'll pass them on and reward you with a computerish trinket...

HELP Mouse madness

I own an Atari ST and I'm getting very tired of the rodent which comes with the machine.

Frequently, to move the pointer from one side of the Desktop to the other I have to rev the mouse up like one of those Dinky toys which have a flywheel inside.

What can I do about this annoying animal? Please help before I throw the damn thing out of the window in a rage.
Michael Batchelor, Chewton Mendip

The Atari mouse certainly can be tiresome at times. The first thing to do is make sure it is perfectly clean, as any gunge inside will severely impair its ability to do anything useful.

Undo the plate on the underside of the device and remove and clean the ball. Then carefully clean any scum from the three rollers inside. All of these should be totally free of dirt. If you have trouble getting at them, you can remove the case completely by unscrewing the small Philips-head screws.

If your mouse still plays up, try buying a mouse mat. These little pads only cost a few pounds and often double as scalpel-proof cutting boards. You'll find the mouse works a lot more smoothly on a surface that it can get a grip on.

If all of this fails then you could consider investing in a repacement mouse. One particular model that has been getting a lot of press coverage lately is the Naksha mouse, so, never being one to walk when there's a perfectly good bandwagon going the same way, I'll give it some more column inches.

The Naksha mouse looks rather smart and comes with a mat and a 'mouse house' to keep it same in for £39.95. Contact Naksha on 0925 56398.

While you're waiting for your brand new mouse to find its way to you through the wonderful British postal system, you can, of course, control the mouse pointer from the keyboard.

Holding down the [Alt] key while using the cursor keys will cause the pointer to do your bidding without raising the slightest grimace. [Alt]-[Insert] is the equivalent of clicking the left mouse button, and often works more efficiently than the tired old microswitch in the mouse itself.■

HELP! Can't afford a Macintosh? Then buy an Atari ST...

I own an IBM PC XT and an Atari ST – I have rich parents, OK? Anyway, the computer I would really like to own is the Apple Macintosh. Even the old Mac Plus sends a little thrill of anticipation through my jaded computer-enthusiast's body, but I just can't seem to convince the folks that I need to a third computer.

I've heard about Mac emulators for the ST. Are these emulators any good? Would I really be able to buy genuine Mac software and run it directly on my Atari ST, or does the software need to be 'doctored' before it will work? If Mac programs do run, are they resilient? It's obviously not very good if the emulator just crashes all the time as I need to be able to guarantee the integrity of data such as word processed files. Any help you can give will be much appreciated.
G. Wainwright, Shamble Path, Escrick.



• Can't afford a Mac? Spectre and an ST can provide the answer

Jeez! Genuine XT, an Atari ST and you still want more? OK. You can't afford a Mac Plus – and not many of us can – so you're restricted to the emulators available for the Atari machine. Surprisingly, these are very, very good – almost 100 per cent watertight in their ability to emulate your much-desired Mac.

Until recently, the very best of these was the Aladdin cartridge from Signa Publishing. Aladdin emanates from Germany where the ST is seen to be a far more serious animal than here in the UK. It consists of a plug-in cartridge which connects to your ST, and a set of utilities disks necessary for the operation of the cartridge. Inside the device there's a couple of genuine 64K Apple ROMs containing the Mac operating system and therein lies the secret. Once installed and fired up, the ROMs in the Aladdin completely replace those of the ST turning it into a Mac 512K (an ancestor of the Mac Plus). Unfortunately, because the Aladdin uses the old 64K ROM set,it is no longer fully compatible with all of the latest software, so although packages such as *MacWrite* and *Ready, Set, Go!* will work fine, others of a recent vintage will not. You pays your money.... However, older Mac software and almost all public domain software will work perfectly. There's support for sound and plenty of printers.

You can't read Mac disks directly from your ST's floppy drive when using Aladdin, but a further add-on cartridge – Exchanger – enables you to convert them to a form the ST can use (and vice-versa).

The Aladdin cartridge and Exchanger can be had for well under the price of a second-hand Mac. Both devices can be obtained from Signa Publishing by contacting the company on 0252 341600.

If you want to run the very latest versions of software packages such as Quark *Xpress, MacWrite, HyperCard, Digital Darkroom* and others, and read and write Mac disks directly, then you should obtain the Spectre GCR cartridge from HiSoft. After several years of development, and an earlier release which was something less than successful, the new version of the Spectre emulator is finally here.

Spectre, like Aladdin, comes in the form of cartridge containing Mac ROMs which connects to the ST. But unlike Aladdin, the Spectre cartridge houses a pair of 128K ROMs which enable the device to run practically everything available for the Macintosh.

Perhaps the feature that is foremost on the list of Spectre desirable attributes however, is the devices' ability to read and write Mac disks. You can use Mac software directly and write disks which can be inserted into and read by a real Mac.

One of the main problems with Mac emulators has been the completely different disk formats the Mac and ST use, meaning that directly reading one computer's disk with the other's drive was next to impossible. The GCR cartridge solves this problem, and together with Spectre's ability to use standard Atari hard disks, makes it a especially easy-to-use Mac emulator.

Spectre GCR costs £399 complete with the Apple ROMs and can be obtained by contacting HiSoft on 0525 718181.

AND IT BROKE ON

Problems with that new computer you got over Christmas? If your new pride and joy is refusing to co-operate in playing that blockbusting game, let Express help you out...

The traditions of Christmas: being visited by Leslie Crowther when you're in hospital, the Queen's Speech, roast turkey, Top of the Pops of the year, *The Great Escape* on TV... and presents not working. Either you've forgotten to buy the batteries, or you don't have a spare plug to hand, or there's a bit missing, or the thing just sits there and refuses to work.

Bad enough when it's a hair dryer or foot massager or navel de-fluffer, but when it's a bit of computer kit that cost a few hundred quid, frustration can hit hard – and so can you, on the computer. But before you take the lot back to the shop and threaten them with Esther Rantzen, wait a minute and make sure you have checked everything.

The first thing to do may seem obvious, but nobody ever does it: read the manual. (Some bewildered users complaining to the telephone support department for their machine or piece of software wonder what on earth is this 'RTFM! RTFM!' acronym they keep having shouted back at them. Well, now you know).

The problem is that computer systems can be complicated things and you can't expect to just plug the thing in and go. You have a good hour or so connecting things up that should be connected, installing and configuring the system – i.e. setting it up to work with your particular printer or monitor or keyboard – and only then can you settle down with the software documentation or games manual and learn how to use the thing.

If you get it all set up, fine. Otherwise – well, don't panic, because it's extremely unlikely you have duff machine. Computer equipment is far more reliable than a new car or hi-fi system: 99 times out 100 the kit you've bought will work perfectly just so long as it's set up properly to start with.

TROUBLESHOOTING

There are three grades of problem:

• Some part of the system, or all of it, appears completely dead (*Cure: usually something dead obvious. This is probably your fault!*)

• Everything switches on OK, but funny things happen – some keys don't work, or a program won't load properly, or the monitor doesn't show anything (*Cure: usually found in the machine manual. Probably something you've overlooked when setting things up*)

• You can get a program up and running, but funny things happen within it: your word processor prints a £ as a #, or a game doesn't work as it should (*Cure: probably in the software manual. This is almost certainly a fault of the program, not of your kit*)

The most drastic problems are probably the easiest to put right. Check the obvious things: is it plugged in? Is there a fuse in the plug? Is everything connected up as it says in the manual? You could be short of a cable or two, especially if you've bought a separate monitor, for example. If so you'll just have to get a suitable cable from your local computer retailer.

If you have problems getting software to load or run, particularly cassette-based software, it's possible you have a duff disk or cassette. This is much more likely than your machine being faulty. If you can, check with another disk or cassette to see if the drive or cassette player is working. A faulty disk or cassette can and should be replaced by the supplier straight away. If you're plugging your computer into the TV and you've got no sound or no colour, check that the TV is tuned correctly.

A common fault with printers is their tendency to put in extra space (or not enough) between each line of text. It's almost certainly the DIP switch at the back which needs switching to another setting – again, check the manual.

One important point is: don't chuck away your boxes and packing! If the worst comes to the worst and you have to return your machine, you'll need everything intact. Anyway, it's always useful to have the boxes and polystyrene chunks in case you need to move the machine. And, of course, send off any registration forms that come with the machine or with software. Your rights aren't affected if you don't – you can still return the thing under guarantee for example – but being registered probably means you can get technical help over the phone, and will be informed of any upgrades to the hardware or software you have if they come out. When Amstrad had problems on the hard disk of its PC2000 series, for instance, the company immediately offered to put the problem right by sending out engineers to carry out repairs on the owners' premises – hence the advantage in being registered.

THE TROUBLE WITH...

Sometimes, of course, there is a genuine problem. Here's a machine-by-machine guide to what can go wrong:

• **PC compatibles** – Because of the bewildering range of PC standards in monitors, keyboards and so on, it's impossible to generalise about problems. Often if something doesn't work properly it's because of a setup problem.

For example, a 'keyboard driver' tells the PC how to interpret the keys you press on the keyboard. If you haven't installed the correct driver (i.e. copied it to the hard disk and set it up in the `AUTOEXEC.BAT` file) then what you type won't correspond with what appears on screen.

Similarly, not having the right printer driver installed might mean that the printer you have won't print out what appears on screen.

KNOW YOUR RIGHTS!

If that kit you've bought really doesn't work, or just doesn't measure up to the task, what can you do?

First, it makes a big difference if you bought the kit new or second-hand. Used stuff need only be 'as described' – which means that if you bought a C64 which was called 'as new' in the advert and the keytops are so worn the letters have rubbed off and the space doesn't work, you can claim your money back legitimately. But if it's only described as 'good condition' and it packs in the day you get it home, you haven't a leg to stand on. Receipts often say 'sold as seen' to protect the seller in these circumstances: they are making no claims as to the health of the machine, it's entirely up to you to check it out.

New stuff is subject to more conditions. Anything you buy from a mail order place, market stall, High Street shop or whatever must satisfy three basic rules – though if you buy from a market stall, you have little chance of finding them again to complain to! Goods must be:

• OF MERCHANTABLE QUALITY

Anything sold must not be broken or damaged and must work properly. If not you can claim your money back or a replacement piece of kit – but check 'Before you panic' in the box. If one of the keys on the keyboard is sticky, or if the cassette recorder squeaks and grinds, you can take it back.

Obviously this doesn't count if you've broken or damaged the thing yourself, unless you can prove you were doing exactly what you're supposed to!



• As the purchaser you have legal rights

• AS DESCRIBED

Anything the seller says or writes about the goods, and anything it says on the box, must be true. If there are six different typefaces on the box the printer comes in, but the printer can only do four of them, you can take it back and get your money back. A screen shot on a game box must come from the game on that machine, unless it clearly states otherwise. So if that game with full-colour high-definition screen shots on the box turns out to have blocky mono graphics, return it!

• FIT FOR ITS PURPOSE

What is sold must do the job you'd reasonably expect, given the price and the sort of things other similar packages could do. A word processor that couldn't align its tabs properly wouldn't be 'fit for the purpose'.

If one of the three rules have been broken, you have three options:

• Return the faulty goods and get your money back

• Get a cash payment to make up the difference between what you paid and the reduced value of the goods

• Get a replacement computer or free repair done by the firm

BEFORE YOU PANIC

Dead computer? According to Verity Kingdom of the Starcol Computer Centre in Bath, the problems most often encountered with new machines are, in order, "people, people, people and people. They just don't bother to read the manuals!"

There's very little that goes wrong the new computers. Electronic components usually either work, or they don't and the factory finds them. The 'faults' people find are nearly always one of the following list. So don't look stupid: before you go running back to the shop with your kit, check these things first.

The classic mistakes people make are:

• There's no fuse in the plug

• The fuse has blown (i.e. the wire inside it is broken)

• The computer wasn't plugged in (yes, it has been known)

• All the bits aren't correctly connected (check that the monitor, cassette recorder, printer etc. are connected, and that all plugs are pushed all the way in)

• The brightness and contrast on screen were set to maximum blackness (this is the only problem with a lot of 'broken' monitors!)

• The screen isn't switched on (ditto)

• On a PC, did you select the right graphics adapter? A depressingly blank screen arises from trying to run a CGA program on a Hercules screen, for instance

• The disks are in the drive the wrong way round

• The disk drive door isn't closed

• If the printer doesn't work, is it 'On Line'? A light on the facia should indicate this

• Do you have the printer in the right socket on the back of the computer?

• Are you trying to use double-sided disks on a single-sided ST?

...ON BOXING DAY...

If some programs appear not to run, check that they will work with your PC (there'll be a sticker on the packaging stating the minimum RAM it needs to run, and whether it needs CGA, VGA etc.). There are various types of graphics standards: MDA (mono text only, no graphics at all) Hercules (high-res mono) CGA (four colour, low-resolution) EGA (16 colours, medium resolution) and VGA (complicated and very good). Generally speaking a monitor can run any software of an equal or lower standard – e.g. an EGA monitor can run CGA stuff, but not vice versa. Most programs have a setup or configuration program which lets you tell the package about what hardware you own. Some are quite intelligent and detect what they are running on, but otheres foist an unsuitable configuration on you.

Hardware on PC systems is reliable and there are no specific problems you're likely to have.

• **ST and Amiga** – Avoid unplugging the printer on the Amiga when it's switched on, as this can blow one of the chips, causing your machine to die on you. Another problem might be that a chip has sprung out of it socket, causing apparent machine death. Try picking up the machine and putting it down firmly again – it can jiggle the chip back into place. Otherwise it's a simple job for the repair people to fix – see the box in this feature.

On the ST, watch that you don't have the autofire on the joystick on – this can hang the machine when you are using the Desktop.

• **PCW** – Very reliable: should be no problems.

• **Spectrum** – Don't plug in your joystick with the machine switched on – this can take out a transistor or damage the memory. Normally this is a straightforward repair.

• **C64** – A dead machine could be a symptom of a damaged power unit. If yours dies, take it back to the shop and have them check the unit out – it could save the machine being blown again.

• **CPC** – No specific problems.

• **BBC** – If you can't type anything at the keyboard the problem is probably the 6522 keyboard controller chip, and the memory occasionally fails, but the Beeb is a generally reliable machine.

WHERE TO GO

If the worst comes to the worst and you've checked all the obvious things (see the box in this article) but your machine really has died, your first line of attack is the place where you got it from. You're entitled to get a refund or a working machine as replacement.

If this isn't possible – perhaps you bought your machine second-hand – try the Yellow Pages. Under 'Computer services' there will be plenty of companies who can repair your machine. A typical repair might cost you from £20 for a simple replacement of a faulty component.

Some other repair places to try if you get no joy from them are:

• Ladbroke Computing International, 33 Ormskirk Road, Preston PR1 2QP (0772 203166)

• WTS Electronics, Studio Master House, Chaulend Lane, Luton, Beds (0582 491949)

• Electronic Services, 176 Victoria Road West, Cleveleys, Blackpool FY5 3NE (0253 822708)

• Video Vault, Old Kingsmoor School, Railway St, Hadfield, Cheshire SK14 8AA (04574 66555)

• VSE Technical Services, Unit 6, 8 Nursery Road, London SW9 8BP (01-737 0234)

• CTC Systems, Unit A35, Red Scar Industrial Estate, Longridge Road, Ribbleton Preston PR2 5NA (0772 793562)

• AMC, Unit 4, Weston Road Industrial Estate, Stratford upon Avon, Warwicks, CV37 0AH (0789 292269)

• Future Electrical & Instrument Services, 10 Weber Road, Merseyside, L33 7SW (051-548 6940)

• The Computer Factory, Unit 18a, Grainger Road Industrial Estate, Southend, Essex (0702 618455)■



• *Before taking matters into your own hands, try one of the computer repair services*

ROGER BATTY: A CASE HISTORY

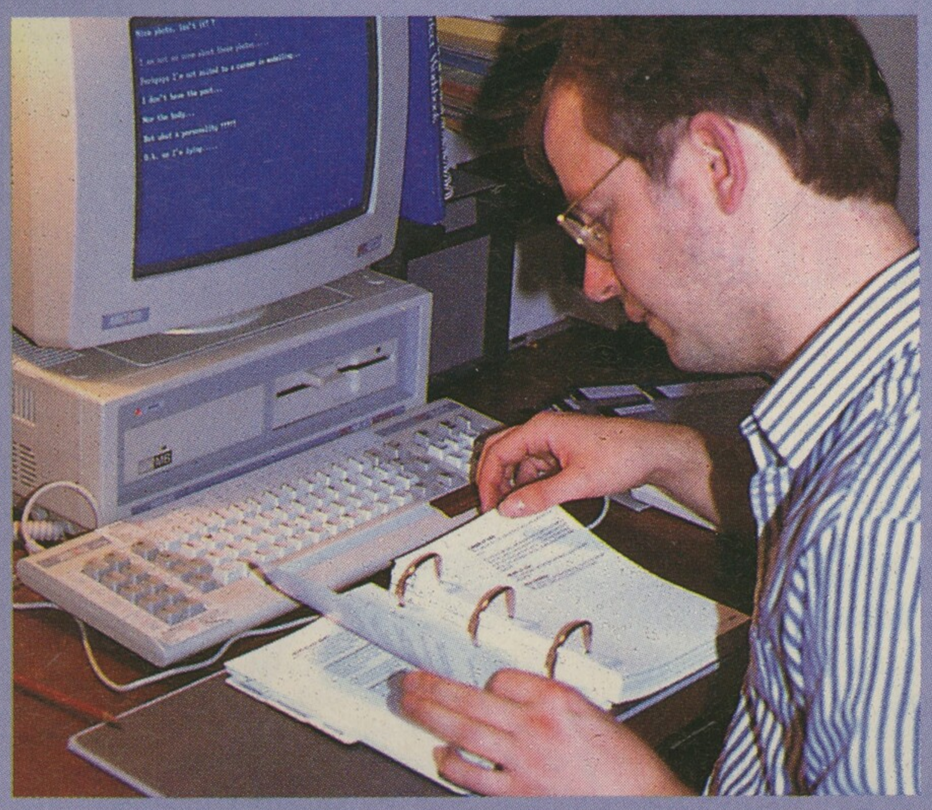
Sometimes problems with your system are caused by the software. Roger Batty, a student at The Queen's College, Oxford, bought an Amstrad PC1640 with hard disk this year to run *WordPerfect* for his thesis. He's now got it all working fine. But the problems he had setting up his system were typical...

• He followed the instructions on installing the program in the *WordPerfect* manual assiduously. They didn't work – he got an error message on one step. He had to call WordPerfect's technical support department who replied with a recorded message saying it only operated on weekdays. A call to the WordPerfect offices yielded some put-offs and repeated assurances that 'technical support is free' but no actual help. Roger insisted, played the angry but polite customer and eventually someone was found who remembered there was a misprint in the manual. He was helpful and pleasant, and got the system up and running over the phone.

***Moral:* Read the manual, of course, but if you're sure you're following it correctly and still get an error message, it could well be wrong. Don't be afraid to call the number given in the manual – and don't take no for an answer.**

• Once set up, the backspace key didn't work. It just produced a ^G on screen. Amstrad was confident it was a 'fault in the software'; WordPerfect was equally adamant it was a 'hardware fault'. Several hours later, after combing the manual, Roger found he'd just installed the wrong keyboard driver. All he had to do was delete a file, copy another on to the hard disk from the system disks, and everything worked fine.

***Moral:* If all else fails, re-read the manual. And take things people tell you over the phone – especially if they push the blame on to someone else – with a pinch of salt!**



• *Problems? It does pay to read the manual – if not to trust it too much – as Roger Batty found*

PUBLISHING ON A BUDGET

Desktop publishing on the PC has been the domain of over-priced and over-complex monsters, and poor-quality half-baked budget software. Stuart Anderton finds that Express Publisher is breaking the mould.

● EXPRESS PUBLISHER

PCs WITH HARD DISK AND EGA DISPLAY OR BETTER
CHANNELMARK • £150

Budget desktop publishing systems have a deservedly bad reputation. They are slow, have limited features, and generally lead the buying public to believe they can do things that they can't.

'*Express Publisher* appears to be the exception which proves the rule. For £150 you get a system which in some ways surpasses even the big boys of PC DTP – *PageMaker* and *Ventura Publisher* – and which certainly demolishes its competition with ease.

BOXING MATCH

Like most DTP programs, the fundamental building block of an *Express Publisher* page is the box.

To place text on the page you first create a box with the pencil tool, then switch to a text tool and type into the box. Once there the text can be selected, and its font and other attributes altered. Boxes containing text can be linked together so that a story flows from one to another.

To produce a page like this one in *Express Publisher*, you would draw three boxes for the columns of the main text and link them together, and then add a separate box for the headline, and another for the introduction.

TYPING TEXT

No DTP package is designed for typing text into directly, they are too cumbersome for that, and don't have all the required features, such as spelling checkers – although *Express Publisher* does have a useful Search and Replace option. Text should be prepared in a word processor before being incorporated into a DTP document.

Express Publisher recognises files from MicroSoft *Word*, MicroSoft *Works*, *WordPerfect*, *Displaywrite* and *WordStar*, as well as straight ASCII text, so whatever word processor you have you should be able to transfer the text into your document.

When the text is on the *Express Publisher* page, you can massively speed up the process of putting it in the right typeface and size by using the style sheets feature.

If you highlight a block of text and select Choose Style you are presented with a menu with items like 'body text' and 'headline'. Clicking the desired style instantly formats the text in the right way. The styles themselves are easily definable to fit in with the design of your document.

FONTASY

Express Publisher comes with two typefaces, CG Times and CG Triumvirate (a Heivetica equivalent). These faces differ from those in virtually every other DTP package in that they are scalable from six point right the way up to a huge 144 point (around two inches high).

Unlike most fonts on other systems, where you can only choose certain sizes, say 36 or 48 point, every intermediate size is available instantly. The fonts are generated from a scalable outline, which means that the full resolution of the printer is used. Frequently with other systems the text prints out as it is on the screen – a resolution of around 72 dots per inch. *Express Publisher* fonts use the printer resolution – for most 9-pin dot-matrix printers that is 240 dots per inch, 360 for 24-pins – giving a superb smoothness to big headlines.

Programs like *Timeworks DTP* can print at the higher resolution, but you have to have a graphic image of each type size stored permanently on you hard disk – a set of these 'bitmapped' fonts in equivalent sizes to *Express Publisher*'s selection would easily fill a 20Mb disk.

As well as the two *Express Publisher* fonts, you can access all the fonts that are built into your printer – Elite, Pica and Courier for many dot-matrix machines.

When your styled text is on the page you will probably want to add some illustrations. This is an area where *Express Publisher* stands out – you can use graphics from virtually any source, as the program recognises nearly all file formats.

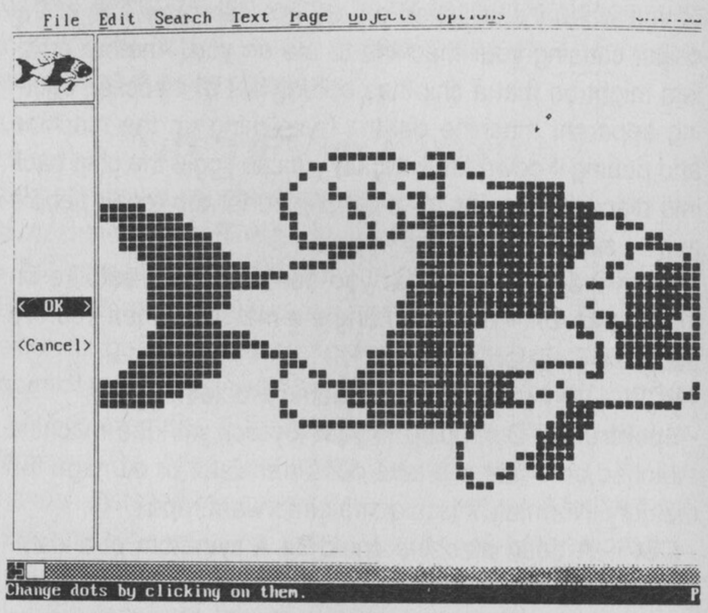
As well as the standard .PCX format, you can used scanned images in TIFF form and even the high quality EPSF files (though only if you have a PostScript printer). Five other formats are also supported.

SPECIAL EFFECTS

Typographically, you get the normal range of controls: bold, italic, underline, etc. There is full control over letter and line spacing, with a useful graphic to illustrate the current setting. Automatic kerning (closing the gap between particular pairs of letters) is provided for, but unfortunately there is no manual kerning.

Express Publisher has a very useful feature which allows infinitely more typographical control than its main rivals: the ability to save parts of the screen to disk as a graphics file. Using this feature you can type a headline, save it as a graphic, re-import it, and manipulate it. You can rotate the graphical text, stretch it, compress it, make it white-on-black, or any combination of these effects.

Once the text is converted into a graphic it is no longer editable, and the quality of the text is reduced to that of the screen. It is possible, however, to minimise this loss of quality by making the headline as big as possible before converting it to a graphic, and then scaling it back down to fit. This increases the smoothness of the curves. This saving of text as graphics gives the user huge power over the appearance of the page.



• ***Graphics imported from paint programs can be edited on-screen with* Express Publisher**

IN USE

Express Publisher is intuitive and simple to use. Forget the horrors of *Ventura Publisher* and its clones like *Timeworks*, *Express Publisher* is controlled by a set of icons running along the top of the screen, and pull-down menus.

Real precision is possible as the exact sizes and locations of all the elements of the page can be specified, and that is made even easier by the invisible user-definable grid which items can be locked to. Two icons make tidy layouts simple: the Align icon, with which you can specify exactly how two objects are to line up, and the Equate icon which make two objects the exact same size.

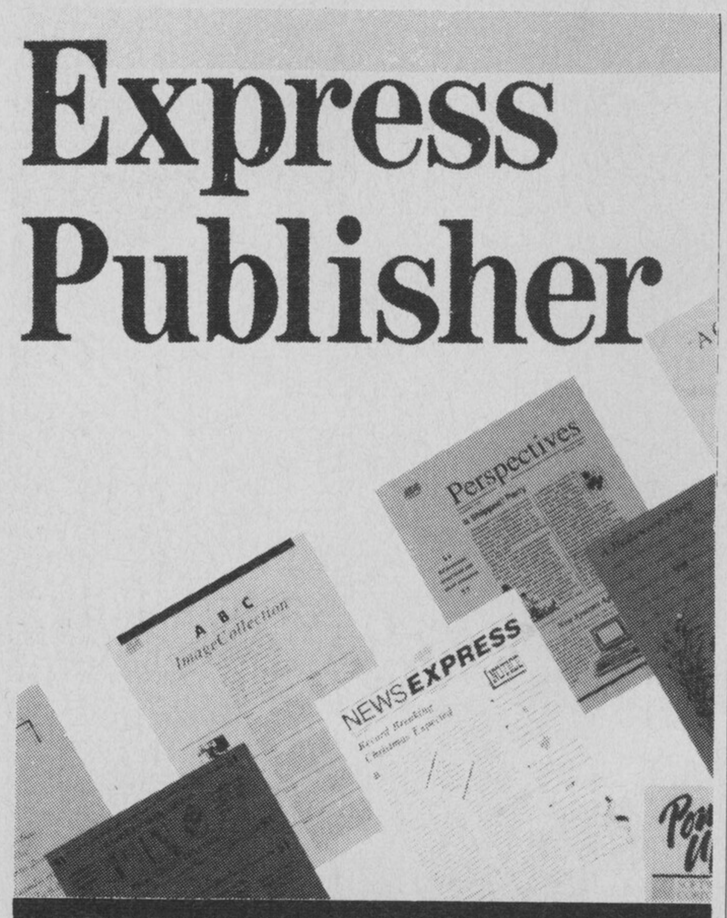
The major deficiency of *Express Publisher* is its lack of a zoom feature. You can view the entire page, or edit it at actual size, but you can't enlarge sections of the page to do fiddly work. This fixed view also makes using small text very hard on the eyes.

Another menu item I kept looking for in vain was a Select All option – highlighting an entire story when some of it overflows from the text box is impossible.

Lastly on the down side, it must be said that it is not particularly robust – it crashed out completely on me on more than one occasion.

IN CONCLUSION

Express Publisher has a lot of features, and gives you a huge degree of freedom and control over the final look of your page. It's not a professional package, but for the home user who wants to get every last ounce of performance out of a dot-matrix printer, it is top of the list.■



HIGHLIGHTS	DRAWBACKS
• Superb print on dot-matrix printers	• No zoom mode causes eye strain
• Flexible and easy to use	• Needs hard disk
• Wide range of printers supported	• Selecting text is tricky
• Uses extended memory if you have it	• Not 100 per cent reliable
	• CGA display is not good enough

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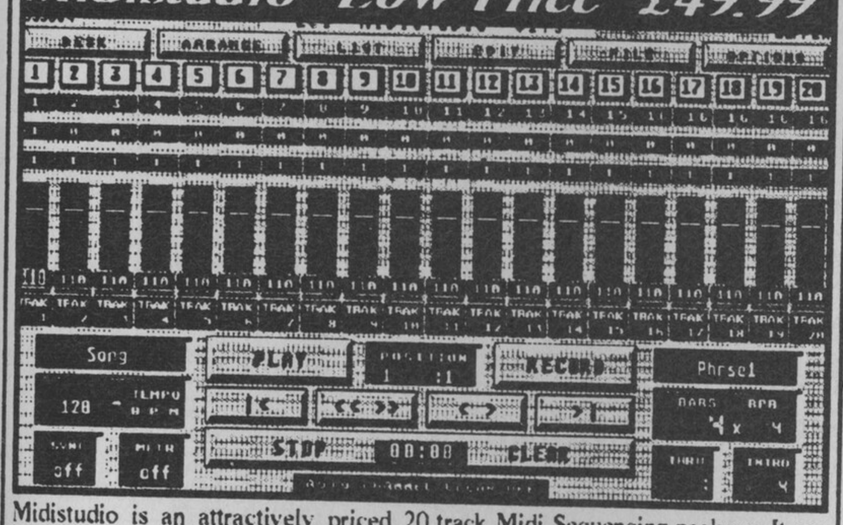
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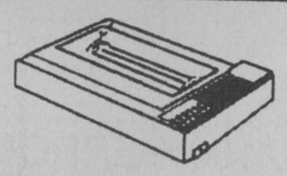
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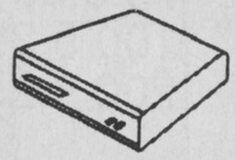
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* Phone for availability

The Batman Plus Pack Includes A500 Batman pack, mouse mat, joystick, modulator, plus the Tenstar pack and Photon Paint.

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

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WITH BUILT-IN 1Mb DISK DRIVE



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

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

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A LOOK FORWARD

So the eighties are over and the run-in to the millennium begins. What surprises will 1990 hold in store for computing? Andy Storer anticipates the expected hardware arrivals...

The 1989 hardware news stories were dominated by Atari, the only manufacturer to announce and deliver a range of machines spanning the entire breadth of computing. From its new Lynx colour hand-held games machine, through its Portfolio, enhanced STs and Stacy portable, to the Unix potential of its 68030-based TT, the company left the opposition standing. Commodore could only boast a hard drive for its Amiga, Amstrad a couple of single-drive PCs and a sheet feeder for its PCW.

In an industry which feeds off speculation, rumours were as rife as always. Some had more substance than others – apparently something called the Konix console was due to appear all year, indeed even showed up at September's PC Show yet failed to perform. But what of



• Rumours of a PC-compatible Z88 in 1990 are rife

Amstrad's PC compatible PCW, or Cambridge Computer's ZPC – a Z88 with MS-DOS built-in? Were they merely following in Atari's footsteps of launching ideas to gauge press and public reaction? Or were they forced to reassess their reasoning?

The PC market has become incredibly crowded with prices dropping on a monthly basis. With barely enough time to establish itself, it would appear the fledgling 386 market will subside to the new 486 power chips.

But 1989 saw many machines come and go before they even arrived, so faced with a wealth of announcements and arrivals, let's take a look at the list of projected launches for 1990.

ACORN

Spring 1990 will see the launch of Acorn's impressive A5000 – a machine boasting speeds that even the Amiga A3000, Atari TT and 33MHz 386 PCs will be unable to match. The 1 or 2Mb A5000 will also run 10 times faster



• 1990 will see new heights in power computing from the Archimedes A5000

than the current Archimedes range, and is expected to come in at around £1,500. But Acorn's pricing structure won't change much this year. Although there are rumours of a low-cost A3000, this is unlikely to be Acorn-badged – many suspect a deal will be struck with another manufacturer which will market a machine based on the Archie. Meanwhile, Acorn will continue to push the Archimedes in the lucrative DTP market place.

AMSTRAD

Could 1990 see the Brentwood Boys announcing a pocket PC? It would seem an area of the market ripe for an Amstrad-style intervention, for with the emergence of the Portfolio, Poqet PC and Agenda the public now has a new perceived need – true portability. And whenever there's innovation, Amstrad is never far behind – in undercutting the competition. Otherwise all might be quiet on the Amstrad horizon, with only the prospect of a CPC console on the cards. But while the CPC continues to sell well, even this would seem somewhat remote – especially so since the arrival of a CD-ROM system for the CPC will further secure its sales. So what of a PC-compatible PCW? Not much substance to this rumour we're afraid, as the arrival of *LocoScript* on the PC in the new year will serve to close down the PCW market compietely.

APPLE

Having created and conquered DTP, Apple's decision to forge ahead with what is sees as being the next growth area in the Nineties – multimedia – will find a firm base with the release of *Mediamaker* in the New Year. This impressive package, developed by Apple in conjunction with the BBC's Interactive TV unit effectively enables Mac-

THE TOP TEN TITLES TO WAIT FOR

ST

- TOS 1.4 – the new operating system enabling improved file handling
- *Script* – Signa's Mac-style WYSIWYG word processor
- *Space Ace* – the fabulous follow-up to *Dragon's Lair*, bringing quality Disney-style animation to the ST

AMIGA

- Workbench 1.4 – the long-awaited update to the Amiga's operating system
- VideoToaster – Newtek's all-singing, all-dancing, video effects hardware and software suite
- *AMOS* – the Amiga version of the popular *STOS* games programming package for the ST

PC

- Presentation Manager – the long-awaited front end for OS/2
- Windows 3 – the fast Macintosh-style desktop file handler
- *Bomber 2* – Activision's incredible solid 3D flight sim

ARCHIMEDES

- *Impression* - ultra-fast desktop publishing package knocking spots off expensive Mac applications
- *Artisan 2* – impressive follow up to the state-of-the-art art package

RD TO THE YEAR AHEAD

intosh users to assemble and edit audio-visual sequences on their machines before 'printing' the results to videotape.

The implications are enormous and the ripples will undoubtedly find their way to other machine ranges. The Amiga and PC are the first systems likely to offer desktop television facilities, and 1990 is bound to see a surfeit of software with the required hardware to implement this. Meanwhile, along with price cuts, the Apple range will be expanded by spring with the addition of the long-awaited colour Mac Plus and SE machines.

ATARI

The only announcement Atari failed to live up to last year was the projected ST console, which is hardly surprising as the company pulled out all the stops to releases seemingly dozens of new machines. Although gamesters will be waiting for the arrival in the UK of the world's first colour hand-held – the Lynx – would-be ST console jockeys have had to live with the delay. Atari now cite September 1990 as the date for a ST console launch. Otherwise, the company will be resting on its laurels and firming up the recent arrival of the STEs and TTs. It may perhaps switch its push to the PC market and surprise the public with a CD-ROM PC. It has all the technology to hand already.

COMMODORE

Although 1989 was a quiet year for Commodore, the New Year will see it celebrating worldwide sales of two million units for its Amiga range. As such, we might expect to see leading PC software producers following in the footsteps of WordPerfect Corporation and converting some heavy-duty wares to the Amiga. Later this year we can expect to see an enhanced chip set for the machine, and the possible launch of the 68030-based 2500/30 and A3000 versions. Recent press announcements of a third-party manufactured portable Amiga are quite possibly true, but don't expect to see one until 1991. As for an Amiga console – well, best put that off for another year too. In the meantime, Commodore will continue to concentrate on the PC range it sees as representing its future.

KEYLINE

Half a million A4-size Keyline Shopping computer terminals, masterminded by ex-Acorn mainstay Chris Curry, will hit the streets in March. The first batch of a planned three million units, the Keyline represents Britain's first on-line transaction facility. What's more, the machines will be made freely available. Electronic shopping is the name of a game in which 20 leading High Street names, including Nat West, Gateways, Asda and Littlewoods, will combine to form a nationwide network of information and goods providers, accessible at local phone charges. The menu-driven terminals also include smart-card interfaces to make the system future-proof. With built-in text editor, printer interface, calculator, calendar, clock, alarm and phone database, Keyline will have all the functionality of a hand-held and and, arguably, will transform shopping.

THE GAMEPLAN FOR GAMESTERS

Sega's 16-bit Megadrive looks set to transform the console market in 1990 with a series of add-ons which will offer users a hardware platform for serious applications. A 3.5-inch disk drive, graphics tablet and fully-functioning keyboard will all be made available this year, allowing the machine to be used for programming and art packages – even, God forbid, word processing.

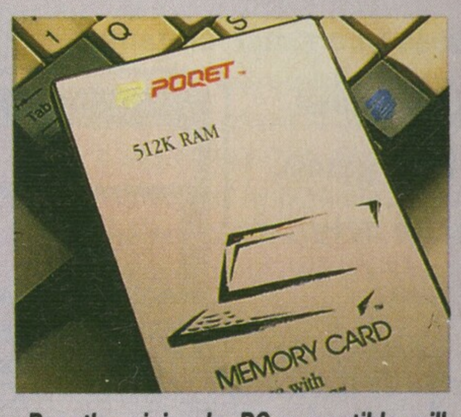
Nintendo too are following the same line. Curiously, it's expected to launch on-line financial services to its millions of gamesplayers, offering portfolio management, stock market information and stock and securities trading. While this sounds somewhat unbelievable it's all true – Nintendo expect its modem add-on to make a significant impression on the 20 million American homes owning its consoles.

THE YEAR OF THE PC?

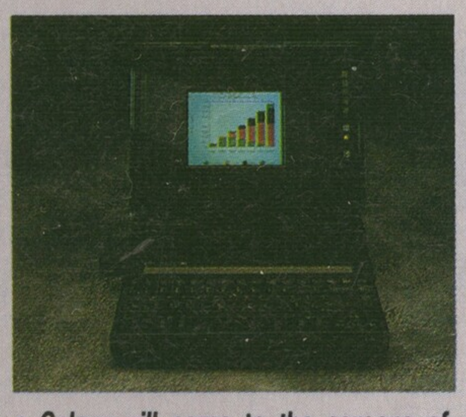
1989 saw the micro catching up with the minicomputer with the arrival of the 80486 chip and Compaq's System Pro – a fileserver/workstation with mini power at a micro price.

Greater compact power looks set to be the prevailing trend in 1990 with even IBM catching on to a market clamouring for high-performance lightweight laptops. As the power-size ratio diminishes so will power-price. We can expect to see 80386 prices begin to fall significantly while the cost of a 80286 will go through the floor and the old 8086 hit rock bottom. Colour portables from Zenith, Hitachi, Mitsubishi and NEC will arrive in the New Year and finally begin to blur the distinction between desktop and laptop completely. The key here is the recent arrival of flat-panel LCD screens which offer all the performance of out-moded CRT technology. Hitachi's impressive thin film technology LCDs are about to be offered to developers and will result in colour VGA displays.

1989 also saw the arrival of the notebook PC compatible. Poqet's innovative PC will be shipping by mid-year and will mark the emergence of credit-card sized memory cards as a new storage medium supported by leading PC software producers. Another range to look out for using memory card storage is Psion's remarkable new suite of Mobile Computers. Already launched with the appearance of the MC400, it will expand with the low-cost MC200 and the fully MS-DOS compatible MC600 arriving in the spring. Another new storage medium finding its way into PC systems will be CD ROM. Philips will be launching a CD-ROM PC for under £1,000 in the new year and hoping software producers will begin to release applications for the medium. Finally, if the attendance at last year's OS/2 Show is anything to go by, IBM's new operating system standard will at last be greeted with a steady stream of applications able to utilise it.



•Poqet's miniscule PC-compatible will be available this year. Tiny RAM cards will store data



• Colour will come to the screens of portables in 1990. This machine is from Hitachi



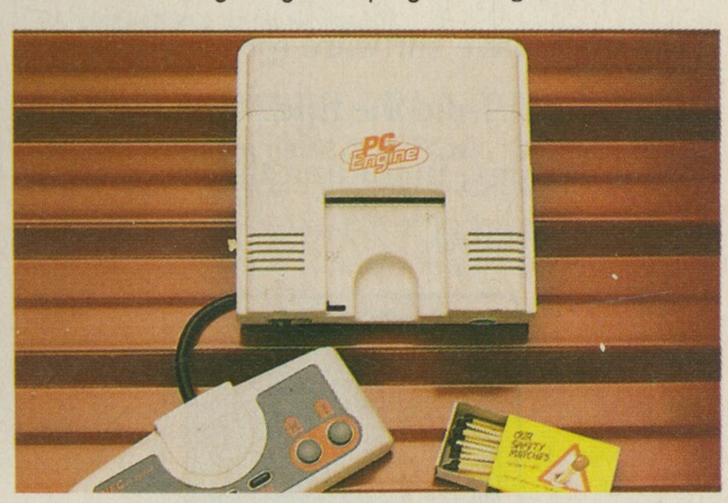
• Machines like Psion's MC200 will be a compulsory purchase for business people on the move

Meanwhile, PC Engine sales may stay on hold as imports of the new PC Engine 2 begin to arrive from Tokyo. The first machines are already here and *Express* will be featuring the first hands-on test in our next issue.

We can also expect to see the Atari Lynx and Nintendo Gameboy hand-helds on sale in the UK, with a colour Gameboy launched in the States. Finally, there's the ill-fated Konix console. Financial hiccups aside, we can expect to see it by the spring and let's hope that happens because as both consoles and piracy combine to undermine the 16-bit games market we just might need an all-British outlet for good games programming. ■



• A range of add-ons for the Sega Megadrive, like this keyboard, will revolutionise the use of the machine



• Version two of the popular PC Engine console will bring true arcade quality to the home

TEN NEW TRENDS FOR 1990

Desktop presentation
Multimedia
Hypertext
Ray-traced games graphics
Interactive tutorials in serious software
Electronic travel guides
CD storage
Icon-driven adventures
Desktop video
Multi-user on-line games

AND TEN TRENDS THAT WERE...

Text adventures
Cassette loaders
Legal copying devices
CodeMasters' simulations
PC200s
London PC Shows
Wire-frame graphics
KGB hackers
8-bit fanzines
Programmers' fortunes

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FREE SOFTWARE

On Micronet you can browse through an extensive software library of free programs, select one and then download it.

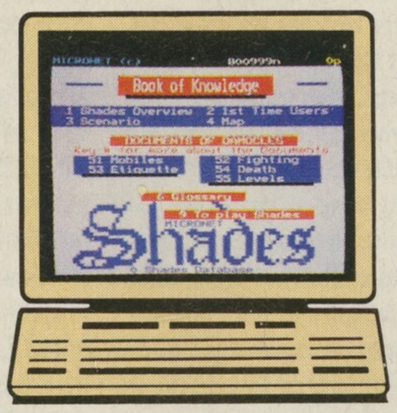
We now have software for all popular machines, from the Spectrum to PC compatibles, including the Atari ST and the Amiga.



INFORMATION

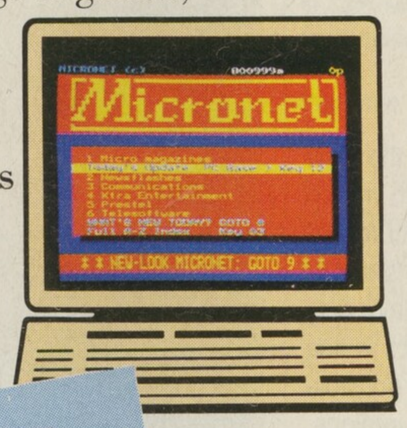
Micronet is also a computer magazine. Our computer news area is updated every day, so there's no better way to stay up-to-date, and our software reviews and features for all popular micros mean Micronet members are always better informed.

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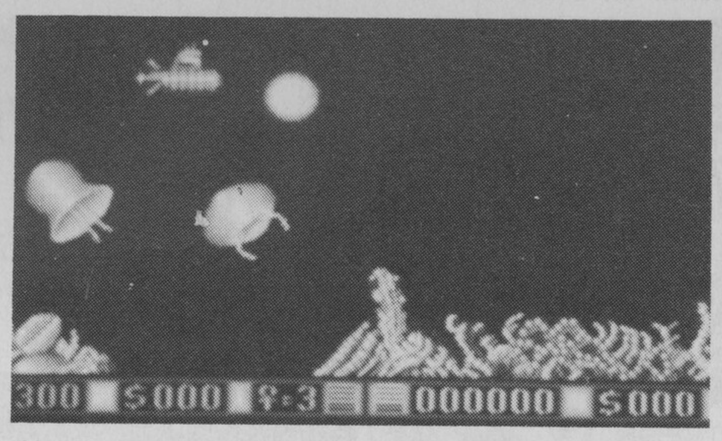
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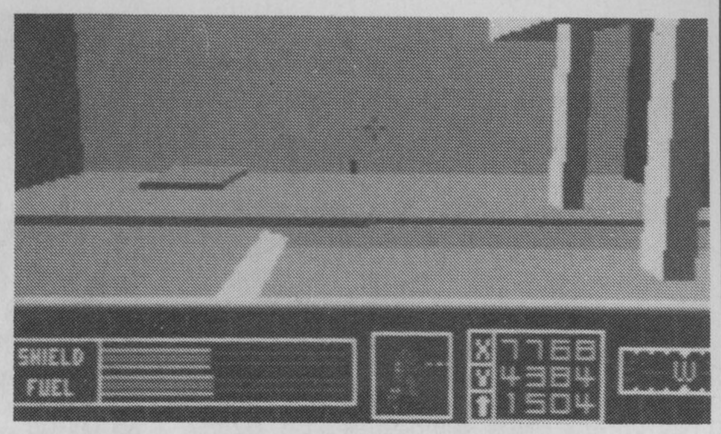
NCE 18

MICRONET

Free modem offer available in the UK only to new members while stocks last. Minimum subscription period 1 year.



41 The first screenshot was from *Blood Money*



42 Full marks if you identified *DarkSide*

QUIZ OF '89 ANSWERS

We hope our posers kept you busy over Christmas and the New Year. Questions 39 and 40 must have proved particularly difficult (nay, impossible – see below), but how many of the others did you get? Refer to issue 59/60's questions for the full picture.

WHO HE? – ED

1 Kevin Mitnick certainly had more than his allotted 15 minutes of fame. He was the US hacker who tampered with his own police files, caused £2 million worth of damage to a computer owned by digital equipment and altered a judge's credit record. Inviting Mitnick to cool his heels for 20 years or so at Uncle Sam's pleasure, another member of the judiciary described the hacker as "a danger to the community" and barred him from access to a keyboard or even a telephone while in the slammer.

2 Brian Dixon was the Newcastle computer retailer who not unnaturally decided to call his shop Dixons Business Centre, and equally unsurprisingly found himself under attack from a certain chain of electrical retailers of a similar name. Brian changed the name of his store, but said he was going to do so anyway – he didn't want the public to mistakenly associate him with the other Dixons!

3 Don't be unduly upset if you couldn't remember the name of colin Dooley, because he was in the news for changing it. The Sheffield-based Gremlin programmer switched his monicker to 'Fungus the Bogeyman'. Should go down well if he's ever stopped by the police.

4 Jeffrey Armstrong is another chap who you may know by his alias, because he tends to wander around in the guise of Saint $ilicon, author of the *Binary Bible*, prophet for the Giver of Data and scourge of serious men in suits from both the computer and religious industries.

5 Detective Inspector John Austin is a man whose name you will become more familiar with if and when the practice of hacking becomes illegal, because he is the head of Scotland Yard's computer crime team and he makes no bones about his intention to run in some hackers just as soon as Parliament sees fit to give him the chance.

NAME OF THE GAME

6 The 'Flirt' and 'Kiss' options should certainly have been a strong pointer – Sierra's *Leisure Suit Larry Goes Looking for Love (In Several Wrong Places)*.

7 Not the *Sunday Sport*, but extracts from the spoof newspaper in the Lucasfilm/US Gold adventure *Zak McKracken and the Alien Mindbenders*.

8 Elite's *A Question of Sport*. Surely you didn't get that one wrong? Extraordinary...

9 Plenty of clues there to the fact that it was *Borodino*, first in Atari's Battlescape war gaming series.

10 Those 1,500 targets per zone feature in Digital Integration's *F-16 Combat Pilot*.

QUOTE UNQUOTE

11 It was rent-a-quote Tory MP Geoffrey Dickens on the subject of violent computer games – what else! Did he really go to the cinema with spacemen?

12 MicroProse president Bill Stealey on the company's European hunt for arcade game licences.

13 The "lucrative embarrassment" was the C64, and the embarrassed but wealthy party was Commodore iself.

14 The holy grail in question was the waferscale integration memory device, and the latter-day knight whose quest it represented was, of course, Sir Clive Sinclair.

15 It was Epyx president Gil Freeman, and no-one looked terribly stupid, because that putative 'flashlight' did turn out to be a console after all – the Atari Lynx.

WHODUNNIT?

16 It was the Academie Française which tried to ban the word 'software'. The correct word, they reckon, is *'logiciel'. Chacun à son goût.*

17 The cash and drugs were reportedly pocketed by West German hackers working on behalf of a Soviet spy ring. The gang was said to have penetrated the Pentagon, the US space station and a nuclear laboratory.

18 Cryptic, but soluble if you noted the capital 'C' on China. It was Ashton-Tate which became the first Western software developer to produce Chinese language versions of its packages, including *dBase IV* and *Framework III*.

19 Those theoretical millions belonged, as you surely remembered, to Alan Sugar. They 'disappeared' during the share price crash of 'Black Thursday'.

20 It was Atari who reached for a 'Port' in a storm, tacking those four letters on to the front of the name of its Folio hand-held when it turned out that the title was already registered by someone else.

WHAT WAS IT?

21 Those polar bears and crevices made their appearance in *North Polar Expedition*, Virgin's educational interactive videodisc.

22 Not, as suggested by cruel members of staff, anything to do with the Editor's sex life. This was, in fact, a description of the above-mentioned Atari Folio, as it then was.

23 *Autoroute Plus*, the as yet PC-only upgrade of NextBase's justly renowned Autoroute journey planner.

24 A trick question. This was in a review of the spurious matchbox-sized Purse PC from Swan Systems – as covered in our April Fools' Day issue.

25 Those configurations all relate to the Konix console.

DID I SAY THAT?

26 The racists in question were the people who were circulating a mutated pirate version of *Sidewinder* called *Paki Bash*. On this occasion it was FAST chief coordinator Bob Hay who was pulling no punches in his thoughts on the matter. Shame the half-witted bigots were never caught.

27 It was Mike Cowley of Database on the demise of the BBC Micro Show. He also said: "It was getting to the stage where you'd not only recognise all the exhibitors but most of the visitors as well." Another example of BBC repeats?

28 The setting was Hannover, where Atari UK managing director Bob Gleadow announced to selected journalists: "I want the Archimedes market," *à propos* the Atari TT.

29 The justifiably angry source of this one was Noel Bradford of London Embassy bulletin board after hackers wiped out his hard disk and backup disk.

30 The man whose work suffered was Dr Clifford Stoll, the Californian astronomer who played a major part in cracking the West German/Soviet computer spy ring.

PLAY IT AGAIN

31 The 'ring-bearer' phrase should have given that one away – it was Melbourne House's War In Middle Earth. No cracks about developing dirty hobbits, please.

32 *Populous*, from Electronic Arts.

33 The extraordinarily named and a trifle controversial *Rock Star Ate My Hamster*, from CodeMasters.

34 You dirty-minded lot. No! It was Firebird's *3D Pool*.

35 Incentive's *Total Eclipse II*.

NUMBER CRUNCHING

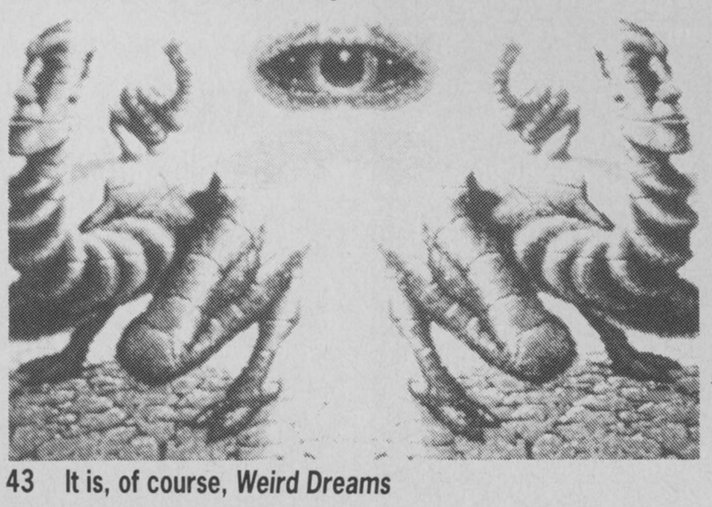
36 1813 was the name of a 'Friday 13th' virus that had the tabloids ranting in the run-up to January 13 last year.

37 17,000 was the number of businesses estimated by the London Business School/Saladin Security to have been the victims of computer fraud.

38 154 was the figure given by The Sun as the IQ of Sir Clive Sinclair's then fiancée Bernadette Tynan.

39 Confused? It was the result of a file-transfer glitch in reading 10^{283} – the number of years it would averagely take for copied program code to randomly mutate into a virus somewhere in the world. This according to an estimate by Ralf Burger in his book *Viruses – A High Tech Disease*.

40 See above. 10^{34} is the number of square miles of play area in the game *Federation of Free Traders*.■


43 It is, of course, *Weird Dreams*


44 Is a frozen frame from *Xenon II*



EXPRESS MAiL

Britain's liveliest computing forum – packed with comment, controversy and conflict. Write and tell us what you think! Reach us at: *Express Mail, 30 Monmouth St., Bath BA1 2AP*
Sorry, no personal replies, we're busy writing!
This week's letters selected by Rob Ainsley

Raging debate

Few letters have managed to battle their way through the mass of Christmas post to be delivered by an exhausted Postman Pat to our door. This paucity allows us the opportunity to present a few of the best letters of 1989 – to provide an insight into the issues which still rage on.

Indeed, the last year was an eventful one in Britain's liveliest computer forum: the great machine debate, piracy, hacking, Amstrad, the price of software, the price of PD, the 10 worst things about computing... all done with the unmistakable dash and style of you, the *Express* readers – with input from departing letters editor Rob Ainsley and his no-holds barred replies.

So, make your voice heard and make 1990 a better year! Send your contributions to us at our new home.

Violence

Why do I sometimes play violent games? For fun, fantasy and the satisfaction of reaching a goal – not as a substitute for the real thing...

There is enough violence in the real world. This should occupy people's attention. If the International Coalition Against Violent Entertainment want to concentrate on something useful let it be South Africa, the Middle East or any number of violent and dangerous places that exist at present in the world...
Keith Jenkins, Herts, Jan 14

■ The lies of Mary Whitehouse can go and mind their own business...
Gary McCombie, Kincardine, Jan 28

Comms

...I gave my parents a carefully calculated amount of the phone bill according to how long I'd used the modem and where I was phoning. Our usual telephone bill is £60. I had to pay for anything over and above that.

...It was great fun, and I became mildly addicted. Near the end of one quarter I gave my parents £30... and then the bill arrived. It had miraculously increased to £300!
David J Boyle, Perthshire, Jan 14

Dodgy mail ordering

...You state that "just because a company has had a County Court judgment against it doesn't mean that all its dealings are suspect." Bullshit! That's like saying that just because Hitler murdered millions of people doesn't mean he was not a nice person. He was a cruel, heartless animal...
G Holt, Doncaster, Jan 28

Erotic software

I wonder why people actually buy games like *Emmannuelle*, *Teenage Queen*, or *Strip Poker*? The implication always seems to be that it's just a bit of fun for the good ol' boys, and maybe it is.

Personally though I think that most of these games are bought by furtive self-manipulators who are either too young or lack the front to buy their porn from a newsagent...
Stephen Mercer, Dorset, Mar 4

■ Computer porn, like strip poker, should be treated as porn, i.e. stuck on the top shelf with an age limit. The fact that young people can buy it just doesn't seem morally right somehow, so I think it's up to you adults in a position of some power to stop reviewing them.
Nicholas Turner, Bucks, Apr 8

We want a column

Please could you start including an Atari 8-bit column...
RL Thomas, Gloucester, Jan 14

■ Please would you give Atari 8-bit owners a column in your magazine...
John Thorpe, Feb 25

■ Ditto
Dave Richardson, Bob Plummer, Paul Mallabar, L Wright, Darren John Dean, P Masters, R Drewery, Pete Watson, CA Preece, T Wilson, A Lakeman, D Endersby, Keith Townsley, Derek Garforth, BF Andrew, SJ Goss, Norm Tierney, R DuCros, S Pheasay, AP Mills, Lynda A Craney, Robert Kent, Simon Bodger, etc. etc. Apr-May

■ We'll get you one. I know when I've been beaten.
The Editor, May 27

■ Please start a column on adventures as soon as possible...
P Bennett, Northants, Mar 4

■ Why do you not have a machine-specific column for the Z88?...
Maurice Baker, Surrey, Mar 18

■...How about a column for Psion Organiser users?...
Chris Birch, North Yorks, Jan 28

■ Can I have a guinea pig column?
Lawrence Sheed, London, Jul 15

Amstrad

An open letter to Alan Sugar. For God's sake shave off that silly little beard! Was it, perchance, grown down to a price, rather than up to a specification?...
Neil Ollner, Leicester, Mar 11

■ Some sections of the press dealing with computers, including yourselves I must add truthfully, seem to refer disparagingly to Amstrad, its boss and its computers at every opportunity...

When I upgraded the memory of my PCW I looked inside and found good design and workmanship throughout...
Ron King, Bedford, Apr 1

■ My PCW developed a small printer fault in February. One letter to Amstrad took over six weeks to answer and then the response only said how good the PCW is.

Another was signed by a Mrs Muldouney, who, when I tried to phone her, appears not to have worked for the company for some months. My last letter sent recorded delivery to Mr Sugar went unanswered. Presumably the ghostwriters have a malfunction or Mr Sugar is too busy celebrating his appearance in the 200 Richest Men in Britain.

The shame lies in the fact that I was very pleased with the damn thing, but I'm still glad I kept my Olivetti typewriter.
Keith Mason, London, Apr 29

Computers move in

Don Griffiths mentioned that 20,000 staff are to lose their jobs under the Government scheme for a new computerised DSS. Despite this misfortune, it would be pleasant to think that computerisation will minimise the number of cock-ups the system produces.

Unfortunately, I am not as confident on this score as I might be. When I recently complained that a payment had been delayed by three months, I was told that the DSS computer had 'rejected' the information. They refuse to tell me how often this happens on the horrendously ludicrous grounds that it constitutes an 'Official Secret'.

I have never believed the old saw 'to err is human, but to really foul things up you need a computer'. I have always preferred to think of the machines as exceptionally powerful tools. However, I am equally aware that a powerful tool in the hands of a powerful fool merely makes for bigger and resoundingly better cock-ups.

Personally, I would much rather deal with the likes of Don Griffith than a VDU; the DSS desk staff may be undertrained, overworked and underpaid, but at least they do not suffer from disk crashes or from being unplugged for that matter...
John Satt, Bedford, May 20

Viruses infect and divide opinion

I don't see why there is so much fuss about computer viruses recently, especially on PCs. After all, doesn't MS-DOS kill all known germs, or what?
David Bozon, Notts, Feb 11

■ I am a student doing A level computer studies and as part of my course I had to write a project. A few days after running a friend's disk, I started getting lots of read-write errors.

While the virus was active it destroyed my project, which had to be handed in in a few days' time.

If any virus writer wants to come around and explain the humour, I would more than gladly hear them out before removing their testicles.
Dug Barthram, Lincoln, May 6

■ If viruses cause enough damage, manufacturers might provide security with real improvements instead of the dreary procession of follow-my-leader-me-too-I'm-compatibles...
John Smart, Herts, Mar 4

■...I can see no sense in making something which has no constructive ability other than that of inflating the egos of pathetic morons who write them. Personally I feel you should spend a little more time growing up...
Simon Howard, Sussex, Apr 29

■ Through my own stupidity, I wrote a virus for the system at college. I also managed to get thrown off the Pascal diploma course. Boy was it ever stupid.
Jimmy, May 20

Jobs

I'm 20 years old, have 10 O-levels, 2 A-levels, and next year I'll be sitting my final exams on the second year of an HND in Computer Studies.

For the past two months I've searched high and low for a computing job, generally around 'trainee programmer' level, but have met with no success – most companies consider me too inexperienced even for a junior post.

From my recent experiences, or should I say inexperiences, I can see the shortage of computing staff increasing unless firms are prepared to lower entry standards. OK, so firms want to ensure they have good quality candidates but unless they lower their requirements they'll have no candidates at all!

Timothy Smith, Clwyd, May 27

Hackers

They are a problem, but not a serious one. Now it turns out that a conservative MP, Emma Nicholson, is leading a bill to have hackers imprisoned for up to ten years. She gives the impression she is on a Holy Crusade!

If you want to deter them, impose hefty fines instead of hefty prison sentences – or better still, confiscate their equipment as well.

Simon Howard, Sussex, May 27

■ I am very pleased that hacking is still legal. The fact that the Commons didn't even deem it important enough to discuss shows what they think of Nicholson. They were probably too busy handing out the lager to worry about her...

The Mad Man, Cambridge, Aug 5

■ Five years for hackers is way, way too steep. I'm in the old blue brick doing two and a half years for almost killing a guy, but I'm told that I can get five if I indulge in a bit of hacking!

Get a grip Emma Nicholson, the people who commit this petty crime are not big buys with tattooes and scars like me. These hackers might have families depending on them. They are the ones who will suffer, believe me, I know all about it!...

...Why not confiscate equipment and ban using computers with modems and access to networks?...

Carl Holland, Rugby Prison, Dec 2

Football

Why do these talented programmers only have English teams in their football games? We don't want to be Arsenal, not even Tranmere. We want to be Hearts, Rangers, Celtic, even Queen of the South. But no. To be a Scottish team in *Football Manager 2* we have to dish out an extra £13 for an expansion pack...

Kenneth Jackson, Edinburgh, Jun17

Chip money

About the wonder schemes for making money with your computer. My advice is don't give them a penny! I made this mistake and felt that I had been taken for a ride. I paid £13 for what was basically a few photocopied sheets... even worse, my doormat is being bombarded by mail from dozens of other schemes which if legal are certainly immoral...

David Baron, Leeds, Oct 7

Programmers

I started when I was 7. I am now 13 and can program in 6502 machine code...

Vijay Mahrra, West Midlands, Oct 21

■ As a graphic artist working freelance within the software industry, I am writing to offer some advice to those young people who may be considering starting a career in this field: don't!

Every year scores of young programmers, artists and musicians are ripped off by development houses and publishers offering paltry sums tied to incredibly biased contracts...

...Surely nowhere else would anyone have to wait for anything up to six months before they got paid after fulfilling a contract, or not get paid at all...

A programmer, Oct 28

■...Time and again I and a great number number of my friends and colleagues have fallen victim to the con artists that run this industry...

Another programmer, Nov 14

■...I agree the industry is not really worth entering as a career because it is open to exploitation...

Yet another programmer, Nov 14

■ Isn't it about time there was a bit less whining from the development community and more action? I am fed up with programmers, artists, musicians and game designers complaining about the raw deal they get – they often do get a raw deal, but what have the authors ever done about it?...

...We set up the SSA because we recognised there does need to be a change... yet many authors won't put their money where their mouth is and actually do something about their problems and join...

Jon Dean, Chairman of Society of Software Authors, Wilts, Nov 14

■...It is very easy to get the idea that owning a software house is a licence to print money, but it certainly isn't true today...

...Unfortunately, just as there are software houses which behave unprofessionally, so there are programmers which fail to come up with the goods on time — if at all. There are, I'm sorry to say, far more mediocre unprofessional programmers than there are good professional ones...

Peter Calver, Audiogenic, Nov 25

Dragon

I was dismayed to read your Second Hand article to discover that my Dragon is only worth £35. There is no way!... More like £200...

F Fisher, Kent, Oct 28

The worst list

Software companies that produce Arc software which is easily mimicked or even bettered on the ST or Amiga when it should be at least twice as good on the Archie

Jeremy Benson, Bedford, Aug 19

■ Lockable disk boxes that all open with the same key, and can be broken open with your bare hands anyway.

John Goldsmith, Suffolk, Jun 24

■ People who say 'It's all done with computers nowadays'

Paul Quinn, Jul 8

■ Apple Macintosh dialog boxes that say things like 'An error occurred. About to erase hard disk' and offer the single option 'OK'

Rod Lawton, Jul 15

■ Advertisements that preface an astronomical price tag with the word 'only'

Stephen Mercer, Dorset, 29 Jul

■ Cut sheet feeders and tractor units that cost more than the printer

M Pinder, Preston, Aug 5

■ Those oracles of the computing world you find behind the counters of your average High Street box-shifter

Ann Bradbury, Lancs, Aug 19

■ The penny change you get when buying software from computer shops

Steve Sharples, Bingley, Sep 2

■ Computer shopkeepers who think that because you happen to be female you know as much about computers as a neolithic mongoose

Dee Dee, Cheltenham, Sep 2

■ STFMs because of the awkward mouse ports

Paul Gregg, Antrim, N Ireland, Sep 9

Piracy jumps on your board and stomps

...FAST are wasting their time because I and about 2000 thousand other user in and around the South West of England are getting our hands on software for about £2,00 each. You name it we've cracked it,played it and copied it. If you think I jokeing, well figure this. I and my friends have recieved copies of SUPERMAN and that not even released yet HAH by by suckers...
Semi-literate ramblings from 'George', Jan 21

■...Pirates aren't killing the software industry, sharks are – sharks that produce unadulterated rubbish...
Darren Robinson, Brampton, Feb 4

■...Legalise piracy and get rid of it overnight – just like CB radio...
Neil Barnes, Birmingham, Mar 18

■ Games pirated because of high price equals price rises – so, more piracy. It's a never ending circle. The only way to break it is for the software companies to lower the prices (which US Gold have done, well done)
Patrick Downes, Pontypridd, Apr 8

■...I know what I'm doing is illegal, but I can't afford to pay the overinflated prices of today...
Jumping Jack Flash, Apr 25

■...You say you pirate, or should I say steal, what you cannot afford. But how did you get your computer? Chances are you saved up for it – so that's what you should do for software. I'd pay £20 for a game and £100 for a good graphics or word processing program, because if you get months use out of it, then it's cheap.
J Thornton, Blackpool, May 13

■ In Turkey they don't believe in buying software – why pay when you can get it free from the chap up the road who's cracked the copy protection?

Oddly enough there isn't much of a software industry in Turkey. In fact there's none at all...
Roger Musson, Edinburgh, Jun 3

■ Only an extremely small percentage of opinions on software piracy come from programmers, who must scrape a living in this line of work.

One can either work freelance or in-house... but still cannot hope to break £30,000 when piracy is rife.
Gary Partis, Tyne and Wear, Jul 1

■ Earning £30,000 a year, even after the pirates steal some of his income, still sounds like a lot to me.

Try hard graft 40 hours a week for £6,000 a year with no flash cars or paid holidays – then try to explain to your kids why they cannot have £25 for the latest mega-game as you're still paying for the computer...
Gordon Keenan, Glasgow, Jul 15

■...Mr Keenan could also be earning this astounding wage if he had made something of himself, which he obviously has not...
S Williams, Reading, Berks, Jul 29

■ One possible solution would be to insert an anti-piracy virus on disks, where duplication of the disk would install the virus, and the only way to clear it would be to purchase a virus killer disk from the software company...
A Conlan, Preston, Aug 5

■ I have just finished working as a contract programmer for one of the big banks. It shocked me that when I started working there there was wholesale illegal copying of programs...

...When I informed the agency I worked through of what was going on I was told I had signed a secrecy form and the bank could sue me if I disclosed the secrets to anyone else...
Anon, Sep 23

■...The person involved has nothing to fear... the declaration only applies to details of information such as location of alarm systems...
Warren Sutherland, Northants, Oct 14

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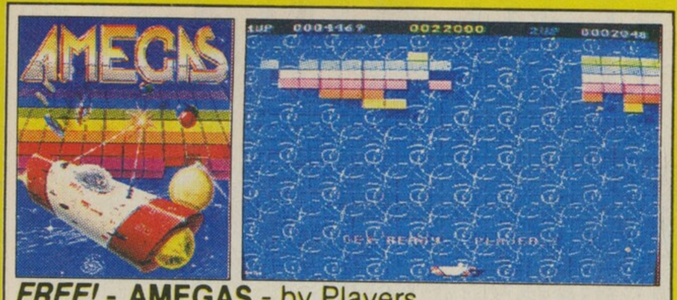
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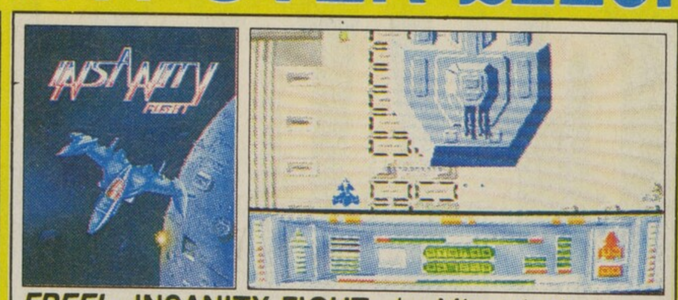
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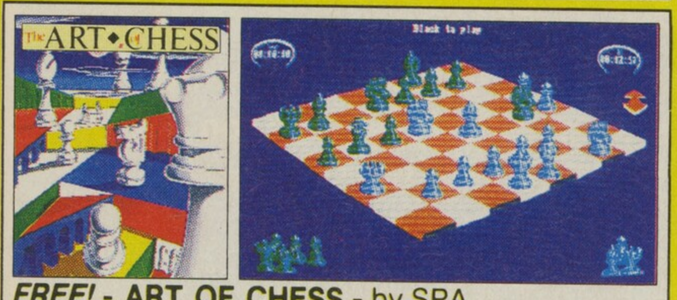
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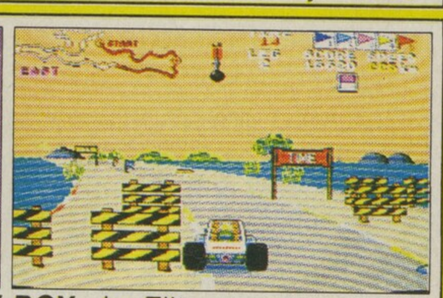


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