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50 AMIGA ESSENTIALS

PLUS 32 PAGES PACKED WITH THE BEST COMPUTER BARGAINS

SHOPPING EXPRESS

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ATARI ANGER AS STE CRITICISMS MOUNT

"We're furious, and you can print that" – Atari

Top ST software developers have prompted the wrath of Atari by criticising the new STE as 'too little, too late'.

They say the company has failed to come up with a computer which can challenge the Amiga.

Atari is furious at the criticisms being levelled at its new upgrade. A handful of programmers received a machine and were obliged to sign a non-disclosure agreement prohibiting them talking to the press – Atari says it will be taking machines from those who have broken that agreement. "They can have opinions but they should keep them to themselves," offered a furious spokesman.

Express asked 10 leading software developers for their opinions on the improvements to the long awaited machine, specifically the much vaunted blitter, stereo sound and the hardware scrolling.

Details of the machine were first outlined in *Express* (issue 33) last June and



• STE: Anger over criticisms

it was first shown in Dusseldorf at the end of August. The machine was, however, absent from the PC Show in October. The firm says it will be available in this country around Christmas time.

The STE is a direct upgrade to the 1040 and will be sold for the same price (£499). It is thought that, in time, it will replace the £399 520ST.■

Why Atari is furious

It is standard practice for companies to insist that other parties involved in projects sign non-disclosure agreements. This is supposed to prohibit them talking to competitors (or to the press) about new products.

Atari clearly feels cheated that some of its close allies in the software world have no qualms about making their opinions on the STE known.

The firm is taking an unprecedented hard line and recalling machines from programmers who have talked to the press.

Such is the level of secrecy within Atari that those programmers deemed to be favourable toward bitter rival Commodore were not given machines in the first place.■

The programmers' verdict

WAYNE SMITHSON (*Blood Money*):
"Atari have done too little too late. Having extra colours is a waste of time since you can still only get 16 on screen at once. No-one will notice. Having even 32 colours would have been nice.

"The blitter is pretty useless as well because there's no barrel shift of any kind. You still have to shift the graphics. And apart from the odd shoot-'em-up the hardware scrolling will hardly be used. As for the stereo sound, that's an absolute nonsense. I think most users will be pretty disappointed."

JEFF LAWSON (*Flair Paint*):
"It's a missed opportunity. I can see people using the extra colours just because they're there, but I can't see them bothering with the dedicated hardware such as the blitter and hardware scrolling. If they'd used the 68030 chip it could have beaten the Amiga. It doesn't come close. I won't be doing anything for it."

GLEN CORPES (*Populous*):
"I'm still finding my way around the machine but it looks good for serious programmers. However, as a new release it's not too exciting. Games will have better sound and the graphics will have more subtle shading. But 256 colours on screen would have been really nice. The blitter's not as good as it could be."

JEFF MINTER (*Trip-a-Tron*):
"A lot of people won't bother taking advantage of it which is a shame. But if I get one I'll try and get the best out of it. I wouldn't mind using the hardware scrolling just because it's there but that's not really commercially viable."

JEZ SAN (*Starglider*):
"The Amiga is still better than the ST but it's a step in the right direction. Still, at the same price as the 1040 you can't complain. The colour palette bits are in a strange order which makes it difficult to access different shades and, as I understand it, the blitter is virtually unusable. You can't use interrupts to create the illusion of extra colours on screen. Mind you, I am looking forward to the Atari TT."

LES PLAYER (Ex Atari now at GFA):
"Atari hyped it long before it arrived and that was always going to be a problem. Even insiders at Atari weren't sure what the machine would be like and people started to read between the lines. As a software developer now I can see Atari having real problems getting people to write for it. But, to be fair, it's not really Atari's fault. It's just a problem of evolution."

JOHN BRANDWOOD (various Ocean games):
"It's an improvement but it's a bit late in the day. This is what the machine should have been in the first place. I think the blitter and hardware scrolling are the best parts and the machine was desperate for those. The stereo sound is a waste of time. End users won't notice the difference, maybe the odd art package will be a bit better. I don't like to be negative but I fear it's still not as good as the Amiga."

IAN HETHERINGTON (Psygnosis joint boss):
"Atari has managed to fill the gap between the ST and the Amiga by no more then seven to ten per cent. I haven't seen one but I know what it's going to be capable of. This is what the ST should have been originally."

ANDY PENNELL (various HiSoft products):
"It really should have been a bigger step forward but at least it's a step. For serious programmers it's good because it's easier to expand the RAM. And the blitter is nice. But after four years you would have expected a bit more. I think they've concentrated on the TT which is a good machine and not so much on the STE. It doesn't have the advantages of the Amiga but so few programmers use those that it doesn't really matter anyway."

STEVE BAK (*Goldrunner*):
"The prospect of the STE doesn't excite me. I won't even look at the machine until Atari have sold several hundred thousand units."

• Atari's spokesman refused to be drawn on any of the criticisms saying they are "contrary to a legal agreement". "Atari are going to come down heavily on those programmers who have broken the agreement. We're furious. And you can print that."

In the past Atari has taken a poor view of criticism in the press and has often successfully acted upon that. Although criticisms have been publicly rejected in the past this is one of those rare occasions when the company is genuinely enraged.

It's show business

Montbuild has finally announced its plans for an autumn computer show to rival the troubled PC Show next year.

The firm which once helped organise the PC Show will be staging the first Business Computing Show at Earls Court from September 25th to 28th.

Show goers will now find that instead of the traditional PC Show which encompasses all aspects of home and business computing they have two show – Montbuild's business affair and EMAP's European Computer Entertainment Show (September 13th to 16th).

The future of the PC Show is is serious doubt. Patron VNU used to organise it in conjunction with Montbuild but that firm split last spring. VNU has slapped a £5 million lawsuit on its former partner but Montbuild says that will be fought off.

Montbuild is hoping to attract top end manufacturers to its new show such as IBM, Wang and DEC. But expect to see the likes of Amstrad, Commodore and Atari present as well.

Meanwhile Commodore has spilt with Database over the organisation of the forthcoming Commodore Christmas Show (November 17th to 19th).

In the past Database had completely organised the event. This year it was to simply take care of the peripheral details such as cleaners and security. However, differences of opinion and Database's commitment to the Computer Shopper Show have forced a split.

Commodore has managed to woo bug names to its show such as Ocean and Electronic Arts. The firm is known to have been tired of seeing "grey importers" and box shifters virtually dominating the last few shows.

KONIX CASH BOOST BUT CONSOLE LATE

The Konix Multisystem will not appear until after Christmas – but at least the machine's future has been secured following a substantial cash injection.

Konix was to launch the machine this week but various problems have meant a delay. The firm's management has been involved in lengthy discussions over the past few months in a bid to attract a buyer for a large share of the company.

Last week it emerged that a Southampton based hardware distributor called Addons had stepped in to buy a large share of the company from its boss and founder Wyn Holloway.

Holloway has been in negotiations with Addons since the PC Show when staff from the distributor were constantly present on the Konix stand. Despite the bad publicity about Konix's PC Show presence Addons appears to have been impressed by public interest in the console.

It is not yet known how much Addons will have paid for the shareholding or how much of the company it owns but it is understood that Holloway no longer has sole control of the firm.

He had hoped to push his creation through singlehandedly but failed to raise the money needed through traditional sources such as banks. As a result he had to turn to a buyer.



• Multisystem: Money in, but it's late

It is still hoped that the Multisystem will be launched before Christmas although that is highly unlikely. Konix has still not booked any ads for the machine.

Addons has risen to prominence in the trade over the past few years as a top shifter of Commodore's products to dealers. It has a close relationship with the hardware manufacturer and this year sold more than £20 million worth of computers.

The Konix machine will stay the same and will still be priced at £229. However, Holloway will no longer have complete control over the product and its peripherals.

Virus launched against NASA

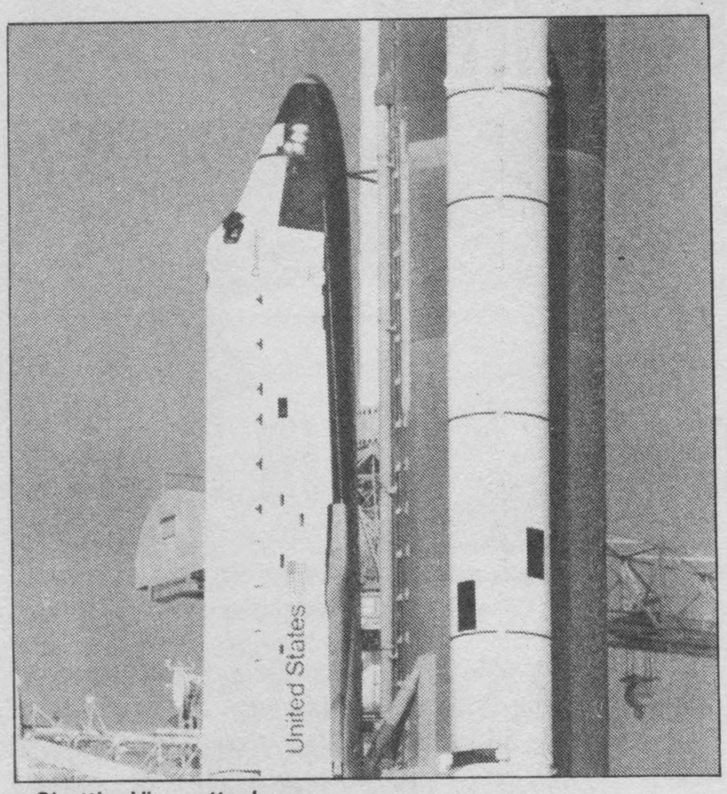
Anti-nuclear protesters have inserted a special virus into NASA's computer network opposing its work on the nuclear powered Space Shuttle.

The Fu Manchu virus failed to worm its way into the computers monitoring the Shuttle's launch late last month but did get through to the computers which will be used to carry data from the mission.

Computer operators at NASA found their DEC mainframe computer terminals infected with messages such as: "You talk of times of peace for all, and then prepare for war" appearing alongside others including "George Orwell was an optimist" and "WORMs against nuclear killers".

Some 6,000 computers are claimed to have been infected. NASA officials took the precaution of disconnecting especially sensitive computers from the network. Whilst NASA says no real damage has been done there are fears that the "garbage" data could be used by mistake. It is thought that the virus crept through a French network which is attached to NASA's computer system.

The launch of the Space Shuttle was surrounded in controversy because it uses nuclear fuels. Lift off was delayed for a few days while protestors tried to stop it through the law courts.



• Shuttle: Virus attack

Firebird faces the axe in MicroProse shake up

Games software house MicroProse is considering dropping the Firebird label which it bought from British Telecom only seven months ago (*Express* 23).

The firm is planning a major reshuffling of its labels at the end of the year with Firebird being closed down along with Microstyle which was launched only weeks before the Telecom deal.

At present MicroProse games come under five labels – MicroProse , Rainbird, Microstatus, Microstyle and Firebird. MicroProse feels this is all too confusing.

• Microstyle and Firebird games are all "lightweight" affairs with the emphasis on fun. However, Microprose dislikes the Firebird image and wants the games to be slightly more in depth and lasting. So Microstyle will stay whilst Firebird goes. Where to is not known.

• Rainbird has been a leading name in cerebral gaming for the past five years. Although Microstatus was launched with similar goals it can't hope to compete.

This will bring the MicroProse label down to three games with clear identities. MicroProse said it preferred not to comment on future plans.

Meantime, MicroProse is looking for top class programmers to join a new development team. Most MicroProse games are put together in the US but now the UK offshoot is looking to make an impact. "We've got most of the team together now but if someone can come and stun us then that would be great," offered a spokesman. MicroProse can be contacted on 0666 54326.

ALTERNATIVE MOUSE STYLE

A revolutionary new alternative to the mouse is being developed by a Dorking based company.

Culton Services has licensed a finger position sensor which could easily be designed into a computer's keyboard. The sensor works according to finger pressure and is claimed to be just as accurate as a mouse.

Manufacturers of portable computers have been stumped for an alternative with Apple and Atari having to plump for uncomfortable roller balls.

A special pad for desktop computers is also being developed by the firm. Culton is on 0306 885138.

COMMENT

SOME YOU WIN

There are two possible approaches to take over the Konix affair. One says what a shame it is that yet another British (i.e. not English but Welsh) entrepreneur has had their visionary scheme hindered by lack of money, how it could have provided hundreds of jobs and given the British computer industry a genuine lead over the Nintendos and NECs of this world, etc. etc.

The other is less generous. Konix – a hitherto obscure Welsh (i.e. not British or English) joystick manufacturer – never could take on the world, pundits said when the company announced its console. It simply can't compete against the big boys because it can't provide the sheer up-front cash and marketing muscle.

So far the console has survived on the oxygen of publicity only. At the recent PC Show punters were given the embarrassing sight of a stand with all the promo tapes and videos working but no console. The 'revolutionary' chair was just not working; a few copies of *Punch* and the place would have looked like a dentist's.

It is to be hoped that the console will come out, and will succeed. But the fact that it would do so only with a large injection of cash from the big boys outside to sustain it is a salutary lesson for the other little fish in the pond.

NOW WE ARE ONE

Express celebrates its first birthday round about now (this is issue 52, and the first issue, Issue 0, came out a year ago). Though most of you seem quite happy with the balance of the magazine, it's clear that news is what you're most interested in. Accordingly, Express will shortly be expanding its news section, making it an even better guide to what's happening in the world of home computers.

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SOFTWARE BUYING REVOLUTION LOOMS

A revolutionary new way of buying computer games is being tested by high street retailer WH Smiths.

The firm has installed a special computer in its Princes Street branch in Glasgow which will copy games while you wait. The experiment has been set up with software houses Code Masters and Elite as well as trade distributor TBD.

The trade feels that this is a good way of making the most of valuable shelf and stock space. Hundreds of computer games can be stored in the machine instead of on the shelves.

Buyers simply go in, buy a blank tape, and have the game of their choice copied. All Code Masters' and Elite's back catalogue of 8-bit budget games are being kept on the computer. In other circumstances WH Smiths would not bother to carry all these old games – only current big sellers. This gives games buyers more choice.

EXCLUSIVE

The computer being used is American in origin and is called the Avedas. TBD's Norman Smith told *Express*: "It looks just like a PC but can copy games over very quickly and without disturbing any of the normal copy protection. It's capable of copying games onto disk or tape "

"In the trade we have to be aware of the restricted space on shelves, this is a good way of offering people older games and saving space. We're able to give consumers access to three times as many titles as before.

The software houses say they are delighted to be able to get golden oldies into the shops instead of having them collect dust in the back of a warehouse. If the experiment is a success then Smiths plans to install more computers in branches throughout the country.

TBD and WH Smiths are even considering using the process to sell old audio tapes although that is at an early stage of development. TBD can be contacted on 0782 566566.

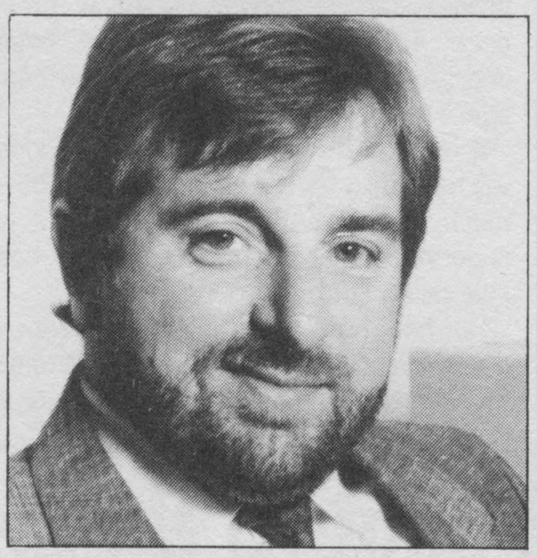
Earl quits CBM

Jeff Earl, Commodore's newly found public face, has left the company saying that he disagrees with the firm's "culture".

Earl was taken on as marketing manager only three months ago and in that time had established a good relationship with the press and much of the trade. However, he left the company abruptly two weeks ago.

Earl has quickly denied rumours that he was fired and says he left because he disagreed with the firm's management style.

He also denied that there had been a clash of personalities between himself and UK boss Steve Franklin. "I just realised that Commodore isn't the company that I thought it was. For all its years (it was set up in 1957) the British wing is very young. All the people there have been taken on since Steve became boss two years ago. But the parting was amicable." He said though that he disliked the firm's "culture" and its internal structure.



• Earl: Out of Commodore

Commodore is refusing to comment on the matter saying only that Earl left "to follow up opportunities elsewhere".

● SNIPPETS ●

IBM says damage incurred during the recent Californian earthquake will mean a delay on the launch of its major new disk drive due for launch early next year. Business software publisher Borland (based only miles from the earthquake's epicentre) has had to find temporary accommodation after its offices suffered major structural damage...

The Scottish are well known for their love of computing but enthusiasts often have to travel down into England for the shows. However, The Scottish Micro Show should be worth a look. It starts on November 18th at the Forum, Almondvale West, Livingston (off Junction 3 of the M8). Call 0422 330408 for details...

The religious group the Exclusive Brethren have been told that their children must learn computer skills at school. The group believes computers are "the devil's tool"' (Express 49). But Education Minister Angela Rumbold says no group of parents has the right to control lessons in schools...

Chinese fear computer crisis

Computer criminals in China are defrauding the country of hundreds of thousands of pounds as its technology fails to keep up with the skilled thieves.

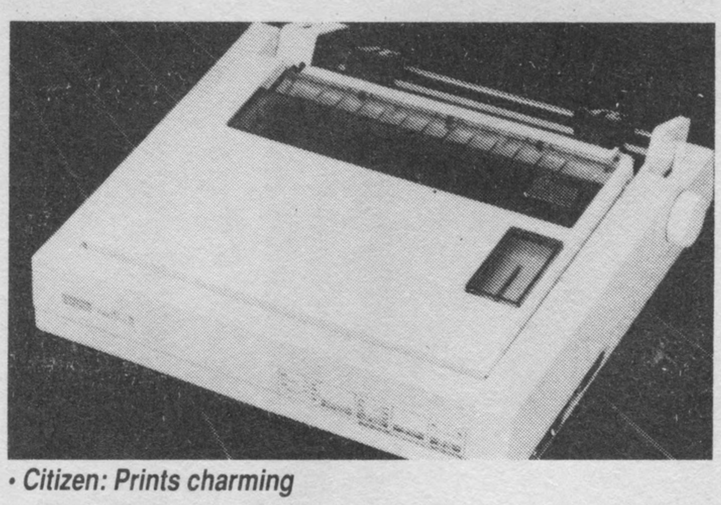
According to *The People's Daily*, dishonest computer literates are taking advantage of the country's poor computer security. It is estimated that there are some 50,000 computers in use in the country but most are basic and not built to withstand attacks from today's generation of high tech fraudster.

The first fraud was discovered in July 1986 at an office of the People's Bank of China in Shenzen. Since then 15 cases have been discovered the largest of which involved more than £150,000.

New model Citizens

Citizen has launched new printers into its "elite" range of Professional models – the ProDot 24, ProDot 9 and ProDot 9X printers.

The ProDot 24 offers 24 pin dot matrix printing at a speed of 240 cps in draft quality and 79 cps in letter quality and comes with a driver disk, which allows the printer to be driven by pull down menus. The cheaper ProDot 9 and 9X printers offers nine dot printing at 300 cps in draft quality and 60 cps in NLQ, with the 9X having a wide printer carriage.

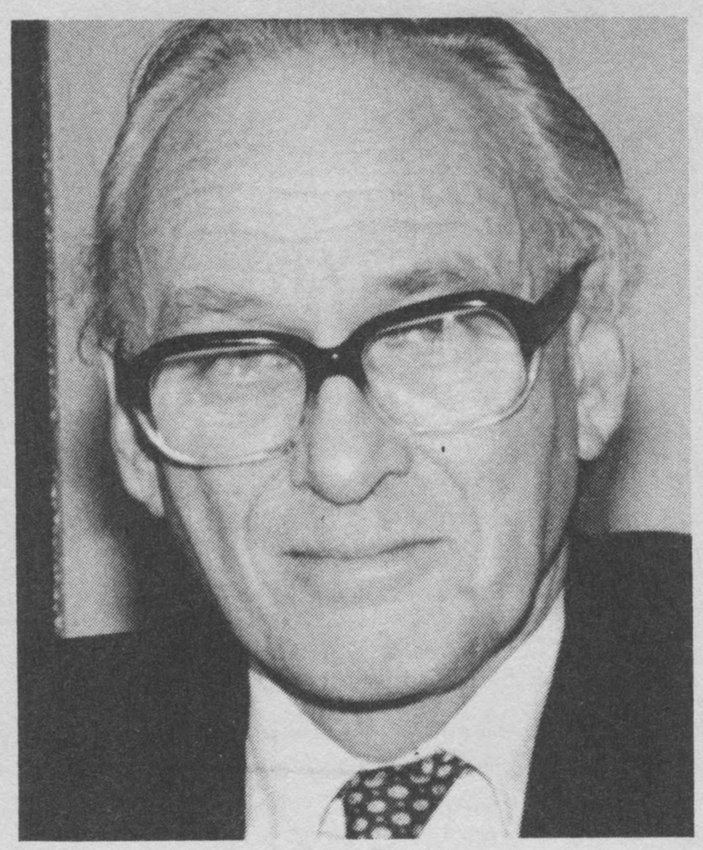


• Citizen: Prints charming

The ProDot 24 costs £599 whilst the ProDot 9 and 9X cost £439 and £559 respectively. As always, additional extras for the printers are available such as tractor feeders, sheet feeders and colour kits at various prices.

HACKING BILL FACES DELAY

One hundred leading industrialists and anti-hacking campaigners gathered at the House of Commons last week to demand early legislation which will outlaw hacking. They fear the forthcoming bill will be postponed in order to make way for other legislation.



• *Ridley: "Not computer literate"*

The companies descended on the Commons following the Law Commission's recent recommendations to make hacking illegal with a maximum five year prison sentence (*Express* 50).

They are particularly concerned that Nicholas Ridley, the Secretary of State for Trade and Industry, will give in to pressure from junior ministers who feel that other politically sensitive bills should be pushed through before the next election, leaving the hacking legislation aside. If so hacking would still be legal for at least two years.

Some have suggested that the Bill has already been dropped from the Government's 1990 programme although that has not been confirmed. The final decision will be revealed in the Queen's Speech at the official opening of Parliament next week.

The industrialists are asking three thousand firms to sign a petition urging Ridley to include the Bill. And John Banham, the boss of the Confederation of British Industries, has demanded a meeting with Ridley.

The CBI has long taken a tough line on hacking reflecting Britain's bosses fears about the menace. But reports have suggested that the bill will not be included in the Queen's Speech this month which will outline the Government's plans for the next twelve months.

Anti hacking MP Emma Nicholson commented: "He [Nicholas Ridley] is taking the issue far too calmly for my liking. But he's not computer literate so he can't be expected to understand."■

Voice PC for handicapped

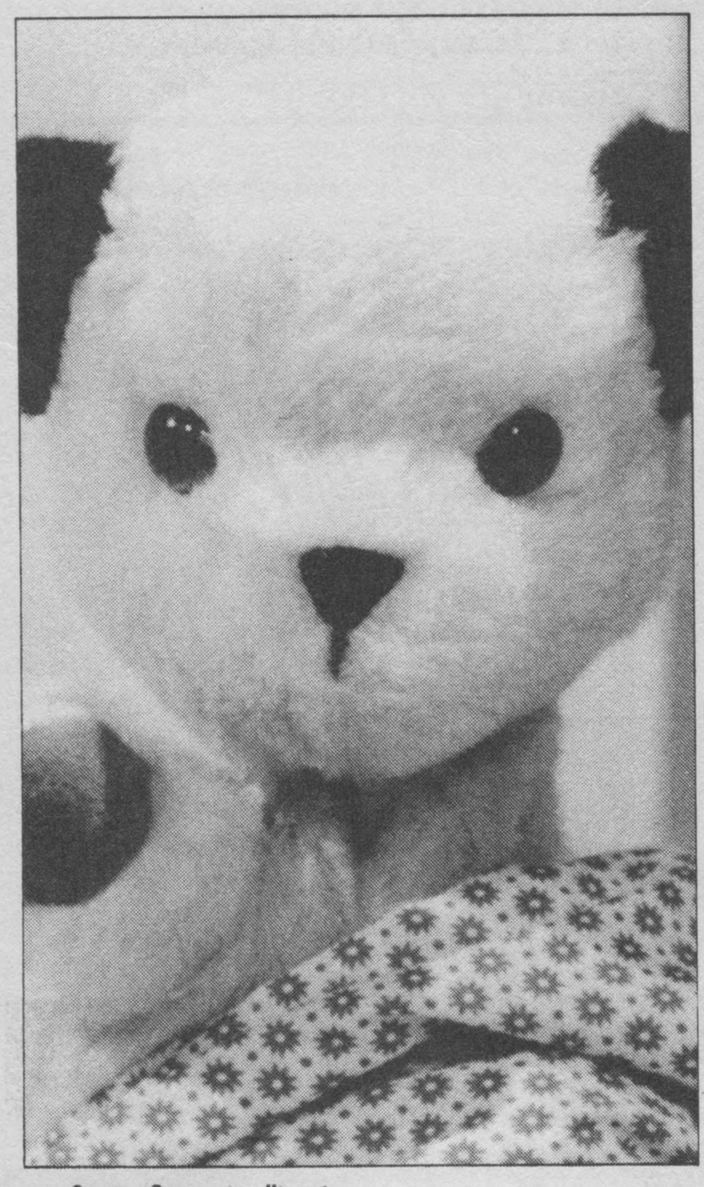
Zenith has come up with an extraordinary new PC which will help severely handicapped people get the most out of computing.

The voice controlled PC will come with specially configured software so that everything can be operated by the voice. The project has been undertaken in conjunction with PRAM Command.

Zenith says the PC's special circuit board will "train" the PC to understand commands regardless of slang, dialect or even speech impediments. An optional robotic arm which can retrieve documents from a printer is even in the offing.

"This system opens the world to the severely handicapped. They need no longer be cut off from the outside world or, indeed, even the working world," said Zenith's Clive Taylor. "These innovations will have repercussions, eventually, for everyone who uses a computer."

Not surprisingly the system is expensive. The basic kit costs more than $20,000.



• *Sooty: Computer literate*

Sooty sweeps into games

It seems that the strangest individuals are catching the computing bug. The latest convert is none other than Sooty.

In a recent episode (*The Good, the Bear and the Fluffy*) Sooty received a brand new computer and started playing games. However, his friend Matthew Corbett didn't approve of Sooty's new hobby especially as it began to look like an obsession.

Still, Sooty managed to persuade Matthew to start playing games and he had to admit that they really jolly good fun after all.

But there's no danger of Sooty becoming a computer addict. The two pals ended the episode by going outside to find other games to play.■

Armed robbers turn to chips

Computer chips are emerging as California's newest attraction for armed robbers.

Gangs of thieves are reported to be raiding scores of warehouses and manufacturing plants in the technology intensive state. Such is the extent of the crime wave that the FBI and US Customs have begun investigations.

Many of the robberies are being undertaken by Vietnamese gangs who have switched their attention from gold to silicon. The gangs are called "gold people" because of their habit of storing personal wealth in portable gold. But now they're making a killing from chips.

One of America's largest computer manufacturers, Western Digital, says it has already lost £3.5 million worth of chips to thieves. And one recent raid on Express Manufacturing cost that firm £250,000 in chips.

The gangs are attracted to chips because they are not guarded as heavily as they might be and don't carry serial numbers. They are also extremely small and valuable. A fistful of chips can fetch thousands of pounds on the black market.

The gangs usually strike at night and are highly efficient. They are always armed and usually violent.

Chauk Chin, the owner of Express Manufacturing said he was attacked by two men who walked onto the factory floor and threatened him with handguns. They then tied up and gagged employees while they stuffed their bags with chips. Chin said the members of the gang operated with military precision.

Sergeant Peter Pearson of Santa Clara police said: "It's totally out of control. The Vietnamese gangs come in at four or five at a time and completely turn over a company."

Western Digital's vice president Robert Erickson commented: "There's not a company in this area that hasn't been hit."■

Micro tips

Computer owners still unsure about the rudiments of their machines are being offered a free tips brochure by Price Waterhouse.

The guide outlines all the best housekeeping rules such as backing up disks, keeping food and drink away from the machine and keeping your computer cool. It also offers ten security tips which should keep your machine free from corrupted disks, viruses and unauthorised access.

"Many users are not carrying out basic procedures such as regular back up of vital data, and there is often little or no control over access to systems," explained Price Waterhouse's data security chief David Frost. The leaflet can be obtained by calling 01 378 7200.■

We'll quit 16-bit says Psygnosis

Leading 16-bit software house Psygnosis is "seriously considering" dropping out of the ST and Amiga markets because of rampant piracy.

The firm says it is "sick and tired" of writing computer games just so they can be ripped off by parasitical crackers and pirates. Psygnosis says it will move into consoles, an area which the firm has been courting for some time.

"We released *Shadow of the Beast* on the Friday, it hit the shops on Saturday and I could buy a pirated version on Saturday night," said the firm's Ian Hetherington."We invest a lot of money, time and talent into these games. What's the point if we're not being rewarded? Anyone who says piracy is alright because the price of games is too high is talking rubbish."

Psygnosis has based its success over the past couple of years through graphically excellent games such as *Beast* and *Blood Money*■

Sex and CD

An Italian firm is planning to launch a CD-ROM set of disks containing explicit sex pictures.

***The Unabashed History of Pornography* is being sold by Milan based In-Cat systems. The five disk set contains 300 graphic images of sexual acts from a variety of historical periods. According to trade paper Datalink the static pictures are "of photographic quality" and are rated XXX.**

It would appear that Italian regulations on such matters are not as strict as ours and In-Cat "is not aware" of differences in other countries.

HiSoft: not PD

This month's issue of *ST Format*, sister publication to *New computer Express*, contains an unfortunate error: HiSoft's MonST program is described as public domain. It is not.

All versions of MonST and the other programs that make up DevPac ST (versions 1 and 2) are the copyright of HiSoft and therefore should *not* be copied or otherwise treated as public domain.

DEEP THOUGHT THRASHED

Top chess computer can't beat human

Deep Thought, the world's most advanced chess playing computer, was last week beaten by world champion Gary Kasparov in 52 moves.

Typically, Kasparov used the victory as a vindication of human supremacy over any computer. "I had to challenge Deep Thought for this match to protect the human race," he told assembled chess fans and computer enthusiasts.

Deep Thought is a dedicated chess playing computer and can think through 720,000 possible moves every second.

However, in this match it was soon clear who was going to emerge victorious. The Grandmaster used a classic Sicilian Defence and then bewildered the machine by implementing a violent King's side attack cleverly disguising a sneaky passed pawn on the opposite wing.

The computer was still claiming to be level half way through the game when one piece down and under heavy attack.

Kasparov was jubilant after the exhibition at the New York Academy of Art. But he has a smarter rival waiting in the wings.

The development team behind Deep Thought are currently working on a machine which can think through a billion moves per second. That should be ready to take on the champion within two years.

He doesn't appear to be overly concerned. "I cannot visualise living with the knowledge that a computer is stronger than the human mind," he said. "Computers have their psychology too. If you know a computer well, you can anticipate its moves."

However, he gave Deep Thought some credit. "If a human player was beaten as decisively as I just beat Deep Thought he would be so intimidated he would be an easy target in the next game. But not a machine. It cannot be intimidated."



• Kasparov: Computer basher

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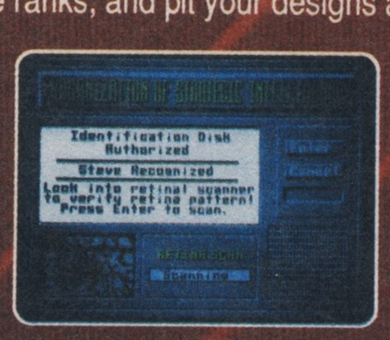
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Dear Reader

Another collection of comment, controversy, compliments... and Rob Ainsley's replies. Have you got something to say? Make your voice heard in computing's liveliest letters page! Send your contributions to:

Express Mail, 4 Queen Street, Bath, Avon BA1 1EJ

PS. Sorry, but we just don't have the time to give personal replies, whether you include an sae or not. We're too busy putting Express together!

MORE NEWS IS GOOD NEWS

When people write in and say your magazine is wonderful, they don't tell you what it is they like. What I like best is the news. That's what I buy *Express* for.

Monthly magazines aren't good enough for news and most of them are dedicated to one type of computer so you won't get news about other computers and their related items. If it is possible, make it bigger!

Son Truong, Mansfield, Notts

• In a couple of weeks that's exactly what we're doing – expanding the news section to give you a better and more in-depth picture of what's happening.

COMMS TO A HEAD

Why did you use the most expensive examples when demonstrating the uses of a Modem in 'Beginners Comms' in *Express* 50?

You say 'it might take you two minutes to download a genuinely useful piece of software from a bulletin board - total cost 20p or so.'

20p for a couple of minutes? I can only think that the *Express* staff must have been using a long distance call to Telecom Gold during peak times! Even Micronet only costs about 2p a minute during off-peak times, and that's quite expensive!

Myself, I use the City (021-353-5486) regularly, which is a quite good local BB. There are no connection costs (though even connection costs are rarely more than 2p a minute), and an hour on the City will cost me around 50p in phone bills! There is a small difference between 50p and 'a quid or two'! So comm to your senses and try and give the novices a bit of encouragement!

Robin Morris, Sutton Coldfield, West Midlands

• Maybe the costings were a bit pessimistic, but you can't always guarantee that a local BBS will be available. However, we're happy to pass on your figures.

SAM HOPE

After waiting with eager anticipation for the long awaited unveiling of the SAM Coupé the day did finally dawn. No wonder it's taken three years to develop. They have made it invisible. It's now three weeks since I wrote to MGT for more information on the machine but alas not a word from them.

Is this how they hope to compete with the 16 bit machines? Or could it be by the time they get their act together it will be cheaper to buy a 16 bit machine anyway...

Vic Jordan, Burnley, Lancs

• Some SAMs are being shipped out at the moment. Latest position from MGT on 0792 791100.

WRONG PROTOCOL

I came across the article about the new Protocol portable computer from API Electronics in *Express*. Could you send me further details about their new model?

Vincent Page, Blata L-Bajda, Malta

• API was beaten to the contract for the amazing A4 PC portable by another firm, M3IPC, who will sell the machine as the Lapro for £899 (£200 more than API planned to sell it for). M3IPC is contactable on 0800 272515.

SLUG IT OUT

The recent letters in your magazine concerning dubious "Make Money from your Micro" mail-order schemes reminded me of a tale someone told me a while ago. He'd been having a bit of trouble with snails in his garden and so was particularly pleased to spot an advert in the local newspaper: "Totally infallible method of killing slugs, snails and other garden pests. Quick, easy and reliable, and works over and over again! Only £10. Send cheques/postal orders to...." etc.

He sent a cheque off and a few days later, he was received a small parcel through the post. Inside the package were two stones, labelled A and B, and a scrap of paper which read "1. Place snail/slug etc. on stone A. 2. Hit it very hard with stone B...."

Joel Grounds, Gwynedd, North Wales

• Ah! So now we know how these 'Make Money from your Micro' schemes work. Place the slug on the top of the monitor, then hit very hard with the keyboard...(That's enough gastropods – Ed.)

ARC LIGHTS

Your "Shopping Express" section doesn't seem too well up on all things Archimedes lately. So here are a few of the things you missed out of recent issues: Art packages - Besides *Atelier* and *Pro-Artisan*, there are also *Pax*, from Z&Z Software, £15.95, *Art Nouveau*, from Computer Assisted Learning Ltd.,£42.50, *Leonardo 256*, from Beard Technology, £17.50, *Render Bender*, from Clares, £79.95, and *Artisan 2*, from Clares, £59.95.

Scanners – you didn't mention any Archimedes scanners, while in fact there are: *Archie Hand Scanner*, from Watford Electronics, £149, a 100-400 dpi handheld scanner with multitasking RISCOS utility software; *Scan-Light*, from Computer Concepts, £450, a full width A4 scanner; *Scan-Light Junior*, also from Computer Concepts, £190, a half-width scanner with 100-400dpi resolution and software in ROM.

Sound Samplers – you only mentioned EMR's offering. There are in fact quite a few more: *Armadillo Sound Sampler*, from Armadillo, available in three configurations – mono, £130, stereo, £166, and stereo with MIDI, £186; *Armadeus*, from Clares, £150 for sampler and £80 extra for software.

Please try to do a bit more research in Shopping Express.

Iseset, Llandudno, North Wales

• Shopping Express is not a comprehensive guide to all packages available – there isn't enough room for that. Software just for the Archie would fill the magazine, never mind the dozen other machines we cover, so we just give you the best ones for each.

And us not supporting the Archie? Tosh! We had a whole page last week detailing the software available.

BIT O' CRACK

One thing that has intrigued me is the cracking of games. I, and many others probably, would love to be able to crack our favourite but difficult games, to see the rest of the game on screen.

So come on, could you give all us dumb critters who don't have an ounce of programming knowledge between us the secret formula to how it is done. I would be much obliged if you did so.

John Riddell, Keith, Banffshire

• And tell everyone how to beat copy protection systems? If we did that we'd get sued by every software house in the land, FAST, the Inland Revenue, the FBI, the MCC, the ANC... I'm afraid you'll have to make do with the comprehensive cheats and pokes we publish. But if you must have a hint, have a look in this month's issue of ST Format...

MAIL SUPREMACY

I have come across a first class mail order company. As far as I am concerned 10 out of 10 to Memory Expansion Systems for patience, first class service and fair prices. I would recommend them to anyone who requires extra memory, and is dubious about mail order companies.

Norman Stone, Chelmsford, Essex

• Well done MES. New Computer Express pencils are on their way.

SCAN KNOWLEDGE

In response to Ian Parker's letter concerning the price of *Daatascan* (*Express* 50) and your reply. The price of £150 quoted in Shopping Express was an error. *Daatascan* used to be £275 but has recently come down to £229 which includes the new software (which can be bought separately as an upgrade by users with earlier versions of the package.)

Colin Harvey, Norwich, Norfolk

• Sorry about that – we'll put it right in the next Shopping Express Scanners guide.

PIRATE SPEAKS

After buying my second hand Amiga I bought some pirated software. What attracts a lot of people is that it is so➤

BULLISH LETTERS

Amiga Emulators for the Atari ST (*Express* 50)? A load of bull. The Commodore Amiga features several dedicated custom chips, which provide it with its extra features and facilities. For instance, the Amiga has four-voice stereo sound, but the ST has only three-channel mono sound. The Amiga also has many extra features plus 512K operating system.

I'm not trying to slag off the ST, but it is an indisputable fact that the Amiga has a better technical specification.

I should think there are probably many Amiga owners who are hopping mad at Colin Westwood's suggestion that the Atari ST can emulate their beloved machine, which is an impossible task for even a Mega ST.

Joel Grounds, Gwynedd, North Wales

I am writing in support of Colin Westwood (Amiga Emulators, Express 50). *AMY68* does exist - I have a version of it (1.40+). This version runs on my Mega ST with 2Mb of RAM. Version 1.40+ includes an addition, Graphic-X, which is the 'Amiga graphics co-processor emulator.'

My manual (release 2A) describes, in detail, how *AMY68* works. Basically, it cross compiles code from the Amiga to the ST using a special 68000 cross compiler/ assembler. The author says that he is currently working on sound emulation.

I have run Amiga versions of *Della WP*, *Crazze Stop*, *Chuckie Egg*, *Ferrari Formula One*, *Interceptor*, *Jet*, *International Soccer*, *Captain Blood*, *B.A.T.*, *Afterburner* and *Streetfighter*.

I have been able to run all my Amiga friends' BASIC programs (I bet you thought ST and Amiga owners couldn't be friends) with no problems. The whole system is beautifully documented and is extremely easy to use. *AMY68* comes on three disks, and the last disk contains a weird copy of AmigaDOS - version 1.3A.

It doesn't feel quite like the original in use and so if you have access to an original copy of AmigaDOS v1.3 you would be well advised to use that instead for best results.

I got my copy of AMY68 version 1.40+ from American shareware organisation DatLogik for $79.95 + VAT.

S.C.Hampson, Banstead, Surrey

• Well, there you have it. If you can get me a copy, then I'll be prepared to eat my words – I hope Joel Grounds will be, too! (And the words are: Madras, prawn, curry, rice, two, pints, lager).

cheap for what you get. But what they don't realise is that it's very cheap because there isn't a lot of it. In my experience of pirate software all you get for your money is a disk and that's it. This means that, without any instructions, 100% of serious software is useless and probably around 95% of games.
A.H. Foster, Bassett, Southampton

• ***Surely the more uncomfortable question is, what percentage of serious software and games is totally useless even with the instructions...***

CLUB ST

In reply to a letter printed by Paul Bocij, I wrote to him about setting up a club for low income ST users. In reply, he sent me a long list of dos and don'ts. I need a lot of publicity to get the ball rolling. So could you please print my address in your letters page.
Marcus Mansukhani, 9 Days Green, Capel St. Mary, Ipswich IP9 2HZ

• ***Print your name and address? Good heavens no. Whatever next?***

IRONIC ORIC COLUMN

A fascinating discovery! Noah used a computer to predict the flood, and I have found the keyboard in my loft. It's a 48K Oric-1 (some say it's almost as outdated as my Plus 3 Speccy). Can you give me any info please?
Bill Andrews, Bristol

• ***Certainly. God told Noah to build a massive Ark, specifying the exact number of cubits, and told him to put two of each animal onto it. Noah and the animals sailed round the world after it rained for forty days and forty nights and creationists say the Flood explains geology and why you find fossilised fish 25,000 feet up in the Himalayas.***

Oh, sorry, you mean the Oric... No, we can't, but try Robert Cook, 10 Thompson Ave, King}s Norton, Birmingham, B38 8YD, who produces the Oric User Monthly; or Allan Whitaker HGC, 8 Staley Rd, Stalybridge, Cheshire SK7 3DT, 061 303 7369, who runs a mail order service.

SNIPPETS

What is "Euro-pop" music? This is often mentioned in your games reviews, but I'm not sure exactly what it is. Is it good or bad?
Joel Grounds, North Wales (again)

• *Europop is a sort of disco musical Big Mac, designed to be inoffensive to all nationalities, and hence utterly bland and characterless. It is a Bad Thing.*

Don't you think it's disgraceful that the price of a first class stamp has now gone up to 20p? This means that to write to *Express* it now costs one third of the price of the magazine! Still, it's worth it.
Joel Grounds, North Wales

• *Yes, it's appalling that stamps now cost 20p for first class, only 80% arriving the next day (which the ultimate responsibility of the government). But it hasn't stopped you writing twice this week!*

If it is any comfort to the Plymouth Brethren sect that sees computers as the handtool of the Devil (*Express* 49), EMP (electromagnetic pulses) could destroy all computers made with integrated circuits, and only valve or mechanical computers would survive. If this did happen would they attribute it to an Act of God?
J. Treeby, Plymouth

• *The major cause of EMP would be a large scale nuclear conflict. This would not only wipe out the world's computers, but also the world's inhabitants. If that happens I hope God has taken a backup.*

AND THE WORD WAS... AARDVARK

I would like to correct you on your statement in *Express* 47 about the Bible being riddled with inconsistencies and mistranslations.

Any apparent disagreement in the Bible can be resolved by looking at the context of the scripture in question and also by comparing other parts of the Bible. The Bible was written by around 40 people over a period of 1,600 years. The fact that the writers agree at all is in itself a miracle and proof that, as the Bible says, it is inspired by God (see Timothy 3:16).
D. Allanson, Malton, N. Yorks

• ***We don't wish to offend any readers of Express – at least, not unintentionally – but I still stand by what I said.***

EASY FOR YOU TO SAY

Your magazine gives over a lot of column space offering moral judgement to readers who write advocating software piracy. I imagine that it's easy when working for a magazine industry to imagine that all computer users have "legal" access to as vast a range of software as you do.

This is plainly untrue. For new users the sense of alienation at the lack of software, and frustration at its price, can be overwhelming. Most users are offered copies very early on as they almost always know somebody else with the same machine. It would be foolish and naive to brand these people "thieves."

The industry need to take a far more realistic and less moralistic viewpoint. Ask yourself this - how much so you think the average user spends on software? I know some users who spend a colossal amount, many hundreds of pounds a year. Some schoolchildren spend almost all of their money on software.

The truth is this, something that FAST have totally failed to realise; if copying was impossible, these people would not spend a single penny more on software. They simply would not buy the machine in the first place. For all except the very rich and highly enthusiastic it would simply not be worth it.

The "legal" user – which, I assure you, is extremely rare outside the world of free review copies and gifts to the press; would have access to a miniscule proportion of the vast range of software available to their machine. Even then this would involve a massive outlay. FAST's figures of x-billion-pounds-lost-each-year are quite frankly laughable if they're working on the assumption that every program shared between private users would normally have been bought by each one!

The piracy of business and education software is bad news. These are institutions who can afford to pay and on the whole get good value. Also organized piracy "bootlegging" outfits are hardly more acceptable. But private copies of games between friends is hardly more an act of theft than reading someone else's paperback.
Jim Blackler, Lancaster

• ***Whatever the circumstances, it's still illegal, and any sort of attempt to justify it, and therefore legitimise and glamorise theft is, I'm afraid, quite reprehensible. Your views are:***
• Inconsistent (why is piracy of games good but business and education software bad? Because you want to play games)
• Hackneyed (the same arguments have been made before many times) and
• Plain wrong (FAST don't base their figures on the lines you suggest, and the comparison with reading the paperback is pointless. This is like letting someone else play your legitimate copy of the game, which is quite fair enough. Giving them a pirate copy of it is like photocopying the paperback, which is illegal).

HACK ATTACK

I feel that much of the authorities' (ie the state and its allies in business) paranoia about hacking is in fact a smokescreen: the "evil hacker" is put forward, with the connivance of much of the media, as a bogeyman so that more important issues of how computers can affect our lives (viz. the number of powerful bodies who have 'legitimate' access to mounds of personal information about us) can be conveniently forgotten – compare and contrast the draconian nature of the anti-hacking proposals to the loophole-ridden Data Protection Act and see what I mean.

In fact, the proposed new laws to imprison hackers have one particularly frightening implication from this point of view. Consider the following scenario: a hacker, caught by the authorities after the passing of the new law, is given the following choice; " Either we prosecute and nail you right up to the wall, or... you do some little jobs for us."

Hackers end up being forced by those in power to assist them in their information gathering – M15 could have the files of CND and other anti-government organisations hacked, the Inland Revenue and Poll Tax authorities could hack every little bit of information about your financial affairs... The result would be far worse than any of the horror stories seen in the media about hacking.

I wonder if this is not in fact the whole idea – I understand that hackers tend to be very individualistic and anti-authoritarian, and would not under normal circumstances sell their services to those in authority. This may seem like a paranoid conspiracy theory, but are you really so naive as to believe that the power-elite always act in the best interests of those they profess to serve?
Neil Page,Chesterfield, Derbyshire



• ***New Scotland Yard which is a centre for the power-elite and their lackeys who want to control your lives and who force innocent hackers to find out everything about you the naive innocent public and*** ***(cont'd p327)***

• ***I don't know where you get this idea that we're pro the power elite.***

The danger of hackers being used by the police is, I suppose, there, though if the genuinely innocent hacker is clumsy enough to get caught 'just looking' they wouldn't be much use to the police. The Inland Revenue have sweeping powers to examine your financial affairs as it is, as any comedian or jockey could tell you, and the disparity between the Data Protection Act and the proposed anti-hacking legislation has been pointed out before by us.

All in all yes, you have a point, but I don't think we need bring in Amnesty International just yet.

ON THE CHEAP

I'm tremendously impressed by the chart in *Express* 50 which appears to show that the latest generation of CD-ROMs cost only one and a half pence. I've had difficulty tracking down even the expensive removable hard disks which by the same chart cost £9.50. I hope you'll be publishing supplier's addresses soon.
David Langford, Reading, Berks.

• ***The graph was actually meant to show price per megabyte for the various systems, but our art supremo decided that it looked prettier without the legend on the bottom.***

PILOT LIGHTS

I appreciate Dave Marshall of Digital Integration taking the trouble to reply to my letter in *Express* 48 concerning copy protection and narrow US style screens in his game *F16 Combat Pilot*. I'm not a programmer so I can't comment on his statement that a PAL (UK) version would run more slowly than its NTSC (US) equivalent, but I accept his arguments for copy protection.

However, he states that it would not make economic sense to produce separate UK and US versions of his software. It seems to make economic sense to Commodore themselves who produce UK configured Amigas, PAL Workbenches and PAL monitors.

Finally, my remark about "disregard for UK users" referred solely to the lack of a PAL version of his game and not to his customer service, which I don't doubt is first rate.
Stephen Mercer, Shaftesbury, Dorset

In reply to Dave Marshall, there exists a place where you can get hold of games which are written for the Amiga only, where the whole screen (256 lines PAL) is used, and where there does not exist any copy protection. (In fact, you are encouraged to spread the programs.) The place is called the public domain.

The public domain library for the Amiga consists of more than 400 disks, where many of them are filled with games. If anyone wants quality games, written for the Amiga by Amigos, I would highly recommend the PD libraries.
Anders Bjerin, Richmond, Surrey

• *And there you have it.*

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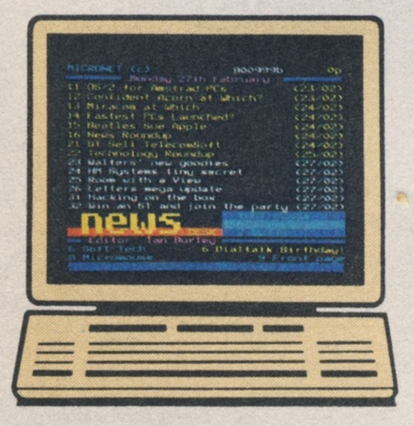
And if you pay for a year's subscription in advance we'll even give you a modem free when you join.



FREE SOFTWARE

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

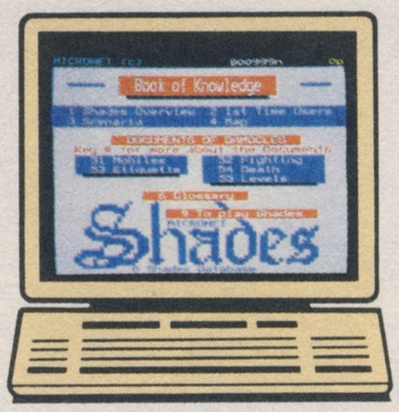
We now have software for all popular machines, from the Spectrum to PC compatibles, including the Atari ST and the Amiga.



INFORMATION

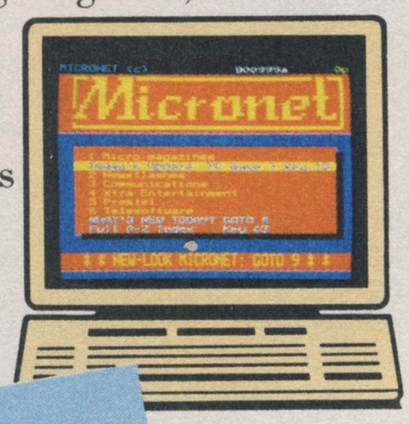
Micronet is also a computer magazine. Our computer news area is updated every day, so there's no better way to stay up-to-date, and our software reviews and features for all popular micros mean Micronet members are always better informed.

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ENTERTAINMENT

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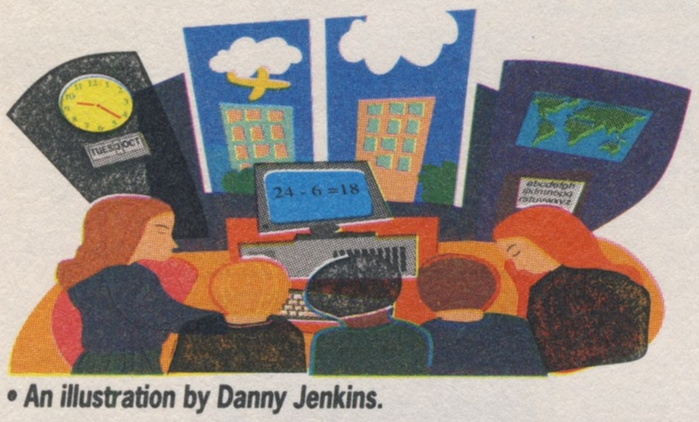
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MICRONET

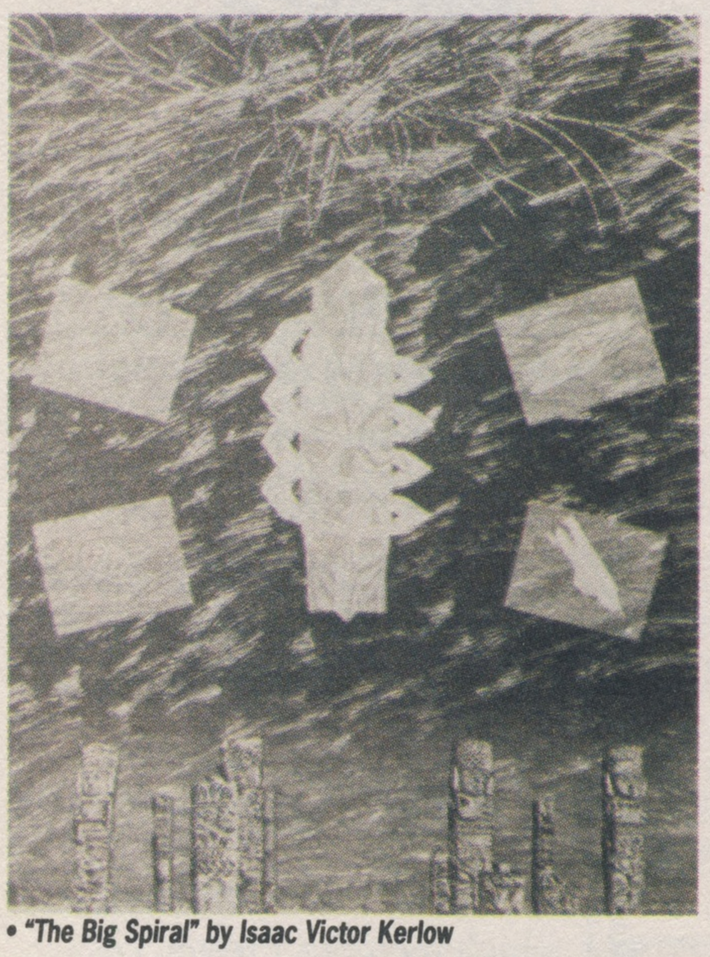
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ART FOR AL



• An illustration by Danny Jenkins.

Computer art has progressed beyond simple cartoons and heavy metal imagery, as Angela Neale discovers at an exhibition in the West Country



• "The Big Spiral" by Isaac Victor Kerlow

Is it really art? The question long ago asked when photography first emerged is now reverberating around the galleries at the Arnolfini, Bristol's contemporary art centre, but for a new reason - electronic art. At one time it was enough to wow everyone with gadgetry, but now artists are using the medium to produce technological 'art' – for art's sake.

The exhibition of electronic print was part of the Bristol Print festival and included the work of over 30 international artists. All of the pictures were produced using computer technology and brought together various fields of electronic printmaking.

The exhibition was exciting not only for the work on display, but also for the attitudes and foresight of the exhibiting artists. It was refreshing to see computer art hanging on the walls of a major gallery and treated with as much respect as art of a more traditional kind.

The many unexplored areas in electronic art and design give an impetus to the artists to continually look to the next stage as both the technology and the artists themselves develop. The overriding feeling from the show was that the work on display was transient, ready to be updated and replaced by the next advance.

Computer art is challenging traditional painters by looking at art from a new viewpoint - anyone with a modicum of artistic skill can use their imagination to produce something for themselves. Most of the artists began working on fairly cheap home computers, though many of them have progressed towards more complex set ups, but the dominating idea is that the snobbery surrounding art can be broken down by anyone with a computer and the inclination to use it.●

IN THE ART OF THE CITY

Mike King and Richard Wright are both computer artists and lecture at City Poly in London. They run courses for professional designers and artists who wish to learn programming and use paintboxes to further their creative work .

Richard Wright was training as a painter and became interested in alternative ways of making pictures. He explored mathematical and geometric ideas, first designing on paper and then realising that what he was trying to produce could be executed more efficiently on a computer. He started with a Commodore 64 in 1980 and did his own programming from day one, as this gave him space to produce rather less rational art than a package could allow. As he progressed the need to improve print out quality became apparent, so Richard moved over to an IBM PC at the IBM scientific centre in Winchester.

Mike King first used computers in his art quite by coincidence after watching a Horizon TV programme. He saw similarities between the chaotic stage his work was going through and the things the computers were being shown to do. He set out with a BBC micro and programmed his own software.

Mike and Richard have a vision of a generation that is growing up computer literate with a common language, and can enter the art world through a computer connection. They believe that this will help to break down the barriers thaT make art inaccessable to young people.



• Work by Richard Wright



• Dr Mike King and some of his work at Arnolfini

COURSES AVAILABLE AT CITY POLY

The only qualification for entry to these courses is a strong art and design background. Most people use them as a postgraduate course or as a supplement while working, but that doesn't mean they're closed to anyone who has the right credentials. The courses have been running for between two and five years.

● **Two year diploma course**
Two days a week in computer graphics and programming. This course is Government funded and costs £120 per year

● **Short courses**
10 weeks for two evenings a week.
Introductory paint systems £190
Advanced paint systems £260
3D Graphics £170
Design and layout for DTP (Taught on *PageMaker* but based less around the package than the importance of typography and good design) Fee to be confirmed

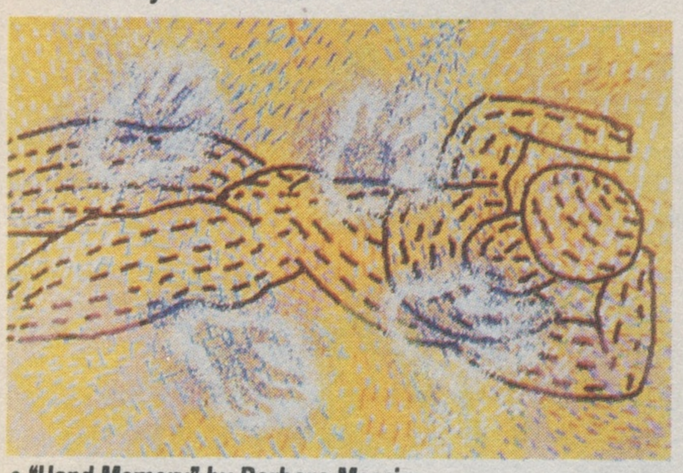
The fees quoted are approximate For more details call City Poly on 01-283 1030 and ask for the arts faculty.



ALL



• "Finale 2" by John Pearson.



• "Hand Memory" by Barbara Messim.

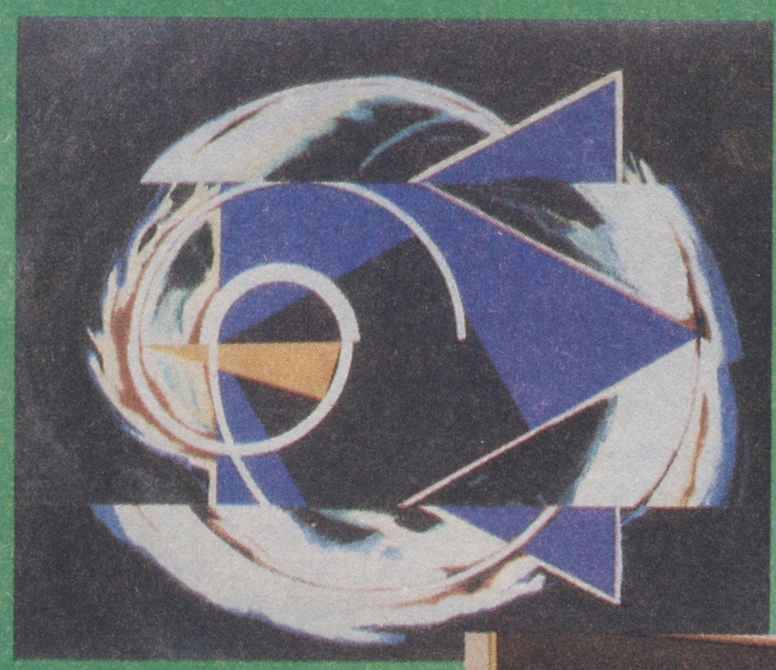
MARK WILSON

Mark Wilson trained as an abstract painter at Yale and initially became attracted to computers for slightly off beat reasons - the beauty and intricacy of circuit boards rather than what they could do.

After realising the powerful opportunities that machines could offer and with home computers becoming affordable he bought a Texas TI/994 A and began to construct a program for himself. It took several years of frustration and tinkering before a generally unsophisticated piece of software evolved.

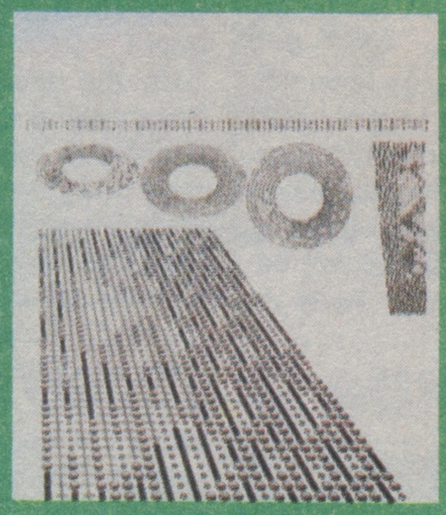
Later he moved on to an IBM PS/2 and a colour plotter. Mark stressed that writing his own program gives him greater flexibility and fewer restrictions than a package could ever provide. He says a lot of his work comes from experimentation with this basic piece of software and often gives totally unexpected results. He finds computers "all consuming" and now uses no other media.

"Many powerful artists are among the leaders in exploiting machines but have to become aware of the limitations of computers as well as the advantages."



• NAC L4 (Left)

• Mark Wilson and his exhibits (Below)



• CHRF 30 Vector plot



FAB 4 STUDIOS

Jeremy Norton and Danny Jenkins are both postgraduate students at Bristol Polytechnic and work primarily with computers. Unusually, they specialise in illustration and their work appears regularly in the pages of *Express* and other magazines brochures and advertising literature.

They were both attracted to computer painting systems out of curiosity and novelty and, having college equipment close to hand, quickly became involved in the medium.

"I found there was none of the restrictions that conventional media had imposed on me and ideas could be developed further and faster on a computer," said Jeremy. He uses a Pluto eight-bit paintbox and RGB "Pandora" 24-bit paintbox both running on Tandon PCs and also *Freehand* on a Mac 2 ."I like the ability to output to hardcopy or paste directly in to DTP software. The disadvantages are expensive software and square eyes!"

Danny uses other media and has done video work with Yazz, TV work and customisation of cars with spray cans but also uses the paintbox systems at the poly. "Most computer art I've seen I thought was fairly horrible - technically clever but lacking noticeably on the creative side. Computer art made to look like oil paintings. I find the great thing about using computers is the speed at which drawings can be developed. You can take a drawing in any direction and take any risks you want, completely mutilate and experiment the work to death without the worry of losing it forever by just saving the crucial stages."

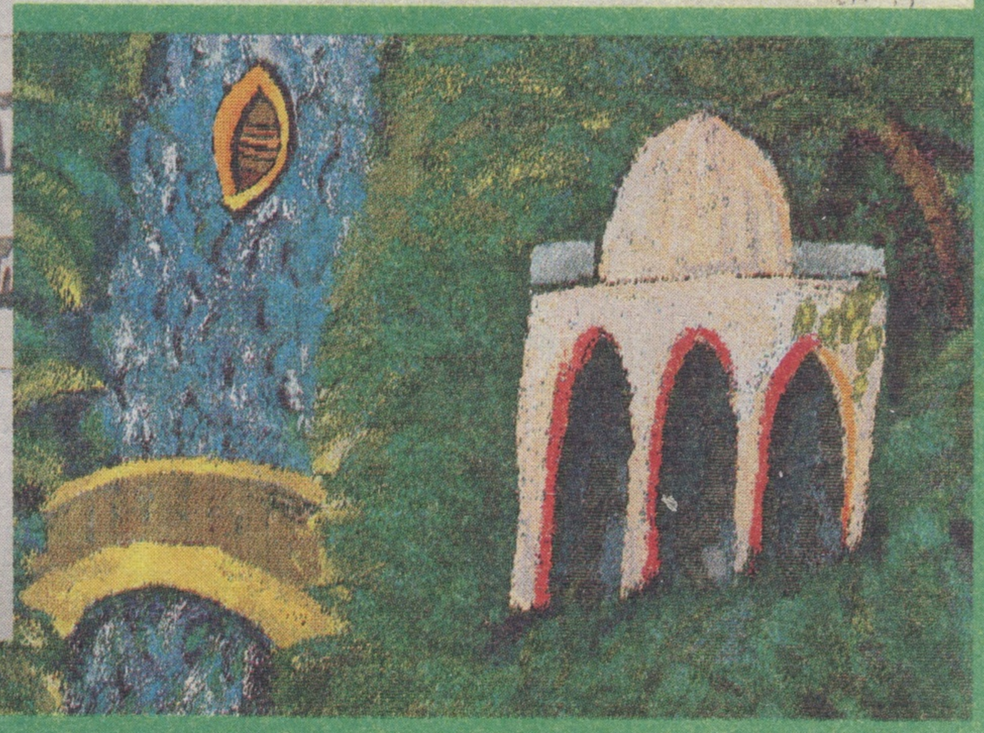
Little illustration work is done on computers, probably because access to hardware is difficult and the fact that computers are expensive, but Danny and Jeremy have a vision of young artists taking out bank loans, getting a computer and making extremely large amounts of cash! "Still, we'll see!" said Danny.

They both feel strongly that computer art should be practiced by creative people rather than programmers, then perhaps it could really have the presence to capture people's imagination.





• Danny Jenkins and Jeremy Norton with some of their work



ALTERED IMAGES

Mark Bennet explored the very expensive world of image processing at a recent London show

The Wembley Exhibition Centre was host last week to Image Processing '89, Europe's first major exhibition in the rapidly expanding field of image processing (IP). The show's 90 exhibitors covered a broad range technology from flatbed scanners for use in digital archiving to complex colour medical 3D imaging systems, and were all keen to get their share of a market estimated to be worth $468,000,000 by 1992.

While we lowly home micro users may have felt lost at the show it was good place to see what image processing was all about. Defined simply, it's the appropriation and manipulation of images, whether they be taken from satellites, a video or a video camera placed in a high powered microscope.

Go digital

Once you decided what you want to digitise and get into the computer, you have to figure out which way to do it.

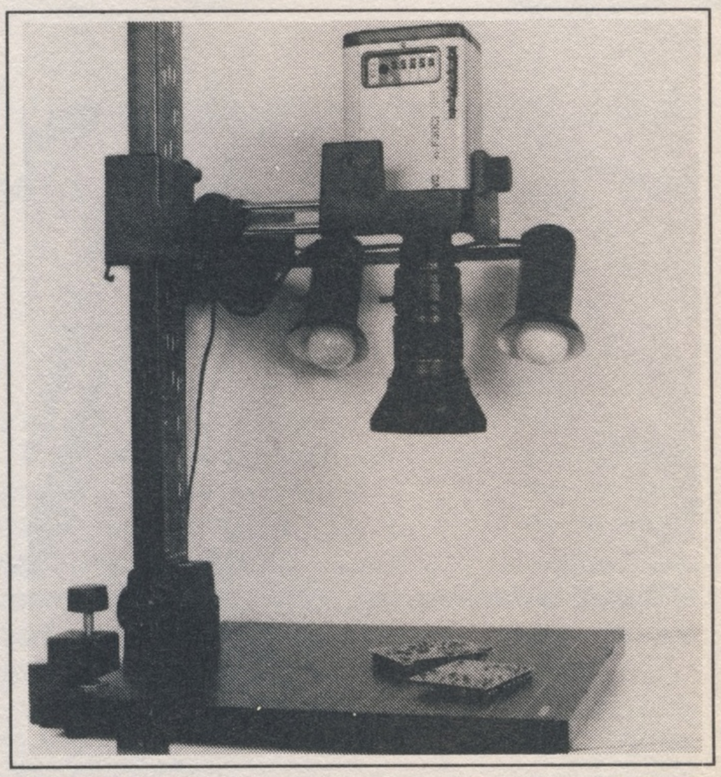


• MD Mars can store gigabytes of text or graphics for instant retreval on a Macintosh

Traditional flat bed scanners were at the show being used for OCR (optical character recognition) for text recognition, but they were eclipsed in number and variety by CCD cameras (charge couple device - the chip used in most hand held video cameras) that featured high resolutions, high shutter speeds and the ability to handle depth.

Having decided on which camera or scanner you're going to use, you need to find a digitising board that will convert the analogue signal into something the computer can use. A wide variety were on show, for various computers ranging from the Archimedes to Sun workstations. Most however were prohibitively expensive, if state of the art in terms of processing power.

For the most part, image processing remains in the hands of the very rich and bureaucrats. The latter are speeding up and replacing the traditional filing systems with products like Callhaven's *MD Mars*. This is a system for archiving and retrieving of documents which runs on a Mac II. The system, costing thousands of pounds, is designed to archive any type of electronic or hardcopy documents on high capacity optical disks. It can store an entire filing cabinet's worth of information and retrieve it in a few seconds. It can, for example find any word on any page of text in a 1,000 volume set of 500 page books in less than five seconds. Storage is in a 'jukebox' WORM optical disk – an autochanging drive holding several disks.The drive stores 160 gigabytes, equivalent to 2,000 80Mb hard drives. If your filing cabinet is bulging call Callhaven on 01-549 5612●



• Digitising images is most commonly done with a video camera incorporating a CCD. This one is from JVC

IN THE MOVIES

Lundy UK were showing the *Pixar II* system, which it distributes in the UK. The high end image processing system was originally developed at the computer division of Lucasfilm Ltd in 1979 to help create computer graphics for use in the Star Wars series of movies. Films which use of the *Pixar* include Star Trek II: The Wrath of Khan, The Return of the Jedi and Young Sherlock Homes. The computer division spun off from Lucasfilm in 1986 and was bought by Steve Jobs, co-founder of Apple and owner of NeXT. The system is now being used for satellite image analysis, non-destructive testing, and high quality animations which have won an Oscar. You may have seen animations created on *Pixar* systems on Channel 4 last week.

The same firm produces the Render Accelerator an add in board for PCs. The board gives 286 and 386 PCs the power of five 25Mhz 386 computers, allowing the creation of photo realistic images on the desktop.





• Spot the difference: the Pixar system removed the knife from the top picture as if it had never been there

ON THE ARC

Acorn made a big showing with their Archimedes, the top level machines – the 400 series– being ideal for image processing work.

One exhibitor was demonstrating using an Arc to help patients with retinal problems. The *Digit* image analysis



• Doctors atLondon University use the Arc for eye research

software is currently being used in one hospital to measure visual pigments. The computer generates 3D stereo images of the optic nerve. Also at the show were:

• Timestep Weather Systems, suppliers to MOD and the US Air Force, now offers a range of low cost remote image processing systems based on the Archimedes which makes use of the Landsat satellite, sending pictures to the computer owner for under £600.

• Cambridge based company GEMS was showing the latest version of *Gemsoft36* - the portable UNIX based image processing package written in C.

• Watford Electronic was displaying its video digitiser which can manipulate images in various ways; squashing, rotation, stretching as well as straight input for desk top publishing, graphics, animation, image analysis and recognition. The company also showed the Arc hand scanner and graphic tablet.

• Wild Vision demonstrated hardware expansion cards which included genlocks, digitisers and frame stores.

• Foster Finlay showed three icon driven packages written in C for image processing, image analysis and image libraries.



• Plenty of interest in the Archimedes at Image Processing '89

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Ranarama	Summer Olympiad	Thundercats	Zynaps
Test Drive	Wizball		

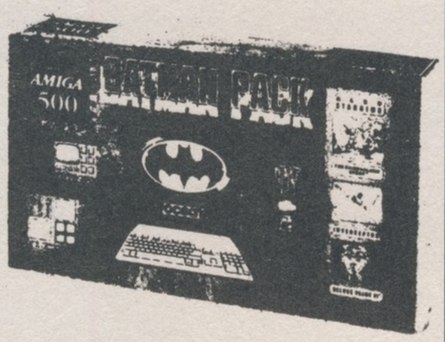
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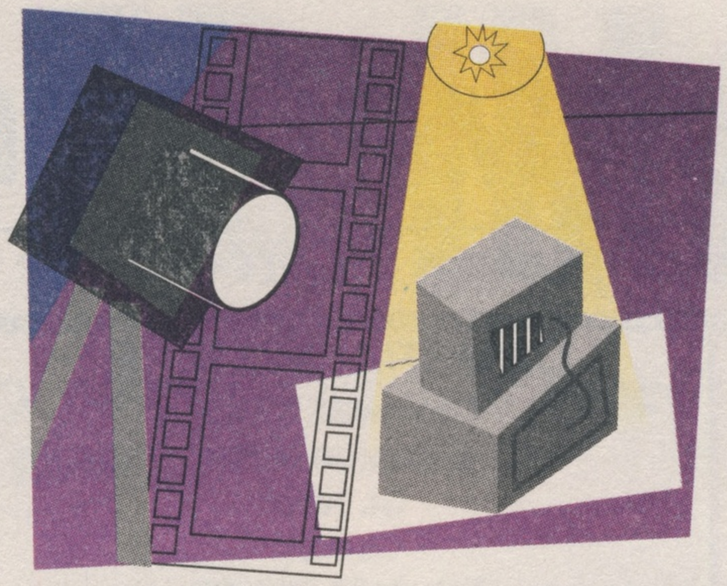
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THE DESKTOP EXPLOSION

Desktop publishing technology is revolutionising the magazine world – and now you can get in on the act. The New Computer Express team explains how…

DTP has utterly changed the way magazines are put together. Computers can handle all the text, hold all the pictures, check the spelling, lay the pages out, and do colour separations. It means magazines can be produced far faster, cheaper and more easily than with traditional methods. Most importantly, it means anyone with a micro, software and printer can produce their own publications – company or club newsletters, parish magazines, even booklets – by themselves. All you supply is the time and the talent.

Professional setups – like that used to put *New Computer Express* together – can cost vast amounts of money: half-a-dozen Apple Macintoshes at three grand each, a laser printer for two grand, a phototypesetter for ten grand, software on top of that.... But you don't need to spend a fortune. You can produce desktop publications on a Spectrum or an Archimedes. All you need is a printer, some software and plenty of patience – the steps involved in producing a publication are the same whatever you're making.

What you need to produce is separate pages that will look just as you want the printed result to look. This is called 'camera ready artwork'. Printers – such as your high street Kall-Kwiks and Prontaprints – have special cameras that take pictures of the artwork and then print it by a process called offset lithography.

Traditional magazine production goes something like this. The journalist writes the copy on a typewriter. This gets passed to the sub who makes corrections with a pen on the manuscript. The new text is keyed into a typesetting machine which produces a long column of text. This is passed to the artists who literally cut the text into little chunks and fit it around the various artwork and pictures, which are also stuck on in the right place. The result is a page of 'camera ready' artwork, looking just as the final page will look, with lots of different bits of paper stuck on. The headlines, for example, are printed out separately to the main text as they're in a different size, and will be stuck on as a separate bit of paper in the right position on the page. (The joins don't show on the printed result). This goes to the printers who take high-definition picture of each page, print, collate and bind them. The distributors then take the magazines to the shops.

The publishing process. Above from left to right:

• Planning: The articles for the next issue are discussed. Already the editor has a pretty good idea of what the finished article will look like, in terms of text content and illustrations. A rough is sketched out showing the writer and artist what is required in terms of content, number of words, type of illustration etc.

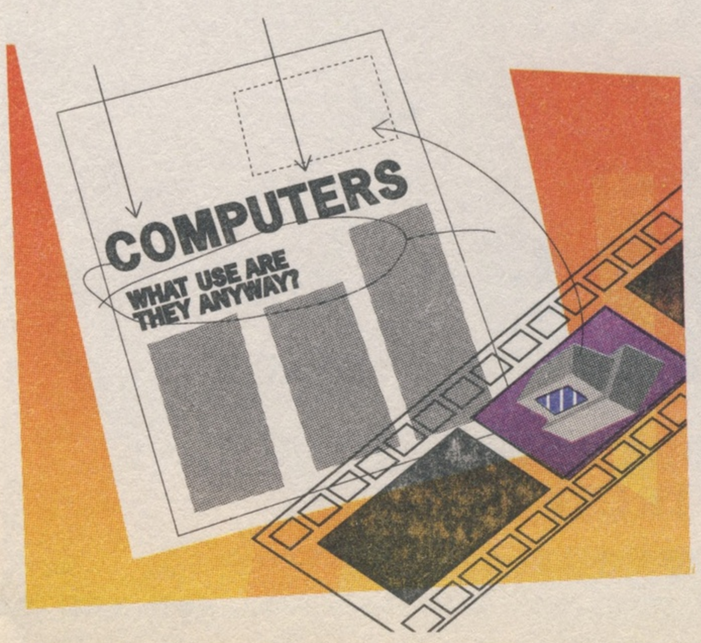
• Illustrations: The photographs and illustrations are taken. In desktop publishing, the slowest part is the taking and developing of photographs, so this has to be done first.

• Writing: The article is written directly onto disk (or typed up onto disk if it's a freelance contribution from outside). The editor may, if the article looks as though it's heading in the wrong direction, get the writer to rejig the article. In theory, once it's typed onto disk, only typing errors and spelling mistakes can be corrected. In practice major re-writes are often done. (Continued opposite)

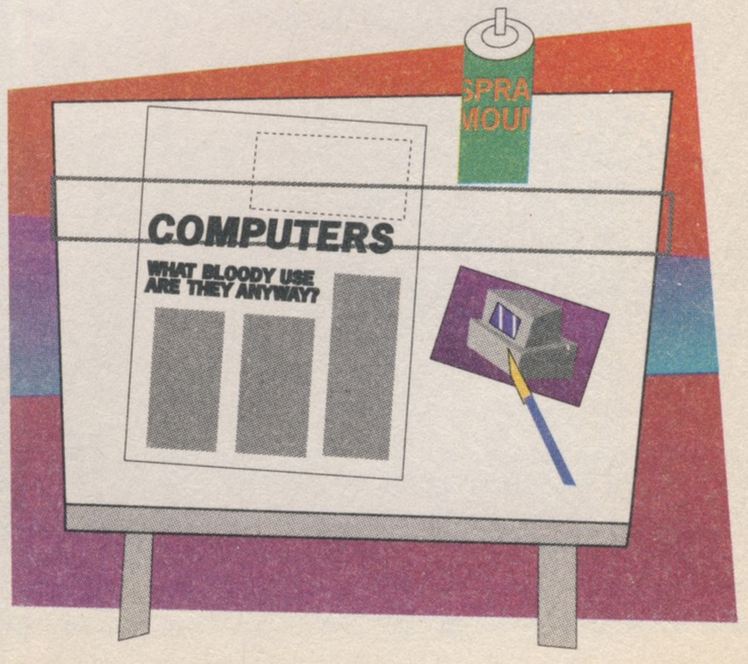
• Final proofing: The corrections to the first proof made, a second proof is printed out. (Because the whole page is stored on disk, these corrections can take just a few seconds.) In theory there should be nothing to change at all, but in practice...

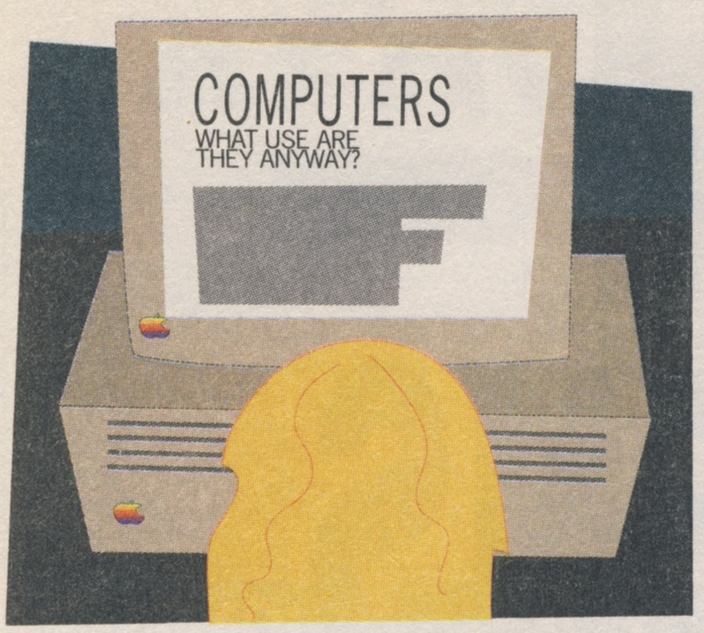
• Phototypesetter: The high-definition version of the now perfect page is printed out. The machine uses a photographic technique to print on light-sensitive paper.

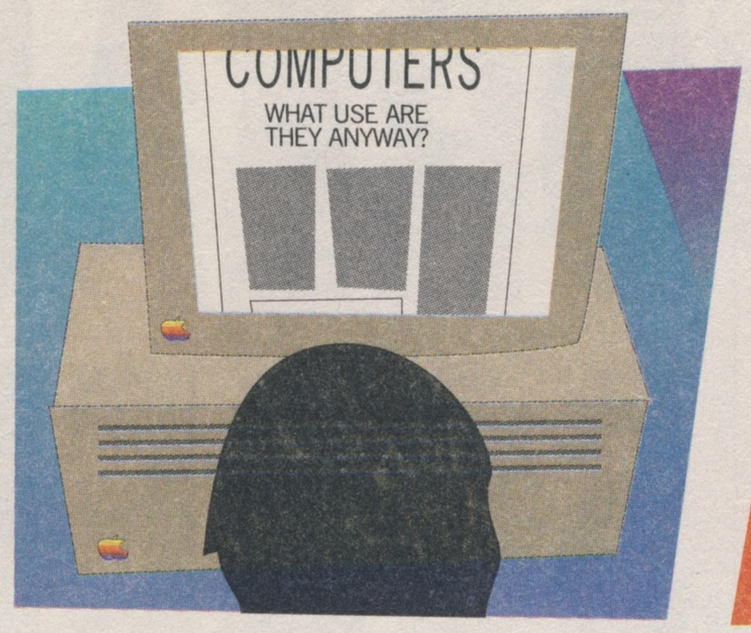
• Artwork: Any artwork – probably just the odd processed photo – is literally cut to size and pasted onto the page. Space is left for colour pictures which must be processed by a specialist firm. If there are any serious typing errors spotted now, a 'patch' – a bit of paper with the correct spelling – is pasted over the offending part . (Continued opposite)

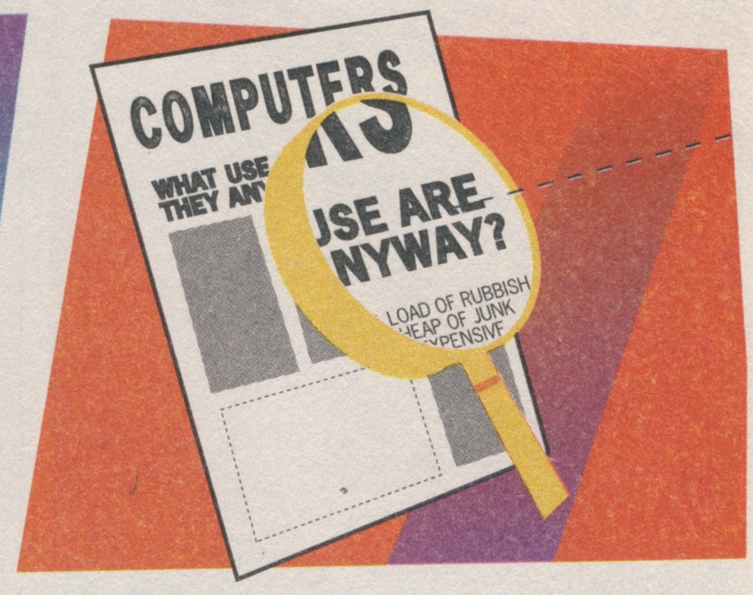












But as for new technology... well, the printing and distribution steps are pretty much the same, but the process of actually producing the camera ready artwork is rather different. The whole page – headlines, line drawings, columns, centred text, even some illustrations – is prepared on a computer screen. The journalist's original copy is used all the way, taken straight off disk, meaning no re-keying. Fiddly little changes can be made right up until the last minute, making it easier to get the content and the look of the article just right. Perhaps most important for the home user, you can put a page together without paste up and artwork skills (though professional magazines still use trained artists).

Professional setups use laser printers to produce proofs of pages. These only give definition of about 300 dots per inch, which is not quite smooth enough for a national magazine, so a phototypesetter is used to output the artwork for use by the printers. This gives much better definition.

You can do the lot on your own printer, of course. The steps outlined on these pages are still valid for a parish magazine, say, but your own dot matrix printer will produce the proofs and final version.

Picture this

There are two ways of putting pictures into the appropriately sized gap you've left on a page. The first is the more traditional way. You start with a normal black and white print and have it rephotographed through a dotted sheet of plastic. This turns it into a pattern of black dots, like on a newspaper photo. (Colour photos and transparencies can be scanned with a special machine to produce either black and white or colour results). The processed photo is then pasted into the correct place on the camera-ready page. Printing shops will process photos for you for about £5 .

The other way is to incorporate the processed version of the picture on the computer, storing the graphics file on disc as a part of the page. The photo then appears when the phototypesetter prints out the page, instead of having to be added by hand afterwards.

You can buy hand scanners that will capture a photo on disc for you for about £120 upwards.

YOU AT HOME CAN JOIN IN

The essentials for a desktop publication are a micro, some software and a printer. If you want to do things semi-professionally, you'll go for an Apple Macintosh Plus with hard disk – about £1500 – and page makeup software such as Aldus *PageMaker* or Quark *XPress* (another £800 or so). You'd then get your made-up pages printed out by a specialist bureau for you on their phototypesetter.

More realistically, you can set yourself up with a DTP system for under £100 by buying the right software...

• Printer

Any dot matrix model will do, with a 24 pin giving better quality than a 9 pin, obviously! If you're on the lookout for a printer, the NEC P2200 (24 pin, £460, 01 993 8111) or the Star LC-10 (9 pin, £229, 01 840 1800) are good buys. Check the mail order ads in *Express*.

• Software

There are hundreds of DTP programs out there, but here's a quick glimpse of some of the cheaper ones for your machine:

PC, ST

Timeworks DTP (GST/ Timeworks, 0954 81991, £129 PC, £99 ST)
GEM based and compatible with Bitstream fontware. Auto text wrapping, good drawing facilities. Copes with up to 999 pages!

Amiga

Publishers' Choice (HB, 0895 444433, £99)
Graphics editor, PostScript compatible – a full featured DTP program at a great price.

Archimedes

Impression (Computer Concepts, 0442 63933, £171)
Designed specifically for RISCOS, *Impression* multitasks and supports data transfer between applications. Can handle complex magazine layouts.

Amstrad PCW

MicroDesign (Creative Technology, 0889 567160, £70)
High quality printed output from the PCW printer from this excellent value for money package. Fast, versatile and highly recommended.

Amstrad CPC, Commodore C64

Stop Press (Database, 0625 878888, £80)
Sophisticated and graphically powerful DTP with auto text flow and good range of fonts, borders etc.

BBC

Wapping Editor (Watford, 0923 37774, £69)
64K ROM with sophisticated graphics module, typesetting software, font editor etc.

***• Styling:** The subs put the headings, body text etc. into the correct sizes and styles, and puts in the necessary bold and italic styles. They check the text fits in with the style of the magazine, is legal, and any facts are correct. The subs will also write the headlines and introductions for the text, and will go back to the author to get them to write to the exact length required. At this stage spelling and grammatical errors are corrected.*

***• Layout:** The artist now takes over and puts the correctly sized and styled text onto a pre-designed 'grid'. The text goes into columns and spaces are made for where the pictures will eventually go.*

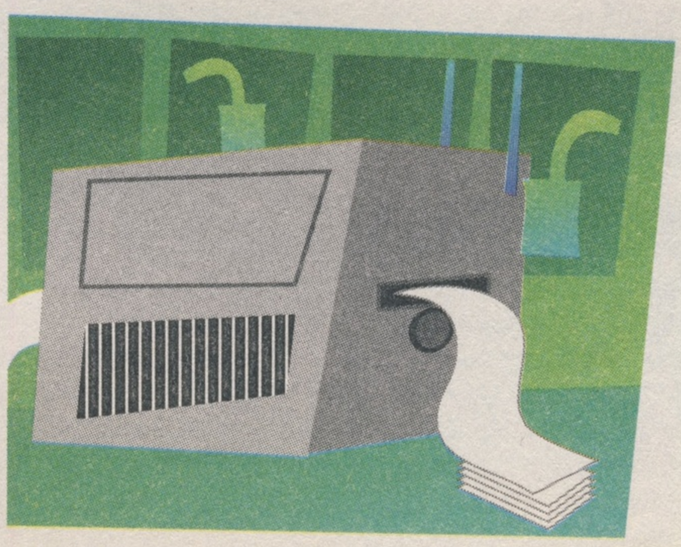
***• Proofing:** The sub looks at a laser-printed version of the page. They look for any spelling mistakes, typing errors and so on which have eluded the system, and perhaps cut or add a little text or move a picture to make things sit on the page better. Though in theory that is all, in practice the writer will make stylistic changes and even rewrite passages make the article that little bit better, to the annoyance of everyone else!*
(Continued below left)

***• Separation:** Any colour pages are separated out into four versions, one each to hold cyan, magenta, yellow and black. These four elements combine on top of each other when printed to give the final, full colour, page. This can be done directly from the phototypesetter for simple pages, but articles with many colour pictures must be done by a specialist.*

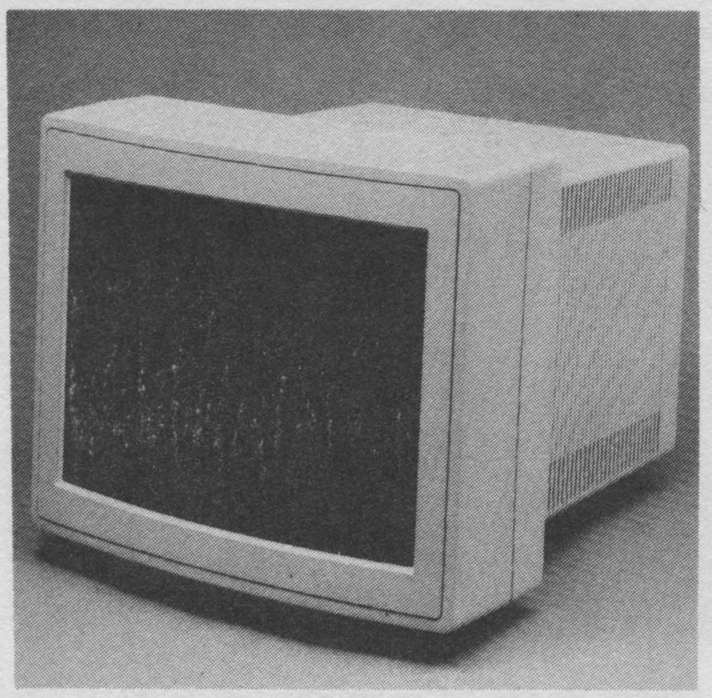
***• Printing:** The page goes off with all the others in the magazine to the printers, where it is printed, collated, stapled, trimmed and put in huge piles on pallets*

***• At last:** The magazine hits the streets – and only now do you notice that typing mistake in the article you wrote!*









• Looks ordinary enough doesn't it? But this Sony monitor offers 2048 x 2048 resolution on a 28-inch screen

DREAM SCREENS

From 2 inch colour TVs to 20 foot motorway signs, Electronic Displays '89 had them all. Andy Storer went along to view the latest super screen from Sony

Two floors of Wembley's Exhibition Centre were given over to ED '89 this year; a market place for display and monitor manufacturers. The exhibition also featured vast amounts of radiation. To view some of the all-singing, all-dancing displays intended for retail stores you really needed sunglasses. But it was the new monitors on show that attracted most attention and pride of place went to the Sony Trinitron range.

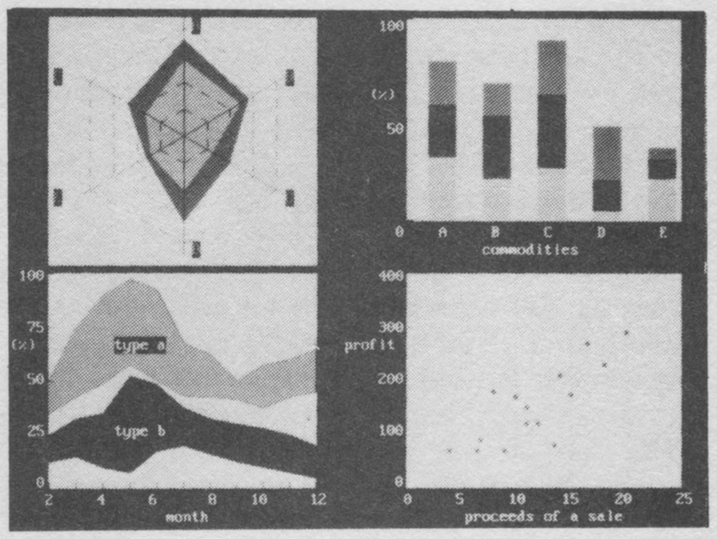
Trinitron technology has now been with us for 20 years and in that time over 40 million units have sold worldwide. Although its latest incarnations feature black and flat screens, the crucial design elements - the aperture grille and electron beam gun - remain the same. Producing a colour picture requires separate red, green and blue electron beams to be fired at a screen. Traditional systems had used three separate guns until Sony introduced the single gun, three beam system. Only one lens is needed to be used to maintain beam focus and so it could be three times the size of those in tubes requiring three separate lenses. As such, focus-precision was greatly increased, creating clearer, sharper definition.

The other innovation was in the grille design. On their way to any screen, electrons need to pass through a grille for accurate placement. Sony overhauled the competing Shadow Mask system by designing a grille of long unbroken slits. The Shadow Mask consists of a lattice - the electrons having to distort through a multitude of tiny holes before lighting up the display. Sony's solution meant that beams hit the screen exactly where they're aimed - maintaining colour purity.

To date, Trinitron screen sizes have started out as small as five-inch and peaked at 19-inch, but ED '89 featured the brand new DDM-2801 - a 28-inch monitor able to display 2048 x 2048 pixels! Intended for image processing and CAD/CAM applications, the DDM delivers the world's highest resolution displays.

LCD launches

Meanwhile, ED '89 also served as the launch platform for the world's highest resolution black and white LCD screen. Hitachi announced its catchily-named LMG9001ZZZ LCM. Combining 'advanced double layer, supertwisted nematic LCD technology with cold fluorescent lamp backlighting', the LCM is capable of handling 1120 x 780 dots on screen and is claimed to match the visual performance of CRT monitors.



• Hi-res colour – but this is an LCD screen from Hitachi

Hitachi was also previewing its 10-inch colour LCD - an extension of the screen used in the six-inch colour CGA portable launched at the PC Show - though this one is VGA compatible and delivers eight colours at 640x480 resolution. Don't expect a colour VGA portable until mid-1991 though.

The neatest LCD on display was the new one from Epson - another highly memorable name here - the EG7500B-LS graphic LCD. Designed to replace the more bulky CRTs used for graphic displays, the EG75 is very small indeed - its viewing area a mere five inches high by four inches wide - but it can handle 320 x 200 dots and is as readable as any cathode ray based monitor.●

SONY'S RECORD OF INNOVATION

DISK DRIVES • In 1982 launched the world's first 3.5-inch disk drive - since then it's sold nearly five million and now comes in a 2Mb format.

The new two-inch format, principally designed for digital cameras, is now available for portable computers - each disk has a capacity of 1 Meg unformatted.

CD-ROM • Jointly developed with Philips, Sony can claim joint responsibility for all CD technology.



REWRITEABLE OPTICAL DISKS • The EDM-1DAO is the world's first erasable optical disk - capable of storing 325Mb on each side

DAT • Digital Audio Tape is now available as a back-up medium with Sony's DDS 1.3 Gigabyte tape drive.

WORLD'S SMALLEST 386 PC

Perdix (0959 71011) drew visitors to a stand showcasing the Quark PCIII - the world's first 80386 single board PC - the size of a 3.5 disk drive. If you were to hook this up to a Private Eye monitor you would have the ideal pocket PC. Private Eye is a computer screen less than two-inches inches square that you wear! It comes as headset attachment positioned close enough to the eye so as the display appears to be the size of a 12-inch monitor as seen from a distance of two feet. Developed in the States, but still not on sale, the revolutionary screen weighs less than two ounces and delivers a resolution of 720 x 280 pixels.

TOP TEN DISPLAY TYPES

Cathode Ray
Liquid Crystal
Light Emitting Diode
Plasma Gas
Supertwist
Incandescent
Neon Plasma
Electro-luminescent
Vacuum fluorescent
Flip Dot

SUPER SCREENS

• Contraves showed off the ultimate in large scale electro-mechanical displays. Characters 1 metre high can be viewed from as far away as 500 metres - what's more you can hook them upto your PC. Ideal if you just happen to own an airport.

• Surely the most dynamic display manufacturers on show were EEV who supply a range of monitors from its one-inch miniscan units all the way through to giant stadium Starvision screens.

• Thomas Electronics claimed the prize for the exhibition's smallest cathode ray tube - the size of a thumb nail!

• Another approach to large scale displays is that adopted by Litron who manufacture luminescent film. Characters can be laser-cut to any size or shape up to 500 feet in length and lit in four different colours.

XENON TECHNOLOGY

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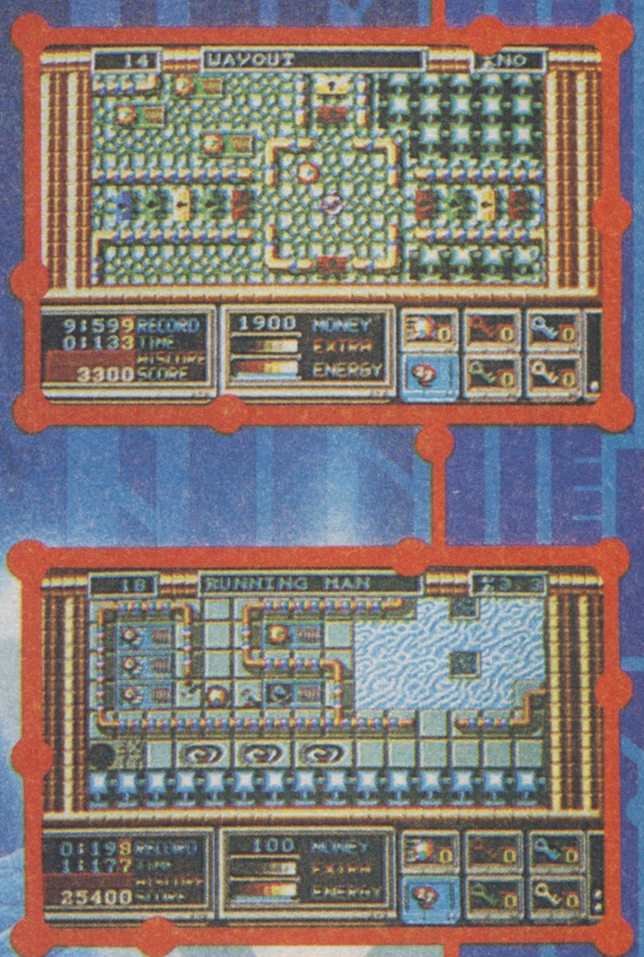
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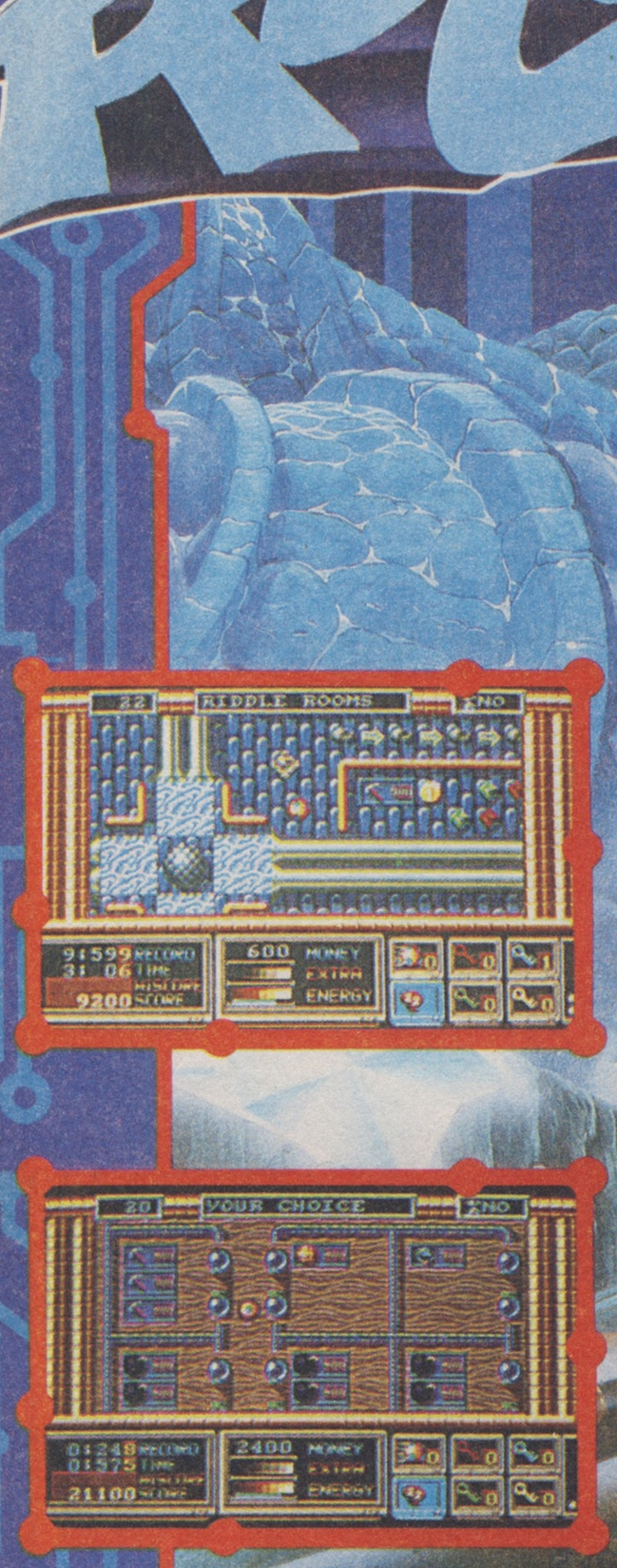
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Although the Amiga is often regarded as the best machine for games and graphics, it has a much wider range of capabilities. It can produce excellent sound and can handle everything from word processing and databases to desktop publishing and video titling.

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WORD PROCESSORS

● PROTEXT

Arnor 0733 68909
£99.95
It's fast and easy to use – has a good spellchecker and even has a calculator built in for doing tedious sums. Text can be viewed in WYSIWYG mode too. Keyboard can be configured to execute a stream of commands at the press of a key.

▲ Word count, many block commands and calculator
▲ Powerful spellchecker
▲ Can work on two documents simultaneously

▼ Not beginner-friendly

● KIND WORDS

Amiga Centre Scotland 031 557 4242
£49.00
Produces the best printer output of any word processor on the Amiga thanks to special output modes which simulate near letter quality. Has lots of good printer drivers to exploit even the most simple of printers.

▲ Excellent printer output
▲ Graphics can be imported

▼ Lacks a word count unless you spell check

● SCRIBBLE

HB Marketing 0895 444433
£99.95
A simple to use word processor with spell checker and mail merger. Reformats text as you type. Although it lacks graphical functions, its simplicity makes it an excellent word processor.

▲ Simple to use
▲ Mail merge and spell checker

▼ Can't import graphics

● WORD PERFECT

Sentinel
£293.25
A hefty 500 page manual teaches you how to use Word Perfect. A huge spellchecker dictionary and a thesaurus add to the bundle. Can call up a command line interpreter from within the program.

▲ Word Perfect is used on many machines so it's useful if you're familiar with it

▼ Expensive otherwise and lacks graphical commands

SPREADSHEETS

● SUPERPLAN

Precision 01 330 7166
£99
Comes complete with a tutorial disk to help get you started – all the functions you're likely to need in a spreadsheet and also has excellent graphics display which makes data more digestible

▲ Macro language allows keyboard configuration
▲ Plenty of graphics functions
▲ Good find/replace database facilities

▼ Requires 1Mb of memory
▼ Awkward to use because of poor use of menus

DATABASES

● SUPERBASE 2

Precision 01 330 7166
£99.95
Simple to use, even for a beginner. Data can be imported from other files easily. Excellent data validation and useful help messages can be included. Mail merge facilities.

▲ Excellent tutorial files
▲ Graphics can be included and saved with the database

▼ Not cheap

● SUPERBASE PROFESSIONAL

Precision 01 330 7166
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The most powerful relational database available. Designed beautifully so that setting up a database is simplicity itself. Also incorporates a 200 command word programming language.

▲ No limit to field size or number of records
▲ The Rolls Royce of databases

▼ Even less cheap

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● PROFESSIONAL PAGE V1.2

HB Marketing 0895 444433
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Produces PostScript compatible files for use by laser printers and typesetting bureaux – can also produce colour separations. English, French and Spanish dictionaries in the spellchecker. Five magnifications including life size and 200%. Probably the best and most sophisticated DTP package on the Amiga.

▲ PostScript compatible files
▲ Colour separations can be created
▲ Three dictionaries

▼ Requires 1Mb of RAM
▼ Two drives strongly recommended

● SHAKESPEARE

Cloudhall Ltd 0604 231 2111
£99
Clear and informative manual. Produces colour pages directly on colour printers. Has some problems with large documents so best used on single pages. Graphics can be imported and each retains it's palette. Postscript compatible.

▲ Ideal if you have a colour printer
▲ IFF file import

▼ No magnify function
▼ PostScript output is only in grey scale
▼ Graphics can't be edited on the page

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▲ Includes powerful wordprocessor – Kindwords
▲ PostScript compatible
▲ Graphics capabilities in Pagesetter

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New from Amiga
Includes: TV modulator, 3.5" Disk Drive with Amiga DOS Kickstart, Workbench and the very first software also includes Batman The Movie game, F18 Inceptor, Paint 2, New Zealand Story, + Free mouse mat.

AMIGA ACCESSORIES

Amiga A501 RAM pack.....£99
Amiga joystick.....£8
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Mannesman Sheetfeeder.....£62
Mannesman Serial Interface.....£49

REPAIRS FOR AMIGA AND ATARI

▼ Font and hyphenation information not imported with text

● CITY DESK

Precision 01 330 7166
£130.39+VAT
A very powerful DTP package, but suffers a little from unfriendliness. Style codes are imported when the text is. Includes a simple graphics editor which can be used to create or edit IFF files for use on the page.

▲ PostScript output is supported
▲ Text can be edited on the page

▼ Lacks a WIMP environment

● PAGESTREAM

Silica Systems 01 309 1111
£171.35
Text can be flowed around graphics in most DTPs, but Pagestream has the edge in that respect – text can be flowed in many ways. Magnification is not limited to five sizes – you can work at virtually any magnification.

▲ Flexible text flowing
▲ Large and easy to edit spell check dictionary

▼ Difficult to produce colour separations

GRAPHICS

● PHOTON PAINT 2

Microillusions 0703 703030
£89.95
Art package capable of producing HAM images. Comprehensive set of tools allowing re-scaling, flipping, rotation, bending stretching and much more.

▲ Wide range of tools for image manipulation

▼ But some are very slow to use

● DIGIPAINT 3

Newtek/Precision 01 330 7166
£69.95
HAM art package with facility to create images up to 1024 by 1024 pixels – the only limitation being memory. Good text entry system which uses a buffer. Text is manipulated before it's put on screen as a brush. Friendly interface between package and user

▲ Good text manipulation
▲ Huge images possible

▼ No fill or airbrush
▼ Awkward magnify mode

● DELUXE PAINT III

Electronic Arts 0753 49442
£79.95
Excellent art package that allows use of full overscan and extra halfbrite screens. Simple animations can be created too – very easy to do. Stencil mode stops you from accidentally airbrushing over the wrong part of the screen.

▲ Perspective fill
▲ Halfbrite Mode
▲ Full overscan screen

▼ 1 Mb required

▼ HAM not supported

● FANTAVISION

Domark 01 780 2222
£39.99
Uses polygons to create animated objects and relies on tweening to create the illusion of movement. Full colour IFF files can be imported to make up the background scenery.

▲ Fast animated sequences that don't eat up much memory
▲ One object can be easily transformed into another

▼ Objects are silhouettes

● MOVIE SETTER

HB Marketing 0895 444433
£69.95
Uses a series of sprites to create animations which are more cartoon like in nature than Fantavision. Sprites can be brushes created with most art packages – they're in IFF format. Storyboarding makes it easy to use and see what's going on. Animation can be played, rewound and stepped through frame by frame.

▲ Minor changes to productions can be viewed instantly
▲ Sound is easily integrated

▼ Works best with 1Mb
▼ Eats up memory if not careful

● PIXMATE IMAGE PROCESSOR

£43
Allows pictures to be transformed from one form another – HAM can be reduced to 32 colour pictures for example. Images can be cleaned up, defocused, squashed or stretched.

▲ Converts images from one format to another
▲ Wide range of cleaning options

▼ But who the hell distributes it?

● X-CAD

Commodore 0628 770088
£199.95
Very fast re-drawing of images. Has great potential in the range and qualities of images that it can produce. Hardware requirements mean that you must be very serious about your CAD to justify buying it.

▲ Best CAD package available
▲ Fast
▲ Comprehensive

▼ Needs 2Mb
▼ Better with hard drive

● INTRO CAD

HB Marketing 0895 444433
£59.95
Extensive colouring routines enable realistic and detailed objects to be created. Easy to include text too. Ideal as an introduction to CAD

▲ Simple to use and much cheaper than X-CAD
▲ Excellent results can be obtained with a

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Pocket sized PC with 128K internal RAM. 256K ROM containing B105 operating system and full applications suite. 200 mm x 105 mm x 29 mm casing opens to reveal 40 col x 8 lines LCD screen and 63 keys with buried numeric keypad.

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Calculator Multiple display formats and memories. Factorial, power and root functions. Calculations can be reviewed and edited.

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bit of skill

▼ Not as comprehensive as other packages

● SCULPT 4D

Amiga Centre Scotland 031 557 4242
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Creating 3D ray traced animations can be very satisfying, and Sculpt 4D is an excellent tool for doing just that. Adding text to the animations is considerable more easy than in the previous incarnation, Sculpt 3D. Sculpt Animate is also included in the price.

▲ Produces excellent raytraced pictures
▲ Sculpt animate included in the price

▼ Expensive unless you're a real raytracing fanatic

● DELUXE PRINT II

Electronic Arts 0753 49442
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Drawing masterpieces isn't a problem with art packages, but adding text to images can be. Deluxe Print II is ideal for this though. It's easy to create signs and posters with some lovely large fonts. It even has an automatic calendar generator.

▲ Range of large fonts
▲ Can produce larger-than-screen posters

▼ Doesn't support 24 pin printers

MUSIC

● MUSIC X

SDL 01 300 3399
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Combines the features of a sequencer, voice programmer, sampler and MIDI interpreter. Supported by an excellent manual. The most comprehensive and competent music package available.

▲ 255 tracks possible
▲ Very detailed
▲ Beats ST MIDI software at its own game

▼ 1Mb recommended

● TRACK 24

Soundbits 021 733 2063
£75

This is a 24 track sequencer with the last two tracks having a special purpose. Track 23 is used for backing chords and track 24 is monophonic and used to play the main melodies or lead lines. Very simple to use and has lots of functions.

▲ 24 tracks
▲ Easy to use

▼ Lacks powerful features

● FUTURESOUND 500

Applied Visions (UK)
£79.95

Simple to use sound sampler with routines to use the samples in your own C or Basic programs. Manual is easy to read, but may give novices a hard time.

▲ Just plug in and away you go
▲ provision for including samples in your programs

▼ Manual a little tricky for the beginner

● REALTIME SOUND PROCESSOR

HB Marketing 0895 444433
£84.95

Not only a high quality sound sampler, but also a sound processor too. Add echo, reverb, delay and so on to your sampled sounds and you'll be producing Paul Hardcastle style sounds in no time at all.

▲ Sound processor for customising your samples

▼ Only 8-bit samples which sound a little hollow

● AMAS

Microdeal 0726 68020
£99.95

Sound can be digitised from a microphone or an amplified source which is unusual in samplers. The results can be played across a midi keyboard too.

▲ Samples can be compressed
▲ MIDI ports included

▼ No facility for using samples in your own programs

● OPUS-1 MCL

Ariadne Software 01 960 0204
£99.95

A computer language designed specifically for musical composition. Can be used by programmers that lack instrument skill. Complex language, but powerful when learnt.

▲ Ideal for the programmer with little musical ability

▼ Complex language to learn
▼ Not cheap

GAMES

● INTERPHASE

Mirrorsoft 01 928 1454
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Fantastic 3D graphics and a Max Headroom style plot make Interphase a challenging and exciting game. Guide your girl friend through a multi-storey building and retrieve a vital computer disk. Lots to do and not much time to do it in.

● XENON 2

Mirrorsoft 01 928 1454
£24.99

The Bitmap Brothers first produced Xenon which had all the qualities you could ask for in a shoot-'em-up. Xenon II takes the genre one step further to produce the best zap-'em game of the year. Hordes of aliens and a multitude of bolt on weapons to bring the evil Xenites to an end. Sound is as good as the graphics.

● STRIDER

US Gold 021 625 3388
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An excellent conversion of the Capcom

More High Quality Software Tools from HiSoft...

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The BASIC language has come a long way since its humble beginnings in the early 1960s and the AmigaBASIC interpreter supplied with your computer is witness to this transformation. However, although AmigaBASIC is good, you can do even better ... with HiSoft BASIC.

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Lattice C ver 5

We are delighted to be handling the best range of C programming tools currently available on the Amiga.

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- Comprehensive two volume manual with many examples and sample files.

Requires

- Lattice C 5 runs on the A500 up but will certainly benefit from 1Meg of RAM and, for large programs, a hard disk.
- Lttice C++ needs 1.5Mb memory and a hard disk.

Price

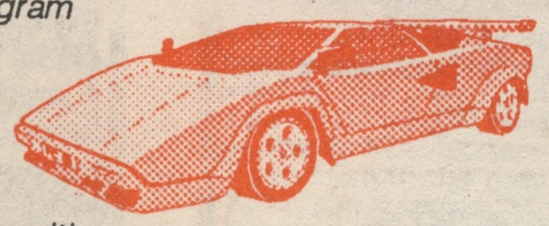
Lattice C 5.02 £229 inc., **Lattice C++** £299 inc.

HiSoft Devpac ver 2

We've said enough in this ad, let's hear what the press have to say about Devpac Amiga:

Editing, assembling, debugging and even program execution from the same place - not fantasy but something offered by Devpac. Fast assembly speed, powerful directives for optimising code, extensive conditional options, symbolic debugging ... Devpac has it all plus a lot more. It's packed with features and has everything machine code program developers could want.

ST/Amiga Format 12/88



With release 2 of Devpac Amiga, HiSoft has greatly enhanced its already excellent 68000 development system, making it quite indispensable for the serious programmer.

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There are great bargains to be had in our reader ads section, but remember to check before you buy -Express cannot be held responsible for the quality of the goods on offer!

● HUMOUR

WANTED kick start for Amiga a nut and bolt would help. I had to unplug all my disk drives to do a for-next loop in Amiga Basic.

TAKE AMSTRAD CPC, five tonnes of Nitro-Glycerine based compound, several gallons of petroleum, mix and bake for one hour on high. From Paul Weir and the Phantom File Fiddlers.

MESSAGE to Ray Fowles: The Sinclair QL is the nearest thing I've seen to a hardware virus. It's only good at making a botch of things.

AMIGA owner rips off British Rail - buys a return ticket and doesn't come back. - Hi Elaine! Screen 100 of Bubble Bobble Beckons us! Zippy.

"MINI Mogul": My self-loading wonder is as good as your "Bolt-Action N-Cube!" NCube Nihilist: "Ice Cube rather, down the drain after liquidation!" R.G. Burdett, Weymouth.

WHAT do you call an Amiga with a half meg drive, no graphics and no sound? An Atari ST. Hi to Baz, Mala and Birdy.

● USER GROUPS

LIVE IN SOUTH WALES? Interested in forming an Amiga Users Club? Then Phone Public House BBS on 0222 221168. For on-line info and files. weekdays, eve's and 24 hours w/end.

COMPUTER TEACHER wants to help students making machine specific enquiries contact user groups please send your group details and address to Flute, 14 Grove Avenue, Little Waldingfield, Sudbury, Suffolk, CO10 0SX.

C64 disk contacts wanted. So please contact Les at 30 Gilmonby Road, Park End, Middlesborough, Cleveland, TS3 0AD. Or Tel: 0642 226256.

C64 tape user contacts wanted. So please contact Alan at 16 Marrick Road, Park End, Middlesborough, Cleveland, TS3 7RX.

SINCLAIR QL contacts wanted to exchange ideas, hints, tips etc. Write to Brad Grace, 76 The Willows, Clumber Street, Newcastle-upon-Tyne, NE4 7EY.

AMIGA contacts wanted: Write to Danny, 5 Beckside North, Beverley, North Humberside HU17 0PR. Send disk or letter, 100% reply posted next day. Also Amiga cheats disk for sale £2 each.

COMPUTER Student Contacts Wanted. Write to A. M. Drewett, 37 Longdon Ave, Aylesbury, Bucks HP21 9UW.

AMIGA owners in Nottinghamshire! Please mail details to help create a local user network. S.A.E appreciated. Replies guaranteed. Be patient! Mansfield A500, 4 Poplar Street, Mansfield Woodhouse, Mansfield, Notts NG19 9LB.

INTERESTED in joining a Kick Off League in London? With trophies for winners? Contact Ray at 30 Windsor Crescent, Wembley Park, Middlesex, HA9 9AW or ring 01 904 0555 between 6pm-11pm.

64 (Tape) not disk - users club about to start up - going global soon. Trade, Demos, comps: For details S.A.E. to: D. Mason, Ethorpe Hotel, Gerrards Cross, Bucks, SL9 8HY.

IS there a Clipper/DBase 3+ User Group in London? I will be grateful for any details. Guy Ellis, 23 Sussex St., Pimlico, London, SW1V 4RR.

ISLE OF WIGHT PC User Group. Anybody wishing to join should contact I.O.W. 0983 614277/614649 and ask for Sean.

BOURNEMOUTH and POOLE Atari User Group. Support for 8 Bit and ST. Monthly meetings. Membership £8.00. Quarterly Newsletter 8i16, £3.80 four issues. Details write to: 248 Wimborne Road, Oakdale, Poole, Dorset.

PCW Users Interested in P.D. send S.A.E. to: PCW-File, 18 Sunbrow,Haslemere, Surrey GU27 2QP. The PCW-File is on Boog BBS 0252 626233, 24hrs, V21/V23. No Fees.

IF You want to spread your groups in Asia. Send your latest + your demos to: Tariq, P.O. Box 3581 Safat, 13036, Kuwait. 100% reply, Amiga Only. Also will swap spot.

AMIGA Contacts wanted. Write to Simon, 30 Diamond St., Saltburn, Cleveland, TS12 1EB or Call (0287) 24167.

SPECTRUM Owners Join Indug, the World's largest Spectrum Users Group. Monthly Magazine, Discounts, Support + much more. Send A5 S.A.E. for full details to INDUG, 34 Bourton Road, Gloucester, GL4 0LE.

LAMER? Want to swap software, tips, demos and form a Lamers against Lamers Society? Then contact, Faisal Patel, 73 Track Road, Batley, W. Yorks, WF17 7AB.

THE Computer Information Club. A Club for PCW, PC, CPC, Spec+ and Atari, producing a Newsletter with hints, tips and discover software. Contact The Editor, 345 Western Way, Letchworth, Herts.

AMIGA Contacts wanted to start FREE beginners club in the south to swap games, cheats, tips etc. Please contact David after school on 0425 279835.

GWYNEDD, N. WALES. ST User Group. I want to get in touch with all local ST Users to form a new group. Contact S. Rammerling, Clogwyn. Plas Gwyn, Pwllheli, Gwynedd, N. Wales, LLS 36UA.

● ANNOUNCEMENTS

THE spurious gogs is reading these pages every week. Why not get in touch with him and get info on the VHS and Amiga stuff he has!! (Yo! Nomad) Sgt. Pepper. 114a Norton Drive, Bellshill, Glasgow.

● HELP WANTED

PROGRAMMER Wanted to develop with Atari ST Medieval game. Send demo or phone (0244) 821484, Justin, 14 Hawthorne Ave, Connahs Quay, Deeside, Clwyd, CHS 4TF, Serious programmers only, no fakes!

HELP wanted: does anyone know how to crack a Nimbus Net Work? Well write to: Chris 73 Hillbrook Rd, London SW17 85F.

CAN anyone help with the Atari ST Bards Tale? In return I can help with other tips. Write to "Revendale" Hatshill Farm Close, Bickleigh PL6 7AH. (075 539600).

ANY info on TRS-80 level II computer and expansion interface 1140 for programming

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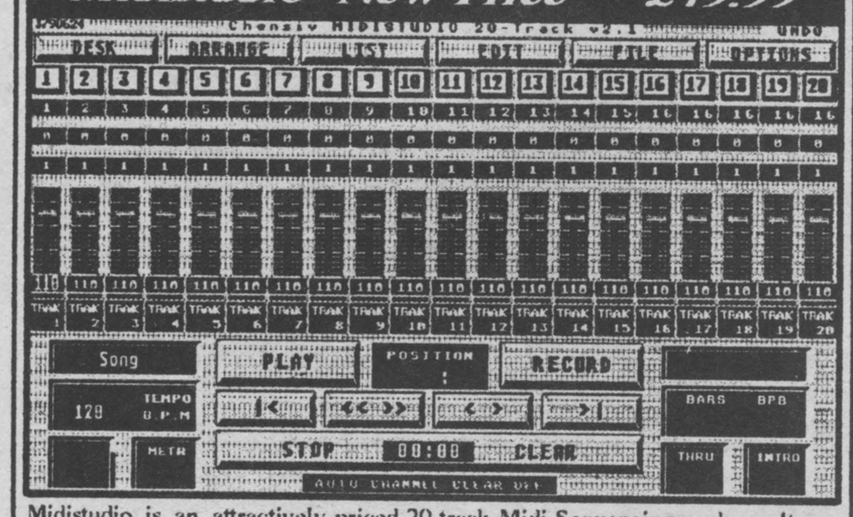
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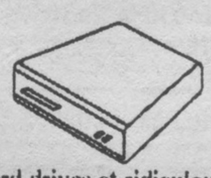
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ST owner looking for STOS users who are interested. (Am only a beginner) contact Adrian on 0222 567596. Down with Amigas, Hi to Robert H., Ben and Mum, Dad and Emma.

WANTED: Maps of Bloodwych. I'm willing to pay for good maps, so give me a call on 01 876 5497 after 8pm. Ask for Eric.

DOES anyone know of an ST User Group in or about the Portsmouth area? Please contact Steve on Southsea 811321.

WANTED: C64 owners who are interested in programming in M/C. Hints and tips appreciated. Phone Julian on 557121 after 5.30pm or write: 32 Hassell Drive, Easton, Bristol, BS2 0AJ.

ARE there any games for the Atari ST similar to the Repton Series on the BBC? Phone Mike: (0778) 422103.

WILL someone make an .IMG or .D00 or .PI3 file from a 1933 photo please. If so ring (0271) 860738 and I will pay costs and send disk and photo.

WANTED 64 Tape Computing March 1985 issue which included a game called League Soccer. If you have a copy please ring 0634 578958 after 6.30pm ask for Neil.

WANTED URGENTLY for 'Enigma' tape zine:- 128k Spectrum music. Send files on tape to: Jon Rose 14 Lion Road, Nyetimber, Bognor Regis, West Sussex PO21 3JZ (SAE for return).

DOES anyone know how to drive an intigrex colour-jet on the Amiga? If you do please write: Jim Blacker, 17 Belle Vue Terrace, Lancaster LA1 4TY.

AMIGA contacts: swap, buy Amiga books, swap hints and tips on m/c and C. 100% reply. Tim, 20 Cliffe Vale Place, Stoke-on-Trent, ST4 7AN.

I need your views on piracy for 'O' grade project. Any replies will be greatly appreciated. Stuart White, 6 Queens Crescent, New Stevenson, Motherwell, Strath, Scotland, ML1 4JA. Thanks.

HELP hacking deflektor tape to disk. Also Op. Wolf and Renegade on Amstrad CPC 464 + Ram pack. Write: 6 Frank Street, Gt. Horton, Bradford.

WANTED Amstrad CPC6128 user's instruction manual. A. Cresswell, 69 Long Mynd Road, Northfield, Birmingham, B31 1HJ. Tel: 021 476 1542.

HELP needed for Amiga versions of Mercenary 1 + 2, Insanity Fight, Speedball, Populous and Terrorpods. Send to D. Sergeant, 11 Kingsley Close, London N2.

WANTED Boulderdash 3 for C64 on cassette, also does anyone know how to get the Missions on Elite C64 version. Contact Peter, 42 Brightfield Road, Lee Green, London, SE12 8QF.

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WOULD like to hear from any Amiga A500 owners in Cornwall. Contact Chris on 0872 40225. Evenings & weekends.

MIRACOM WS3000. V22. Model one Modem manual wanted to buy or borrow. Literature would be treated with respect. Phone Merseyside 051 677 0396.

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AMSTRAD CPC users. Help given with serious software: Protext, Stop Press, Tasword Suprcalc, BCPL, Pascal Basic etc. Mike Lyons, 21 Ashmore Street, Tyldsley, M29 8WW.

ATTENTION IBM Pascal programmers! If you have any problems with your programs or just want to say hello, write to: Sioe-Lin Kwik, Richmond College, Queensroad, Surrey, TW10 6JP.

SIRIUS users free newsletter available on request to: Sirius owners. Issue PO Box 222, Brighton, BN1 3BR.

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WANTED QL HARDWARE and software and IBM compatible computers and software. CPM computers also considered. Miralle WS3000 also wanted and any IBM specific-programming books wanted. Phone 07455 466.

● PENPALS

AMIGA contacts wanted to swap hints, tips etc. 101% guaranteed same day reply. I have an ever increasing amount of games etc. Contact: Finbarr Sheehan, 21 Loretto Park, Friars Walk, Cork 4, Ireland.

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AMIGA pals wanted, mainly in Telford area. Contact James at 46 Churncote, Stirchley, Telford, TF3 1YL.

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HUMBLE AMIGA OWNER seeking contacts write to Dipesh, 83 Sunningdale Road, Luton, LU2 TTF.

● PERSONAL

MY DEAR ALI 'B' !! Thanks for buying the 'pooter' !!! Love you loads. From your dishwater wellie boots. (Hi to Chris 'M')

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AMIGA VIRUSES wanted for research. Send infected disks to:- Jonathan Ramsey, 'Kandy', Wycombe Road, Stokenchurch, Bucks. HP14 3RR.

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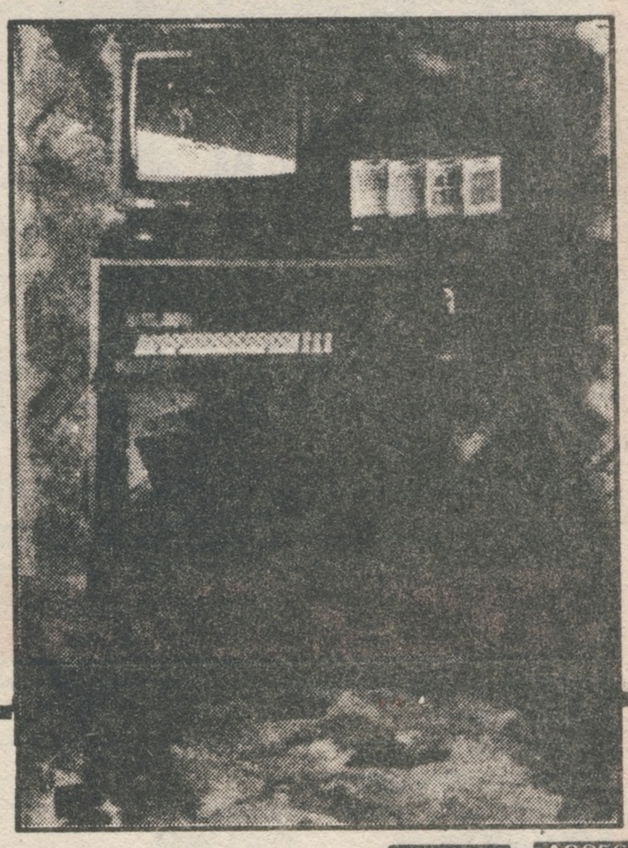
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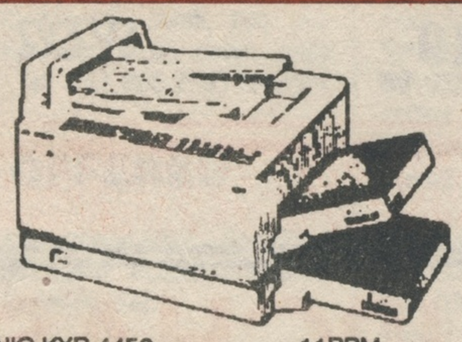
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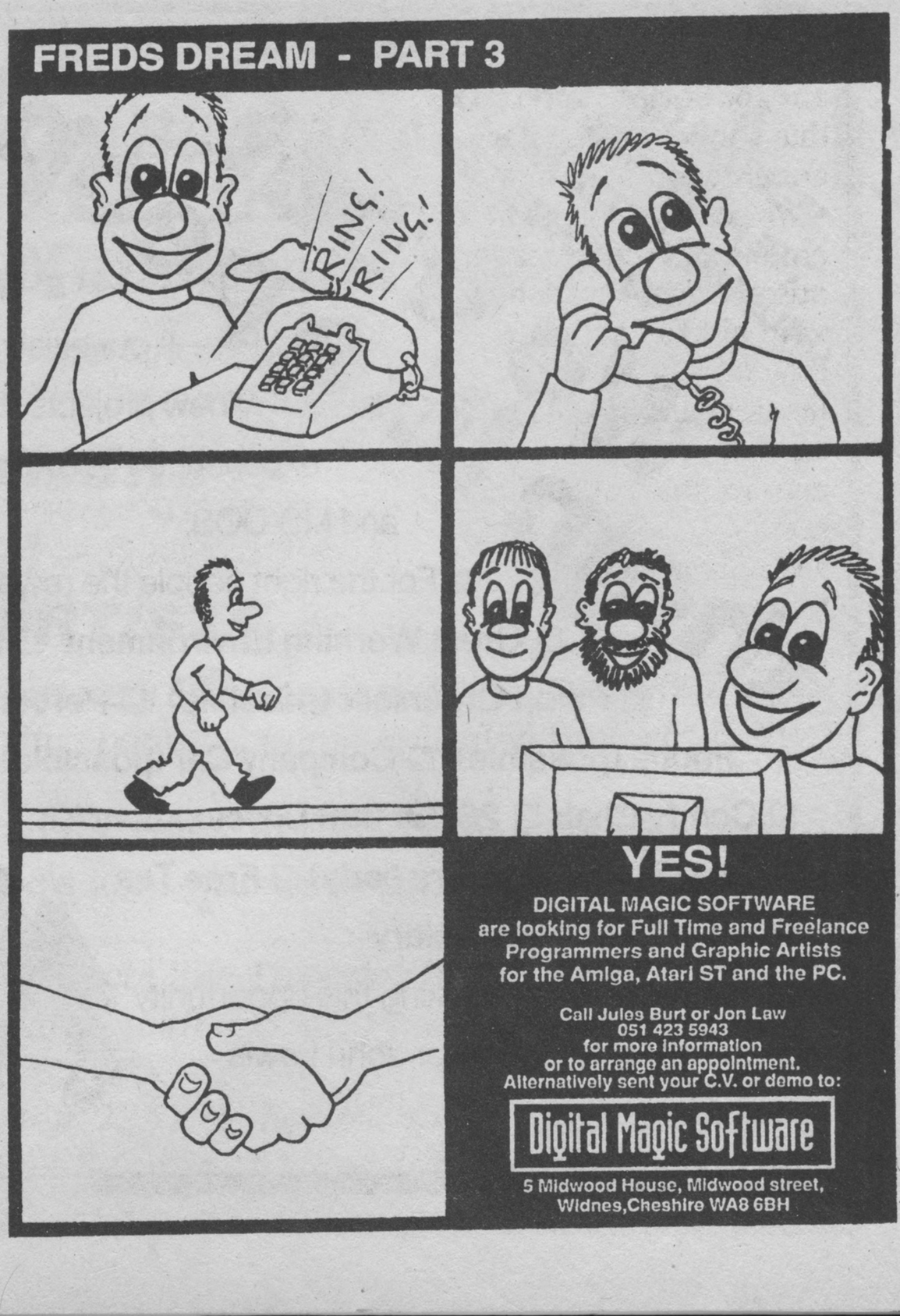
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AMIGA
- Dreadful games
- More dreadful games
- Games (dreadful)

ST
- STE - Amiga beater?
- No, not really
- It's just an ST in fact

PCW
- Nothing new at all

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- Your letters, with abusive replies
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PC200 SHOCK

Man in London seen buying one p2

BOG STANDARD?
First rump-on test of the new computerised Japanese toilets page 7

HACK ATTACK
Controversial new laws: cut off hackers' goolies, says MP page 16

60 BEST PORN GAMES!
PLUS YOUR GUIDE TO THE VERY DIRTIEST BULLETIN BOARDS

BOXSHIFTING EXPRESS



• Profile: *Keeping tabs on disk*

CD ROM is watching you

More details are emerging about *Profile* - the new CD-ROM title available from the newly-formed Department of Privatisation.

It's now clear that the seven disks comprising *Profile*, developed in secret, will include information on every man, woman and child in the UK. Besides details of bank accounts, credit ratings, qualifications and criminal records, *Profile* will also include data and photographic material relating to sexual preferences, social relationships and cash expenditures.

The Opposition recently called for a public enquiry after it was revealed that *Profile* will be made freely available to mail order companies, the Inland Revenue, and any other parties who may be interested. More on 0898 645517.■

In car games

Anamartic has developed a transparent membrane which can be fixed to the inside of your car windscreen allowing it to be used an electronic display. Built-in safety software ensures that the screen can't be triggered unless the vehicle is stationary but if you're stuck in a traffic jam, a simple switch activates an impressive EGA display. A 3.5-inch disc drive is fitted to the dashboard as standard and control is derived through an ingenious combination of steering wheel and gearstick movements. Details on 0898 657355.■

Anti-red herrings

Shoals of herring are being used as neural networks to help track down the whereabouts of Soviet submarines. At the Lochaline naval base in north west Scotland, scientists have discovered the herring's brain to be an almost perfectly natural neural net.

Herrings, many of whom congregate in shoals of up to 10,000, emit ultra-sound reflections of their brains' electrical impulses. In a shoal, the collective brain is the equivalent to that of over 70 humans. Hi-tech scanning equipment is able to monitor the sounds and thereby detect the minute long-range directional changes herrings make in order to swim around unknown sub-aquatic masses.■

PC200: Here comes the crunch

In a remarkable new deal the Amstrad PC200 is to be bundled with packets of Kelloggs Cornflakes.

As of Monday buyers of the prestigious breakfast cereal will be given a free PC200. It is understood Kelloggs wants to get away from its plastic dinosaur image. "The little brontosauruses have had their day," offered a spokeswoman. "Today's cornflakes eater wants a new breed of prehistoric monster. So we approached Amstrad."

An Amstrad spokesman commented: "This is a very positive move. It's the best way to get rid of the damned things, er, I mean raise the company profile."

Kelloggs sells nearly a million packets of its crunchy cereal every week but don't worry. Stocks of the Amstrad computers are not likely to run out until May 2123.■



Top virus watcher warns of:

ALIEN VIRUS TERROR

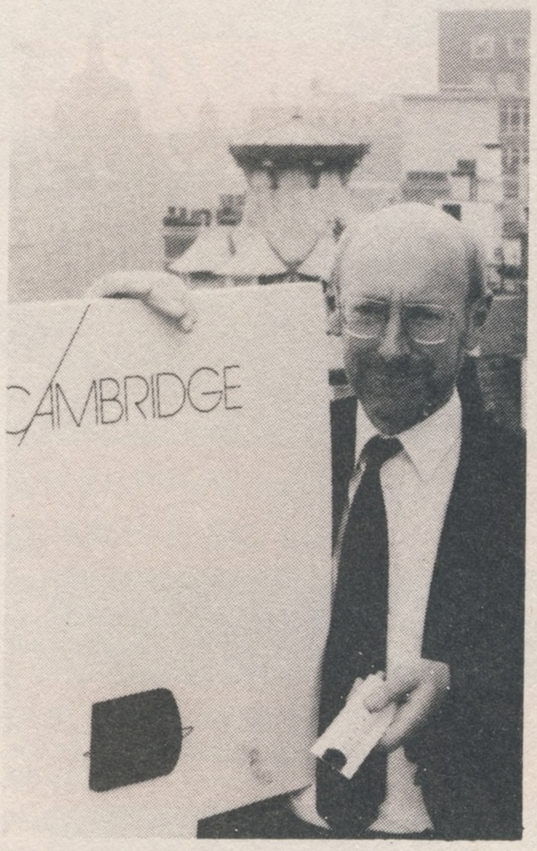
A deadly new virus from outer space is set to destroy Britain's computers if it isn't stopped soon, according to virus watcher "Dr" Algernon Braithwaite.

The virus is being beamed down from space by evil aliens intent on weakening our high tech defences and spoiling our computing fun. Home satellite dishes pick up the digital signals and the virus then transfers itself into the mains electrical system.

It then finds its way through the national grid and plants itself into every computer it finds.

Amazingly, the virus is completely undetectable and nobody is quite sure what it does. Dr Braithwaite, head of the Accrington Virus Attack Group told *Excess:* "I was beamed up to a space ship and the nasty looking aliens showed me a BBC Master melting due to this virus. I was shocked. The future of my MSX and every other computer in the country is in doubt."

A spokesman for the British UFO Society commented: "It sounds a little implausible to me." Nevertheless, Amstrad has recalled all its satellite receivers to be fitted with anti-alien devices.■



• *Braithwaite with his receiver yesterday*

SNIPPETS ● SNIPPETS ● SNIPPETS ● SNIP-

• Leading Californian software house Pedition has released a plug-in seismograph card for PC compatibles.

• Each day, over forty million aliens are violently killed somewhere in the world.

• Glasgow's newly formed Barrowlands pirate software house has released its first games compilation. *Glaswegian Hits and Kisses* is a single disc containing over thirty top games. A distribution deal is being sought.

• A new anti-piracy device has been jointly developed by six top business software companies. The Chip Disk contains a mini-transformer which, if unauthorised copying is attempted, generates a charge of 30,000 volts to the outside of the computer.

• The latest add-on for the superb *AutoRoute* system is *PubCrawl*, from West Country software house ScrumpySoft. *Pubcrawl*'s extensive database contains all CAMRA's recommended drinking establishments, the beers they sell and the prices.

The user enters his start and end points, the amount of money he has and any preferences in drink and the program does the rest.

***PubCrawl* has four modes: Quiet Drink, Out With The Lads, Go For It and Brain Death. The last is password protected to prevent the inexperienced from overstretching themselves.**

***PubCrawl* is available for the PC, Amiga and ST priced at £24.99.**

A version is also planned for Atari's Portfolio pocket PC. An Atari spokesman was reported as saying he was delighted someone had finally thought of a use for the machine.

The tooth hurts

Konix is planning a new peripheral for its alleged MultiSystem console - it's a special chair which complements the game *Gumhed*.

The two player game allows you to take on the role of a dentist. The other player simply takes his place in the chair. Using the Multisystems special joystick you control the additional drills and picks and operate on your pal's molars.

However, killjoys at the British Dental Association are "appalled". "We advise people only to accept dental surgery from qualified dental practitioners," offered a spokesman. It should be arriving early next year (i.e, the middle of the next century).■

EXPRESS MAIL

Dear Whatcanthematterbe

Another collection of rudeness, irony, sarcasm, rhetorical questions, ellipsis, zeugma, aposiopesis, litotes, asyndeton, hypallage, synecdoche, chiasmus, metonymy paranomasia and metaplasm. Got something interesting to and perceptive to say? Instead why not write to:

Excess Mail, 4a Queer Street, Bath, Avon BA1 1EJ

PS. Sorry, but we just don't have the time to give personal replies. We're too busy in the pub next door!

GOOD HEAVENS

As head of Divine Public Relations, which handles the business for Heaven, I would like to comment on the recent coverage in your magazine of the so-called 'Mandelbrot equations'.

While we concede that the equations are a useful computing device and have intrinsic disinterested mathematical beauty, they should not be taken as representative of Creation™ in any way.

Creation™ is the sole intellectual property of the Almighty and is copyright. Full details on how to interpret and approach Creation™ can be found in the user manual, The Bible™.

St Peter the Glib, Divine PR

• We rang up the Almighty to ask His opinion but he was said to be 'in a meeting'. His secretary told us 'He can't be in two places at once, you know'.

RAM HOME THE POINT

Dear Mr Ainsley

May we draw your attention to the fact that at the close of trading on October 27th the balance of your account was 982K 35 bytes overdrawn.

Michael Davis, Manager, RAM Bank plc

SONG OF NORWAY

Jeg bømme Norwegs strømkønnte og lyppety gyppety smørgasbørd *New Computer Express*.

Lygget bygget jygget håns neisen bømsadåisy bløgget på *Popular-komputingwykly* er het byggest pyle de nøb im de werld. Het magasin er nøt fyt på wype de bøm.

Strømsbergesmørgasbørdøsløskrivmasjinenuppetybuppetylyggetbyggetnyggetjørgenmørgenlørgenrømpypømpyjyggejygbølaktiesmutssjutarefakspersonensmagasineførvaltåren.

Øle Åøyøjåå, Oslo, Norway

• Well, as they say in Norway on a particularly windy day, 'my, it's very windy today'.

A COMPLAINT (CALLED 'BRAIN DEATH')

In last week's copy of *Express* you carried a review of our word processor, *MegaWord*. This was the most warped piece of writing I have ever seen.

First, you stated twice that *MegaWord* was 'not very good'. This vicious and unwarranted invective is typical of you so-called, self-styled 'journalists'.

You also made the unfounded allegation that *MegaWord* was 'rather overpriced at £595... when programs of similar power can be bought for £95'. May I remind you would-be, oh-so-clever-I-don't-think, 'writers', oh yes do me a favour, that our dozens of satisfied customers pay for quality, not quantity.

Your clever-dick, smart-arse, know-it-all 'reviewer' dismissed several of *MegaWord's* unique features without elaboration, showing his complete inability and prejudice. For example, the fact that *MegaWord* provides compulsory ten-level password protection on every file, and that *MegaSpell* reads in the user dictionary afresh after stopping at every doubtful word.

And as for the so-called 'bug' he pointed out, may I point out that on the latest version of *MegaWord*, the 'quit document without saving' feature no longer erases all files on the disc.

There was also no mention of our technical support hotline, available every Friday from 3am to 4.30am in Santa Barbara, California, completely free for a monthly subscription of £25.

I hope your future reviews of our products are written with more care and preparation. Otherwise we may re-evaluate the advertising campaign we run in your magazine, currently worth over £50 a month.

Barry Knobwit, MegaWord Corporation

• Do you think anyone actually reads these stupid letters that you lot send out?

CIRCULAR ARGUMENT

Great news! You, Mr 4 Queen St, have been selected out of all the people in Ainsley to take part in the 'Reader's Indigestion' Prize Draw. Just tear off the appropriate 'yes' or 'no' label below and send it off today!

YES! I would like to order a copy of your wonderful book '2000 pages of flannel about the wildlife of Britain' and enclose my lucky numbers

NO! I am completely stupid and ungrateful and don't stand a chance of winning anyway because I haven't ordered the book

Catherine MacWrite, Reader's Indigestion

MACHINE COLUMN

I am fed up of the arguments about 'my machine is better than yours'. People write in and drone on and on and on and on about why theirs is better than yours, going on and on at ridiculous lengths and saying absolutely nothing, repeating themselves and saying the same thing over and over again

(cont'd p.327)

Abdul Mumbo-jumbo, Warrington

• On the one hand, yes. On the other, no.

COPY CAT

I would like to make a comment on the style of some of your readers' letters. 'What is the question?', I hear you ask. Well, it's quite straightforward. 'Get on with it', I hear you say. Well, what I have to say is this. Why is that people have to keep conducting conversations with themselves, putting words into the reader's mouth? 'That's easy', you're probably saying, 'it's because no-one's reading your boring load of nonsense anyway, so you have to supply the dialogue yourself' (cont'd p 327)

John (or Dave) Smith (or Brown), London

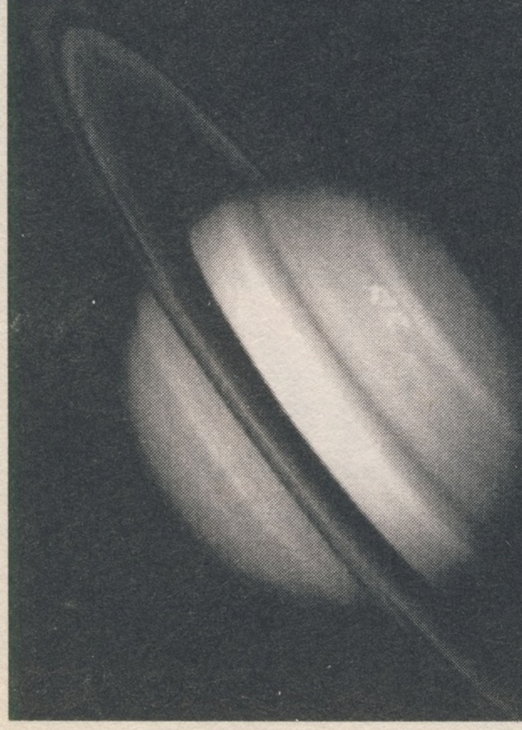
SO THERE

As a fan of strip poker computer games I have to write in and disagree with Derek Brown (*Express* 50) who said that people playing such games were not 'big' or 'clever'. I am six feet six inches tall and hold the Waldstein Professorship of Applied Mathematics at Bristol.

Dr Martin Ferris, Bristol

• I bet you read Viz too.

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Yes it's true! Britain's biggest selling weekly is offering the chance of a lifetime - a flight on the Enterprise Space Shuttle - the first to offer civilian passengers an unforgettable trip. You'll leave Heathrow on March 31st by Concorde to arrive at Cape Canaveral just in time to board the fabulous space cruiser. Once in orbit, you'll be able to visit the flight deck and watch in awe as the blue globe of Earth spins by. You get £100 to spend in the Houston Duty Free shop. A trip to end all trips.

Entering the competition is easy. It couldn't be simpler. Just send in as much money as possible and if you send in the most, you win! Simple!

Send your cash or cheques to :

Andy Storer
4 Queen St,
Bath BA1 1EJ

Credit cards not accepted.

MegaSoft

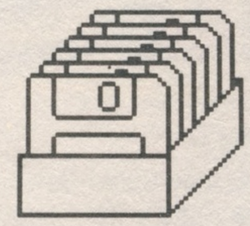
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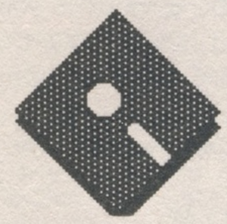
HARDWARE

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BOOKS

Another tedious potboiler by Ian Sinclair **£9.95**
The Wit and Wisdom of Alan Sugar **£9.95**
(also available on postage stamp)

MegaSoft Directors: R Devious, J Devious, M St J Devious

We would like to point out that this company is nothing whatever to do with 'MegaSoft World Holdings International' of Grimsby, directors R & J Devious, which went bust owing £69,000 last month.

Flat 3, Behind the other garage, 14a Brickyard Lane, Slagthorpe, Grimsby GR7 8UR

Tel. Ron now on 0479 768837

(but not Thursday as I'm due in court in the afternoon)

Tokyo ★ Paris ★ New York ★ Zurich ★ Grimsby

As seen on TV (Crimewatch, Sep. 1989)

BATTLE OF THE GIANTS

The new NCube has come on the scene to challenge Cray's supremacy at the top of the supercomputer league. Which comes out tops?

NCube 2 Scalar • £19million • 03727 42557
Cray Y-MP • £9-15 million • 0344 485971

The Cray has dominated the world of supercomputers for the last few years. Now, however, the NCube is here, claiming more power and more expandability. It boasts 500 million Mb of RAM, runs at 60,000 MIPS and can run 8,192 processors simultaneously. We put the two machines through their paces...

Word Processing

The NCube won hands down, easily coping with any major word processor. *WordPerfect,* for example, can be installed on the 100,000,000 megabyte hard disk leaving 99,999,997 megabytes free. This enables you to use the large version of the thesaurus.

WordPerfect Corp says it has no plans to bring out a spell check dictionary with all 950,000 words of the Oxford English Dictionary – surely a ridiculous omission. When will the software houses catch up with technology!

The NCube spell checked the Bible in 0.5 seconds as opposed to 2.3 seconds for the Cray – sorry, Cray, but this just isn't up to scratch. The NCube produced a concordance – a listing of all the words that appear in the Bible with their page numbers – in 2.1 seconds, with the Cray taking a sluggish 9.5 seconds.

Benchmarks

The NCube took 2 mins 6 seconds to count all the atomic particles in the universe, compensating for red shift and relativity effects. The Cray took 9 mins 24 seconds and missed out several dozen neutrons in Alpha Centauri.

Games

Not much software written specifically for either machine, so you'll have to make do with emulators. Again the NCube scores. The 'AmyCube' emulator lets you run Amiga software at 12,000 times the speed of the original. This can have problems though; to play *Sentinel,* for example, you have to go through 10,000 levels in 12 minutes, at a rate of 14 levels every second.

There's also a joystick available for £9.95, though the NCube version with a joystick port in the configuration costs an extra £585,000. In contrast, the Cray has no expansion slots for joysticks, no mouse socket, no RS232 port and no serial printer port. Come on, Cray, when you pay this price for a computer you expect some sort of expandability!

Monitors

The Cray can run EGA and Hercules graphics.

On the other hand the NCube can handle as many as 256 monitors independently all running VGA off a palette of 16 trillion colours, with real-time genlocked video titles running independently as well, drive up to 626,000 sprites and can scroll in 65,536 directions.

Sound

The NCube can produce 128 channel 256 track sound and sample well enough to beat most voice pattern recognition systems.

The Cray can only beep a G above middle C but it can do this at 140 decibels, enough to cause permanent deafness.

Verdict

The NCube has it over the Cray. Better graphics, more expandability and bigger memory. The £19 million price tag may look expensive, but as ever you get what you pay for.●

- *The NUS offers a low-interest credit scheme for those in full-time education wishing to buy an NCube. After a down payment of just £10, you pay £35 monthly for 56,000 years.*
- *An NCube bundle is expected soon, offering a dot matrix printer, a joystick, a BBC emulator, Lotus 1-2-3, 12,000 games, a 3-bedroomed flat in Chelsea, a Cessna light aircraft and candidacy for Presidency of the United States, all for £19,999,999.95.*

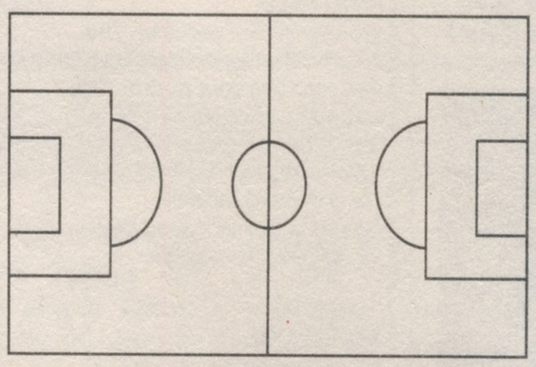
TAME the GAME

● LIFE AND DEATH (PC)
On the title screen, press and hold down X,Q,P,M,G, Backspace and Tab and remove the disk from the drive while you are doing so for added hospital realism when you wake up there suffering from severe sprains.
Marcus P Futtock, Wiltshire

● GHOSTBUSTERS II (AMIGA)
If you are playing the street section, turn off the machine and hand yourself over to the police for being a filthy little pirate.
PC de le Vieux Guillaum, Thackstead

● XENON 2 (ST/AMIGA)
On the title screen, type "I'M AN IMPATIENT LITTLE TWERP WHO WANTS TO REACH THE END OF THIS GAME EASILY WITH INFINITE LIVES AND WITHOUT PLAYING PROPERLY LIKE I'M SUPPOSED TO" to get exactly what you deserve. Nothing at all.
Al Jolson, Sheffield

● KICK OFF (AMIGA)
To follow up the amazing tips I rang up with on the Playback line, here is a map of this great adventure from Anco. Note the positions of the goals - they feature heavily late in the game.
Mr Statethebleedingobvious, Barrow-in-Furness



A nice tip State, but it looks like you have been pipped to the post...

● POWER DRIFT (C64)
After the start light has gone green, drive really fast, overtake the other cars and try to cross the finish line before everyone else.
Mr Statethebleedingobvious' brother, Barrow-in-Furness

A marvellous piece of advice there, State's brother. In fact I'm so impressed a copy of *AfterBurner* is on its way to you.

FIRST PEEK...FIRST PEEK...FIRST

BRUTAL ENCOUNTER

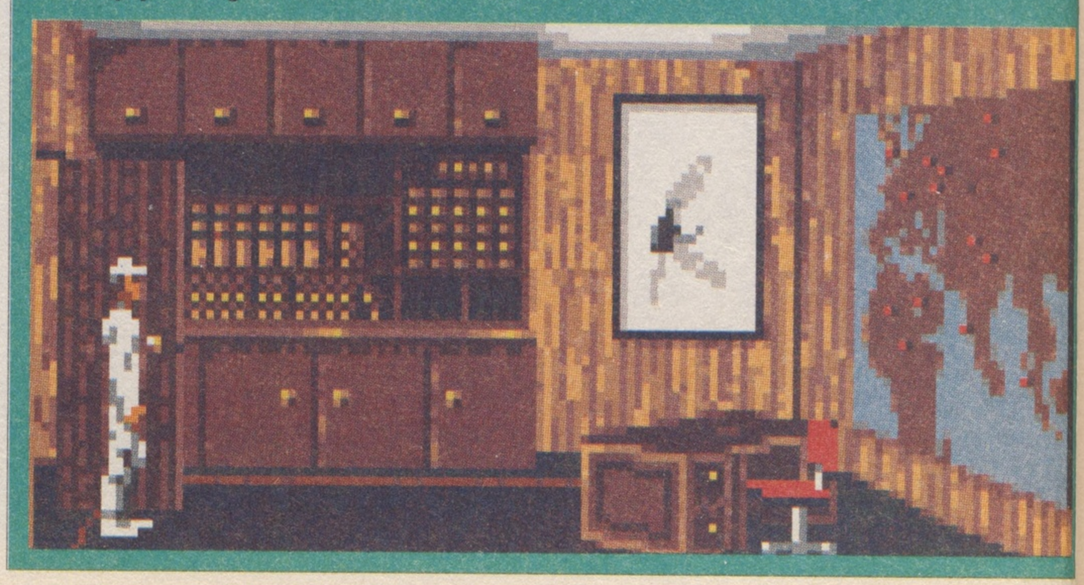
It's been a long time coming but next week you"ll be able to pick up *Brutal Encounter* – a "realistic simulation" of an anti terrorist investigation.

It comes from Guildford-based Sensitive Software which brought you the acclaimed *Worldwide Leader Assasination Syndrome* and *Combat China Crisis Tank Attack* earlier in the year. In this game you take on the role of Detective Inspector Jack Whitewash. Your job is to arrest criminals and put them where they belong – in the slammer.

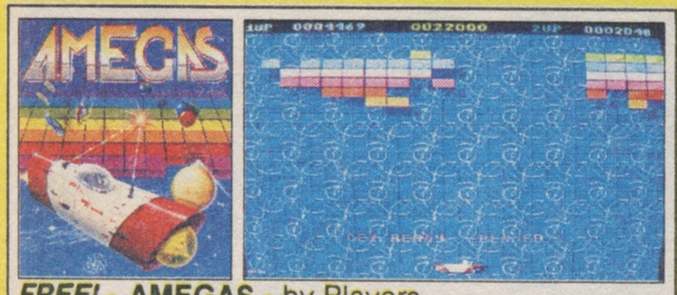
Sensitive has wisely ignored the boring bit of tracking down the criminals and puts you straight in the interrogation room with the culprits. Its your job to beat them senseless, er, that is, proceed with the questioning using various joystick positions.

After about three days of frantic waggling you will be marked on the strength of the prisoners confessions. If you obtain: "This is crazy I'm completely innocent" then you're obviously crap. However, if you manage: "I can't take any more please bang me away for ever. I'll say anything you want," then you go onto the next stage which puts you in the shoes of a deranged High Court judge.

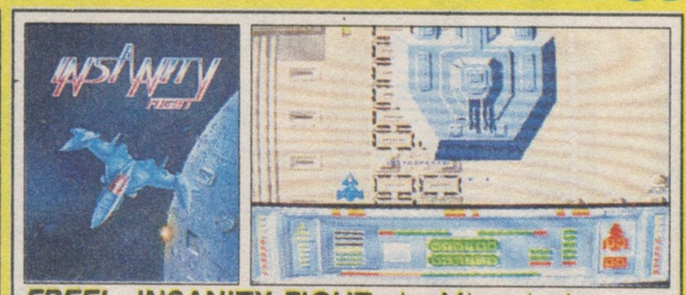
All in all it's great fun and obviously the designers have gone to great lengths to get it right. One for psychotic gamers and law students alike.



FREE! TENSTAR PACK WORTH OVER £229!



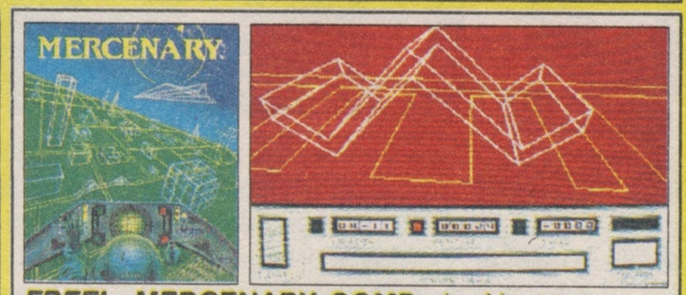
FREE! - AMEGAS - by Players



FREE! - INSANITY FIGHT - by Microdeal



FREE! - ART OF CHESS - by SPA



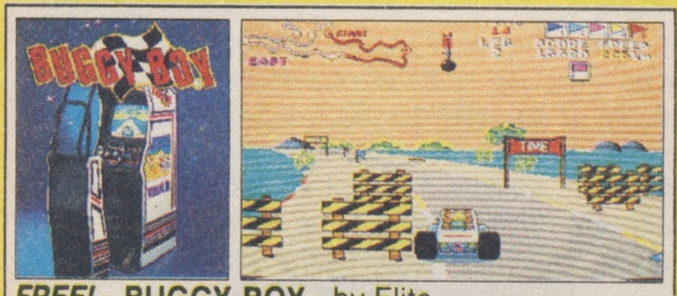
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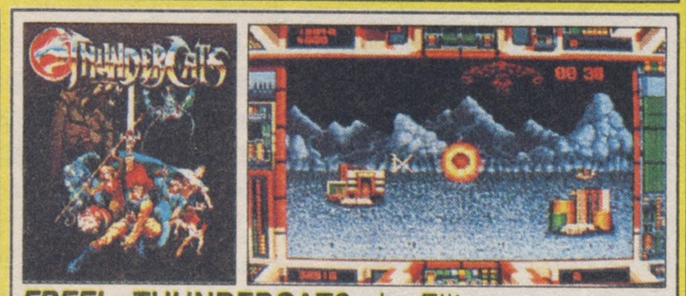
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If so, which one do you own? .....

TECH TIPS



Personal computer problems? Express's Agony column has the answer. Write in strictest confidence to Uncle Techtip. The best tips win a freebie – so don't forget to tell us your address and machine

HELP! SORDed episode

I have a Sord M-5 and I am rather bored with playing games on it as I am having an awful lot of trouble finding any. Anyway, I have recently become interested in machine code and I was wondering if you could answer a few questions for me.

1. Where is the stack positioned in memory?

2. Is there a good assembler/disassembler package?

3. Is there a version of *WordStar* available for the Sord?

4. Can I upgrade the RAM to say 512K?

5. Can I upgrade the processor to an 80386?

6. What is the address of the Sord user group?

7. I am interested in using my Sord M-5 as a fileserver on a ZX81 network. Is there a 10Mb hard drive available for it?

8. Do you know anywhere that I can get any non-violent games from?

I hope you can tell me the answers to the above questions because if you can't I will probably want to buy myself a PC instead and I don't think my pension will stand up to it.

I don't want to give my address because I will probably get a crowd of people around to my house trying to break in and steal my Sord.
No name supplied, Bath.

1. The start address of the stack is hex E456 (decimal 58454) for both issue 1 and 2 Sord M-5s. The stack enjoys considerable use by the Sord operating system for operations such as I/O, screen updating, register addressing etc. Addressing the stack directly is considerably faster when attempting I/O than by using BASIC and also requires less RAM (BASIC uses contiguous two-byte 'blocks' for every byte output). Here's an example machine language program which puts the first output byte into the accumulator and the return address of the operation on the stack:

```
$3E $7F $D5 $4C $56 $E4
```

(remembering of course that addresses are presented in low-high byte format and the program will only work with expanded Sords).

2. One of the best assembler/disassemblers available for the Sord was *DevMon 4.6* from Six Byte Software based in Cardiff. Unfortunately, Six Byte Software disappeared at the beginning of 1987, so there's no chance of obtaining a new copy of the program. Probably the best course of action would be to scour the *Express* classified section for past owners of the Sord selling their hard and software.

3. No. Incredible though it may seem, WordStar Inc (or is it Ltd?) never bothered to convert a version of the program for use on the Sord. Absolutely amazing, huh?

4. Yes, although you'll have to construct a motherboard to bear the RAM. This is not as difficult as sounds because the Sord is based around the Z80 central processor with an 8255 PIO incorporating eight-bit I/O ports accessible to the talented tinkerer. Use dynamic RAM rated at around 150 nanoseconds and a 10µF tantalum bead capacitor between the 0V and 12V rails in order to suppress spikes and other noise on the data bus.

5. NO. Intel's '8' range of microprocessors simply isn't compatible with the architecture necessary for Zilog's baby the Z80. A change of processor would also entail several amendments to the internal architecture of the motherboard.

6. I don't know the address of the Sord user group, if indeed there is one. If there is, please write in!

7. Again I must answer in the negative. To my knowledge there has never been a fixed disk available for the Sord. However, you don't need a hard drive to set up a network.

8. *Express* classifieds.

HELP! Joyce: a star!

I own a Commodore 64 and the Star LC10-c Commodore version printer. I have just bought an Amstrad 9512 PCW and would like to know if there is a suitable interface available with which I can use the Star printer as a second printer on the Amstrad. All the dealers approached say it is not possible, with suggestions ranging from an £80 conversion (one way) to selling the LC10-C and buying an ordinary Star LC10.
R. C. Lawford, Welling, Kent.

Unfortunately, many of the eight-bit computer manufacturers provided non-standard interfaces for printers etc., thereby locking you into buying their products usually at inflated prices over standard items, and leading to fat profits for the companies concerned. I can find no-one who supplies an interface of the type you require to connect the Star to your Joyce.

Nowadays, as computer users have become more sophisticated, the manufacturers have had to give up this practise, but there are still a lot of eight-bit users around who have upgraded yet still have dedicated equipment that they would like to use. Sounds rather bleak, but in fact the situation can also be used to work for you. Just think how many devoted Commodore 64 users there are still tapping away at their machines. One of their number somewhere is going to want a good quality, second hand Star printer for a reasonable sum. *Express* has a large, free classified section aimed specifically at people like you RC. Bung in an ad, offload the printer, and buy something with with a standard serial or parallel interface suitable for use with the Joyce.

HELP! Mastering the PC

At the moment I have a BBC Master 128 and I am considering upgrading to a Master 512. If I do this will I be able to run games which are designed to run on IBM-PC compatibles? Would I be vulnerable to IBM viruses from sources such as public domain software or shareware disks?
J. P. Fitzpatrick, Ayrshire, Scotland.

The answer, as always with questions of emulation, is yes and no. Some games will indeed run via an emulator on a Master 512, others need to have silicon slightly more 'compatible' before firing up. Why not adopt an opposite course of action by buying one of the many cheap PC compatibles and using a version of BBC BASIC on it. In that way you will be able to make use of all PC software both games and serious applications *and* run well behaved Beeb programs (not machine code games unfortunately).

If you do decide to plump for the Master 512 then you may be at risk from PD/shareware transmitted viruses but as there's such a tiny risk anyway even for users of genuine PCs I wouldn't worry too much about it. You can always use a virus checking program if you must.

TIP Taking a PEEK

For many years now I have been computing on the Sinclair ZX81 computer and although I now own several other machines (Commodore 64, Atari ST and a PC compatible) I still find a lot of enjoyment can be obtained form the little Sinclair *(So does Mrs Sinclair - Uncle TT)*. I spend many hours finding new ways to cram code into a 16K RAM pack. It was on one of these many marathon sessions that I started to have a bit of a problem with the RAM pack. No, not the usual wobble - I soldered my RAM pack directly to the edge connector to stop the dreaded wobble - but bytes being changed for no reason.

At first I though it was the mains supply and so bought a smoothing device, but still the problem continued. So I wrote a little program to check the memory. This was very effective and using it I managed to locate two faulty RAM chips. I thought that other computer users might like to see the program so have sent it in for publication. Although written for the ZX81, it could easily be adapted for use with other machines.

The program pokes random numbers into a range of memory locations then peeks the same locations to test the integrity of the poked data. Using the program you can easily determine the faulty locations.
R. Bosher, Blackpool, Lancs.

```
10 FAST
20 CLS
30 LET A=VAL "256"
40 RAND
50 LET A=B*RND
60 RAND B
70 FOR C=VAL "16762" TO VAL "32711"
80 POKE C, INT (A*RND)
90 NEXT C
100 RAND B
110 FOR C=VAL "16762" TO VAL "32711"
120 IF PEEK C<>INT (A*RND) THEN STOP
130 NEXT C
140 RUN
```

• The RAM checking program in ZX-81 BASIC

HELP! Triple screening

I wonder if you could impart some information on how to transfer screens and get them working between the PC, Atari ST ad the Amstrad PCW?

I can transfer the files easily enough but I can't get the screens working. I would like to get a screen working in all three formats.

I would like for instance to get a *PC Paintbrush* screen working on the Atari in *Degas* or PCW *Stop Press* screens working on the PC. Colour is not important because I would want the screens for DTP work.

I know that this sort of thing can be done because I've got a program somewhere that loads Spectrum screens into the Atari. I just don't know how to do it.
Karl McAuley, Sheffield.

You know it can be done, right? You know more than I do because as far as I'm aware, computer users have enough trouble converting file formats between different paint/graphics programs on the same machine! If it can be done, then it's news to me. Anyone out there know differently? Pass on the good news...

HELP! Publishing books

I have recently started to use the *Ventura* desktop publishing package on my IBM-PC compatible computer. The program is certainly comprehensive but I am finding out that my knowledge isn't! It really isn't enough just to have the hardware and software. What I need to know is all about kerning and leading and the best way to use different fonts etc. Do you think you could recommend a suitable book which I can use in conjunction with my DTP program to produce really professional looking documents?
Adrian King, Saltham, Norfolk.

A good introduction to the terminology surrounding desktop publishing is the *Handbook of Desktop Publishing* by John C. Sans and published by Wordware Publishing Inc (ISBN 0-915381-95-8). Priced £18.45 it should be available from most high street book stores. Clear, concise and with chapters on word processing tools, page layout tools and necessary hard and software. Recommended reading for DTP beginners.

If you really want to get your teeth into principles of layout and the rudiments of design locate a copy of *The Complete Desktop Publisher* by Daniel J. Makuta and William F. Lawrence, published by Compute! (ISBN 0-87455-065-3). Again available from any good high street book store and priced around £20. This book has it all, necessary equipment, page layout, typography and a very useful glossary containing useful explanations of the jargon. Unfortunately the book is American and consequently some of the terminology is different in the UK. However, the book easy to assimilate and a very good buy for those new to DTP.

HELP! Talk Talk

I've recently upgraded from my trusty old Atari eight-bit 130XE to an brand new 520STFM of which I'm justly proud. However, I used to use my 130XE for word processing and keeping a database. I now find that I have hundreds of disks full of eight-bit files that I would like to be able to access. Is there some way of getting the 1050 disk drive I use with my 130XE to connect to the drive port of the ST? If not, how can I get the files on to the ST?
R. Hollis, Treager, Lancs.

The Atari 1050 disk drive is not a standard drive in the same way that the PC and ST drives are. The 1050 is full of extra control electronics to make up for the lack of drive controller in the 8-bit machines. You cannot just run up a cable and connect the drive to your ST. Even if you did manage to connect the drive, the file formats on 8-bit disks are such that you'd have to write some hefty machine language routines in order to read the disks. But take heart, because help is at hand in the form of *TariTalk* from Page 6 Publishing. *TariTalk* consists of public domain software and a cable which connect the Atari eight and 16-bit machines together to facilitate file transfers between the two computers. The software is easy to use and the connection simple to set up. *TariTalk* costs around £20 and is available from Page 6 Accessory Shop, PO Box54, Stafford ST16 1DR. Tel: 0785 213928.

HELP! ST Teletext?

I have recently seen details of various teletext adapters/cards which are available for several different computers. However despite contacting most major retailers and dealers I seem unable to locate any such device for the Atari 1040ST.

The main requirements I would have are the ability to view pages from the broadcast services of Oracle and Ceefax and the ability to store and print such pages.

I would therefore be most grateful if you could provide details of any such devices your great self might be aware of.
A. Cope, Stoke-on-Trent, Staffs.

If you call Microtext on 0705 595694, the company will be pleased to take your order for one of their excellent teletext adapters. Price £148.93, the adapter offers everything you require and more. If you want to read a review of the device, then *ST Format* December issue includes a full look.●

• Do you know as much about computers as Uncle Tech Tip? Express is looking for a new Technical Editor, if you fit the bill, write to Rob Ainsley, 4 Queen Street Bath BA1 1EJ.

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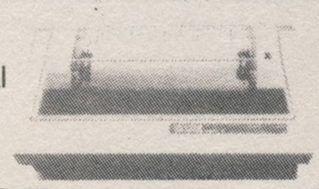
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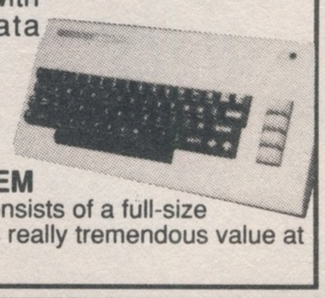
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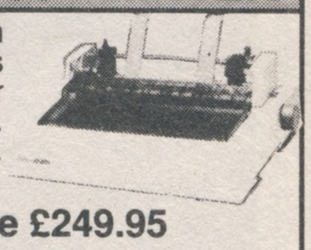
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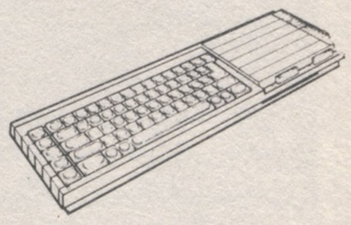


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STREET TALK

BY MAFF EVANS

Well, the year is drawing on, and companies all over the place are thinking of Ye Goode Olde Yuletide season that is approaching... That's right the Christmas rush will soon be here with its usual overkill advertising campaigns, special package deals and product hype.

Already it is becoming apparent that the major computer game marketing flood is going the way of the console, with Nintendo's campaign already on the box in small doses and Sega's ads on the way. The Konix would have been there too, but the thing is the machine may not make it into the shops on time. It would be really good news for the company if it did, as it would be the time most likely for the product to take off - what with kids badgering their parents for pressies (that's a point...How would parents get the kids to believe that Santa will get a Power Chair down the chimney?).

IT'S strange to watch the amount of games that appear for review at different times. Just before the PC Show, things were very hush-hush concerning new releases. Now that the show previews are done with and the companies want as much press coverage as possible, games are appearing left, right and centre! So many in fact that some are having to be put off or even left out completely. Not only is it happening in the case of reviews, but also rolling demos, press releases and screenshots galore are making there way into the office - just so that the buying public are "aware" that the games will be available in time for Christmas.

It still remains to be seen who will win the battle for the Christmas No.1 game, but no doubt all companies will want to sell well this winter, as bad Christmas sales could send a company down the tubes. Think about this and shop carefully!.

MINI REVIEWS..MINI REVIEWS..

BEACH VOLLEY

★★★★

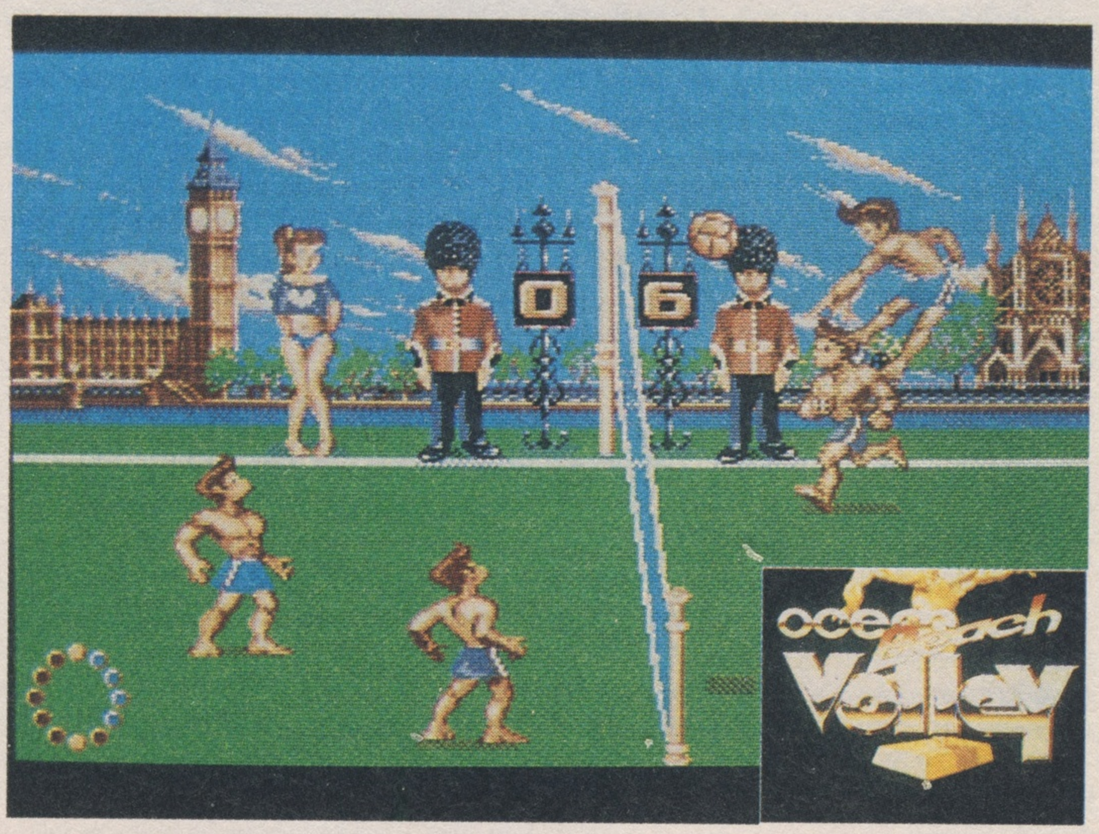
● Ocean • £24.99 • Amiga version reviewed • Also available on ST

Quite an inviting prospect isn't it? Whizzing off around the world to play volleyball. Such an inviting prospect in fact that Ocean has decided to produce a game about it.

The intro shows your team members being signed up by a big sports promoter to travel to exotic locations and play your favourite sport. The game itself can be played either against the computer or a human opponent, each player controlling both members of the team. A hand is displayed over the head of the player under your control and a blue crosshair on the floor shows where the ball will land.

A variety of moves are at your disposal, including digs, overhead shots, lobs and an almighty powerful smash, which gives a huge amount of gratification when it slams into the ground on the other side of the net.

The smash is used rather a lot by the computer opponent and is successful nine times out of ten. That's my only real quibble with the game - it's much too hard to beat the computer. This means that you have a real job getting to see any of the other locations which is a shame, since the presentation and graphics of *Beach Volley* are excellent and you feel a bit cheesed off that you can't see more of the stuff. Having said that, it's extremely good fun as a two player game and I recommend all beach bums, volleyball fans and computer fans alike to check it out.



POWER DRIFT

GAME of the WEEK

★★★★★

Activision • £9.99(c), £14.99(d) • C64 version reviewed • Available November

Surprise, surprise! Three licensed games inside a month and they're actually all good. Including this fun racing game from Chris Butler.



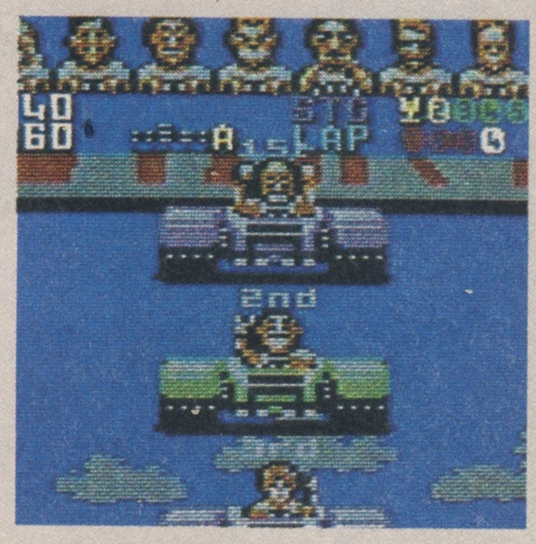
Activision's last really major product was *Afterburner*, which didn't impress many people. Chris Butler's last major game was *Space Harrier*. This too didn't impress very many people. Put these two together and the result should be disappointing, but what we have instead is a 3D racing game which is remarkably good fun to play.

The game begins as you select your preferred circuit from a choice of five, ranging from elevated circuits to sunsoaked deserts. Next you pick your choice of driver from the line up of 12 and you're away off to the track.

The objective of the game is to finish the race at least in the top three to continue to the next stage - there being five stages in total - since finishing outside the first three results in you being retired from the competition. Simple eh?

Well, not really, since there are all manner of twisty turns and rickety ramps to be negotiated, as well as the other racers who are really quite inconsiderate drivers!

The display at the top of the screen shows the usual information, such as speed, time and score, along with the current level and your progress through the stages in the form of gold, silver and bronze trophies. The very top of the screen shows all the racers and their relevant positions in the race.



GRAPHICS AND SOUND • The loading picture of Jason is nicely drawn, but the in game graphics are based around a rather dull palette of greys which gives the game a rather depressing atmosphere and some of the trackside graphics are a little glitchy - at times the struts by the ramps appear to hover in mid air. Still the cars and drivers are nicely defined, as are the trees and and buildings - and everything moves quickly and smoothly enough.

The sound on the other hand is pretty pathetic. An insipid tune plays throughout, accompanied by some pretty dodgy effects. The volume control is a godsend! No excuses that it's only an eight bit, I've heard what the C64 really can do and this isn't it.

OTHER VERSIONS • *Power Drift* should be available on the Amiga very

DOGS OF WAR ★★

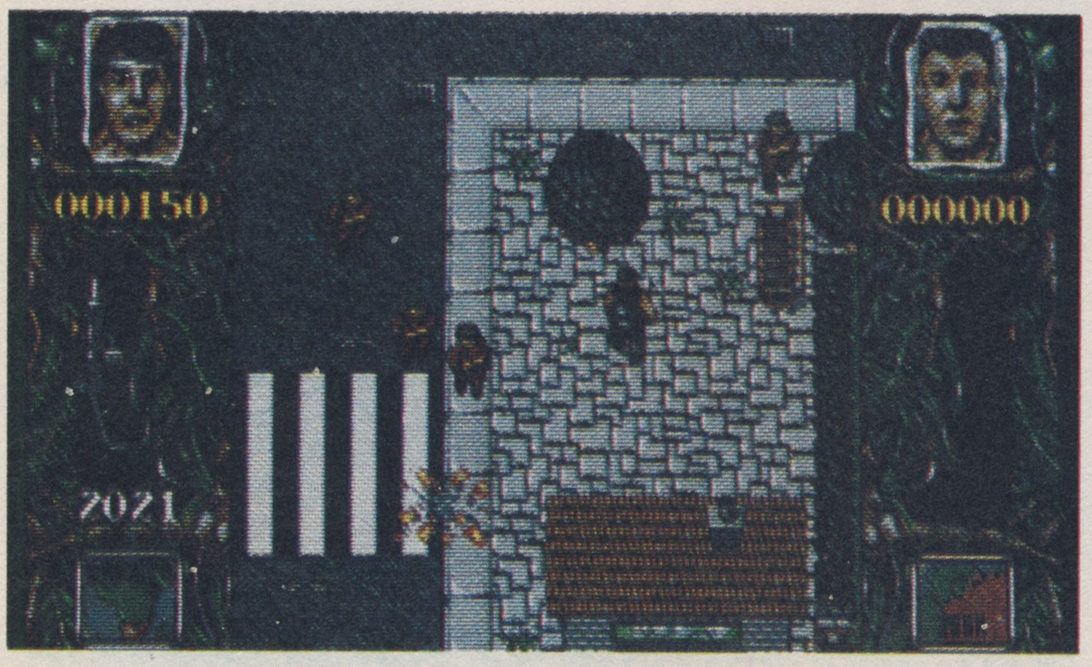
● Elite • £19.99 • ST version reviewed • Also available on Amiga

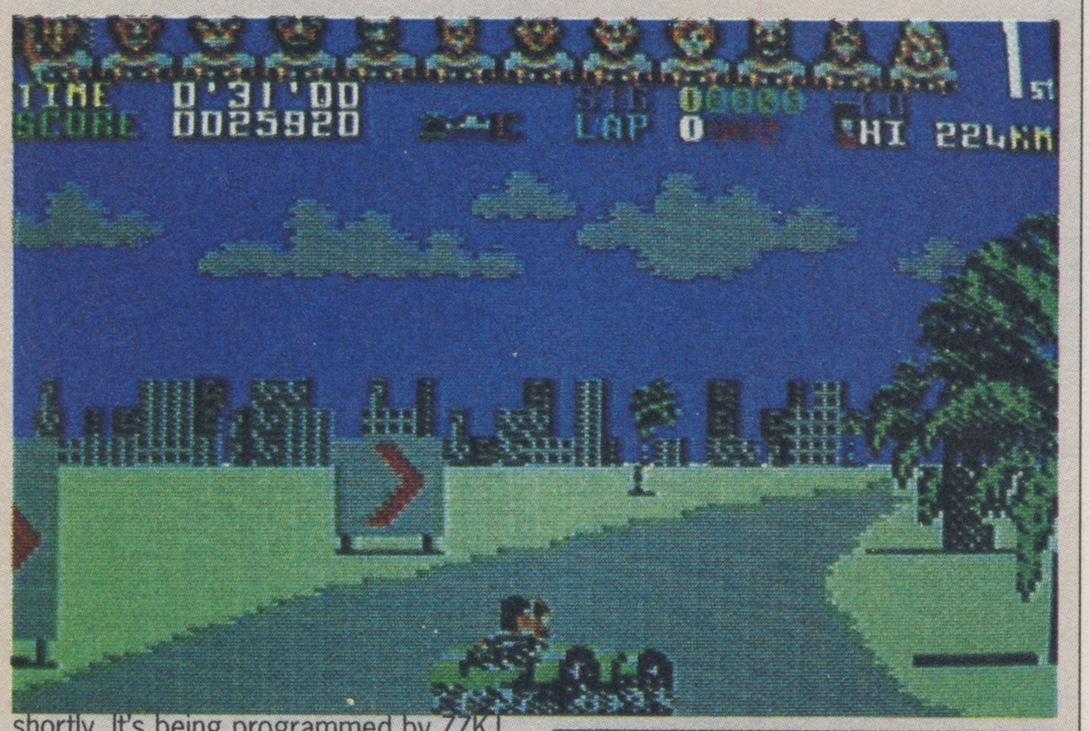
Steve Bak's name seems to be all over the place these days. What with his *Bad Company* being released through Logotron and now this.

Well to start with, the packaging for *Dogs of War* doesn't look too impressive. Not only is the soldier hideously deformed, he's also rather camp - wrist bent around the gun and hand on hip.

Anyway, enough of these peripheral absurdities, what of the game? Well the game pits you as a small sprite running around "multi-directional" scrolling backdrops wiping out wave after wave of enemy soldiers. The term multi-directional is used here in its loosest possible form, meaning more like up for a bit then along for a bit.

All this killing is of course for an ideologically sound reason...money. Pretty unsound teachings for the youth of today really, but it wouldn't matter so much if the game were worth playing. The thing is, it's pretty dull, mindless action. Run shoot, run shoot... that's about it. For my 20 quid I think I'd rather have a game with more challenge.





shortly. It's being programmed by ZZKJ. The man responsible for the Amiga incarnation of *Super Hang On* and (as eny fule no - to quote the famous Molesworth) that was pretty bloody brilliant. Well even as you read this, *Express* will be plugging for its own review copy. So keep watching these pages!



VERDICT • Despite the fact that the audio-visuals of *Power Drift* aren't too hot, the gameplay is strangely compelling. I found it hard to drag myself away from the machine. The excuse that I was taking the pictures for the review didn't wash after a while, so I had to stop to write this review! Controlling the car is very straightforward, and the feel has been pitched about right, getting harder as you progress so you can't hare around the circuits at silly speeds. Failing to qualify on the fourth circuit has you pummelling the fire button, determined to make it the next time... or the time after that... or the time after....

I've yet to finish a full competition, but I will - if I can just sneak off for another go...



FIRST PEEK...FIRST PEEK

LOGOTRON GAMES

A mega first peek this issue, courtesy of those ever so nice people at Logotron, the people responsible for that amazing scrolling deliver-death-to-the-aliens game *StarRay*.

First up is a super-fast 3D extravaganza provisionally titled *Defender of the Ground (DOG)*, which places you in the role of a futuristic defence fighter. The future television audience's taste for violence has resulted in your battles being broadcast to the masses. The game is unusual in the fact that it is being developed on the PC and then converted to ST and Amiga. The feel is smooth and the graphics are very fast indeed, even better than *Carrier Command* (last week's Game of the Week).

As are the graphics of another of Logotron's games, which goes under the working title of *Resolution 101*. You play a criminal turned bounty hunter, who must hunt down and destroy other villains within a solid 3D city. In this game you drive a hovercraft around the streets and the programmers have got the hovercraft control just about right.

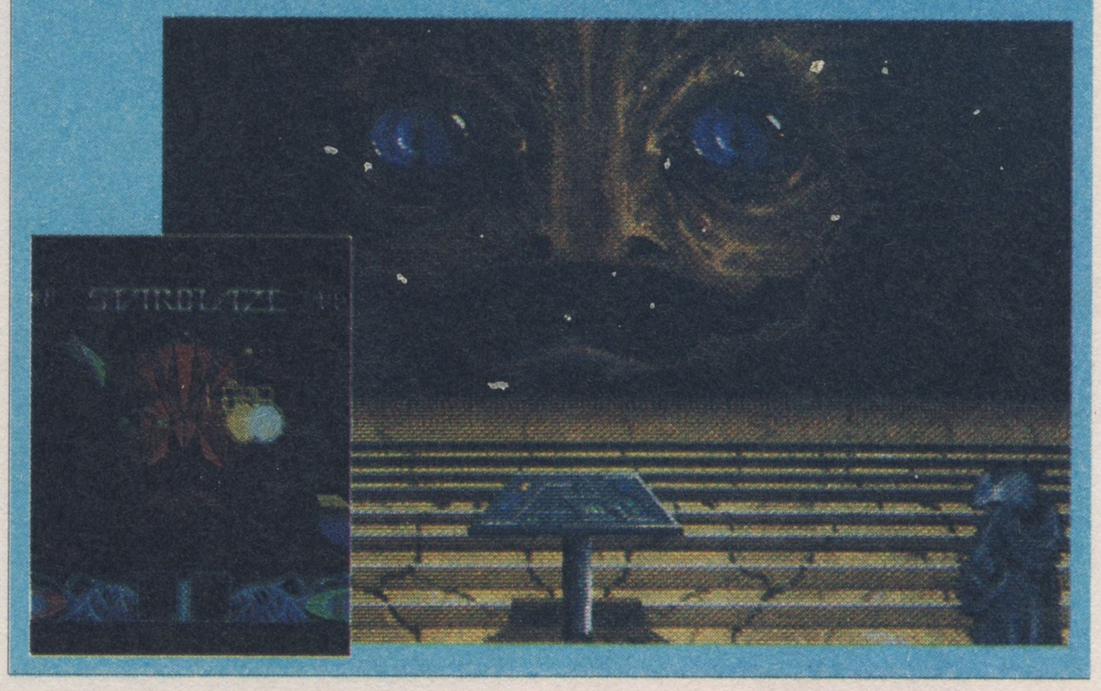
Cloud Kingdoms is one of those "what do you call it" games like *Bubble Bobble* (not really platform or shoot 'em up). You must puzzle your way through mazes collecting treasures and dodging traps.

Back to a more normal mode of gaming - the arcade adventure. In *Eye of Horus* you play an Egyptian god searching for parts of the body of Osiris. Connected with the game is a competition to win a week for two in Cairo. Ooh!

Bad Company is a *Space Harrier* style first person blast with selectable characters to use, additional weapons and a whole host of nasty aliens to kill.

Another 3D game to finish with is StarBlaze - a 3D space game that contains 100% shoot-'em-up action. Simple really.

Prices and dates will be announced shortly in up and coming issues, so stay tuned!



ONE-LINERS

• This Christmas, you will be seeing numerous screenings of an ad for the Sega console. Undoubtedly, this will stir up quite a bit of interest in the machine and - hopefully for Virgin Mastertronic - drumming up a few sales. If you're thinking of buying a Sega console, or even own one already, then there is a new publication for you. Entitled *S*, it contains news and reviews from all sides of Sega gaming - including up and coming releases, arcade features, hints and tips and special features. If you're interested in seeing *S* for yourself, then a subscription costs £14.95, but there is a limited offer available which allows you to receive 14 issues for the price of 12. For more information, ring Christine on 0458 74011 - and have those credit cards ready!

• American company Accolade is ready to release a range of new products soon. Including *The Third Courier* - a role playing game in which you must recover vital NATO equipment before it falls into Eastern Bloc hands; *Bar Games* - which features all manner of pub antics, like air hockey, wet T-shirt contests, dice, working at the bar and even trying to get "off" with someone; *The Cycles* - a first person racing game with a choice of bikes, racing around tracks in Yugoslavia, Austria, Japan, England, West Germany, Sweden, Spain, Italy, Holland, Belgium, France, Australia, Czechoslovakia, Brazil and the US (phew); *Frightmare* - a trip through a nightmare world of ghouls and demons; and an extension disk for the *Jack Nicklaus Golf* game. Unfortunately, all the prices are in US currency, so they're a bit vague. But we'll let you know when we know more.

• Puzzle fans may be glad to know that Prism is releasing an Amiga conversion of *Hyperforce*. The game features such strange elements as bouncing lines, hovering pyramids, running dogs and purple demons. You don't really know what the hell I'm talking about do you? Well if you want to see for yourself, then pop along to your software shop, as *Hyperforce* should be available by the time you read this at a price of £14.95. Alternatively you could wait and read the review in the next issue.

• Not one, not two, not even three, but eight...yes EIGHT new releases from Gremlin are in the pipeline. The first is *John Lowe's Ultimate Darts* (on ST, Amiga and C64) which contains all sorts of variations on the traditional pub game - including soccer and cricket. Next is *Axel's Magic Hammer* (ST and Amiga), a huge fantasy game with eight levels of 200 screens. Also coming is a futuristic RPG for the ST and Amiga called *Switchblade*, a golf game with the unlikely monicker of *Shark Attack*, the sequel to *Footballer of the Year*, named (surprisingly) *Footballer of the Year II*, a skateboard and BMX game with some very nice graphics called *Skidz*, a reworking of the Gremlin *Deflektor*, now called *Mindbender* and finally a trials riding game *Super Scramble Simulator*.

TAME the GAME

ARE YOU A CHEAT?

Most tips that come in to the *Express* office are for ST and Amiga games. Let's have some tips for different machines, eh? There must be more than one person out there with an Archimedes. What's happened to all you Spectrum and CPC owners?

Remember it could be in your interest to write – the best tips every week get a prize of one of the latest games for their computer. Often these games haven't even been officially released yet!

We want to be the first on the streets with those vital game pokes and cheats, so if you want your tips in print pronto, write to GamePlay here at *Express*.

Also, it would be nice to get an unusual poke or hidden option in a game (like the Pleb-Up-Pleb-Down cheat or the C64 Trap demo), so a prize is on offer for the most amusing or off the wall "hidden extra" found.

Send any hints to...

Tame the Game
4 Queen Street
Bath
Avon
BA1 1EJ

Hope to hear from y'all soon.

● SHADOW OF THE BEAST (AMIGA)

Oh dear. It looks like the tip we printed last week for infinite energy isn't quite right. Instead of just holding down the mouse button when the game is loading, what you do is hold down the left mouse button AND the joystick button whileinserting the first disk. When the program prompts you for the second disk, load the game as normal and hey presto! Infinite energy.
GARY CROOK, Royston, Hertfordshire

● LOMBARD RAC RALLY (ST/AMIGA)

Still can't get anywhere even with the answers we gave you a while back? Well fear not! Here's some more:
1. What is curious about the Cadet GSI? - B: A second footbrake.
2. Who won the 1980 Lombard RAC Rally? - B.
3. The Ypres Rally in Belgium is held over...? - A: 24 Hours.
4. Which company provided the tyres for the 1983 Rally? - A: Pirelli.
5. Where is the Nurehburg 24 hour Rally held? - B: Germany
6. How long has Lombard sponsored the Rally? - C: 14 years.
7. Who won the 1977 Olympus Rally? - C: Ron Richardson.
8. How many levels is the RAC MSA Rally held over? - B: 5 graded levels.
9. What was the nationality of the driver Kenith Erikson? - A: Swedish
10. Carte de Passage is...? - C: A customs document.
11. How many times has the Ford Escort won the Lombard Rally? - B: 8.
12. What is the overall length of the Ford Sierra Rs Cosworth? - B: 4.46m.
13. During Which decade did the Lombard RAC Rally not run? - A: 1940-1950.
14. Who won the 17th New Zealand Rally? - C: Franz Whittingham.
15. Which car won the first World Championship Rally for group A cars? - C: Lancia.
16. How much does a Peugeot 205 weigh? - A: 880 kg.
17. Franz Whittingham was the first Austrian driver to...? B: Win the World Rally.
18. Which is the only rally with more than one starting point? - A: Monte Carlo.
19. The time spent between arrival control and the stage start is known as...? B: Dead time.
20. Part of the 1987 Rally was run at Clumber Park. Where is it? - A: Nottinghamshire.

Additional tip: the easiest track to win on is "Harrogate and Carlisle", so it's a good idea to practice on this. Also, a 2.0 engine is sufficient to drive. If you have the 2.0 and lights, go for the "Harrogate and Harrogate" track.
GAZ CAPSTICK, Poole, Dorset

● ORION (ARCHIMEDES)

Yes! That's right! A tip for a game on the Archie (sound of a computing nation fainting)! All you Acorn fans have missed out for too long, so here's a hint for this sideways scrolling shoot-'em-up.

Hold down L, U and C whilst pressing [SPACE] to start a new game. When you let go of the four keys, the program will ask you to input your desired start level. This must be in the form of two figures (ie 01 for level one)). The game will now start with 99 lives and 99 smart bombs. If you now reach 100,000 and get onto the score table there will be a "Sampled Surprise" in store for you.
JOEL GROUNDS, Llanfairfechan, Gwynedd

● TERRAMEX (ARCHIMEDES)

What? Another one? It can't be! Yes in fact it is! To make life a little easier on this arcade adventure, type "SUBJECTTOCHANGE" on the title screen. The words "Cheat Mode On" will appear at the top of the screen and when you start the game you will have infinite lives. The timer will still count down however, so you'll have to hurry.
JOEL GROUNDS, Llanfairfechan, Gwynedd

● WORD-UP-WORD-DOWN (ARCHIMEDES)

This just can't be happening. Three Archie cheats in the same place? I'll wake up in a minute!

This Scrabble variant has a hidden game called Pleb-Up-Pleb-Down. To access it, click on the Game Options icon, click on the smiley face icon to bring up the credits, move the mouse over the word NOW at the bottom of the screen and click the right mouse button a few times. The hidden game will now load. Oh and the platform is controlled by the mouse.
JOEL GROUNDS, Llanfairfechan, Gwynedd

Absolutely terrific Joel! I'm impressed. You are the lifeline for Archie gamers in the world, so a piece of Archie software is on its way to you.

Apparently, Joel's "Help Offered" ad in the classifieds hasn't been met with enthusiastic response. Ever the helpful soul, I thought I'd give his address for any Archie gamers who need help. It's Joel Grounds, Llys Heddwch, Penmaenmawr Road, Llanfairfechan, Gwynedd LL33 0NY.

● NEW ZEALAND STORY (C64)

To finish the level, press down the Control key and the left arrow key.
RICHARD FROMAN, Essex

Short but sweet! Thanks Richard.

● Playback

Your views on the latest software – call 0225 444439

Me and my friends were trying to write a demo and we decided to speak to Dave Jones of DMA design. He was a really nice guy and helped us a lot. More than Vektor Grafix, who we tried to phone to have a quite conversation and they quietly took the mick out of us.
LYNCH OF "XERIOUS", Aberdeen

Maybe they thought you were a rival trying to nick their routines. Still it's nice to see that some companies care. While we're on the subject of Vektor...

"I reckon that Vektor Grafix steal all their 3D routines from Realtime".
MARK OF "SCUM OF THE EARTH", Aberdeen

Now, now, just 'cos they wouldn't help you

"The best game ever in my opinion is *Rick Dangerous*. It is the most Spectrum owner upgrade game ever and it is totally addictive."
MUTLEY, Aberdeen

"I wrote the Diamond virus, which was spread by some other people, not me. Is this illegal under the new rules? Also can you give the address for FAST please?"
TROJAN, Devon

Writing viruses will be outlawed once the new rulings take effect., and FAST can be contacted on 01 240 6756 if you need them.

"Can you tell me when *AMOS*, the Amiga conversion of *STOS* is out? It looks rather spiff to me."
LESTER MILLNER, Worthing

***AMOS* should be released about January.**

"What is on the new *Bloodwych* data disk? Does it contain more boring levels or is it meant to aid you through what is already a very boring game? My advice to people interested in this game is wait for *Chaos Strikes Back*. If you really must play *Bloodwych*, get a compass."
TIM BRYANT, Brighton

"Anyone wanting a music sequencer for the ST should checkout *Sonus Masterpiece*. It's brilliant."
ANON

"What happened to the latest issue of *ST Format*. No, disk and still selling at the same price - is this fair?
BILL

There should be a disk attached. Argue the point with your newsagent.

"*Strider* is absolutely brilliant on the Amiga."
COLIN BOURNE, Aldershot

Nice of you to say so Col.

Unfortunately, there were a hell of a lot of really stupid calls on the line this week. Why can't someone say something sensible? If you think you have got something sensible to say, then call us.

HIT LIST TOP 5 GAMES

If you're in your room/And you don't know what to play/Who ya gonna call...The Express Hitlist!

1. BATMAN
Ocean • Amiga, C64, Spectrum, CPC
Even if you don't buy the poster and other paraphernalia, this is one tie in with the film you shouldn't do without.

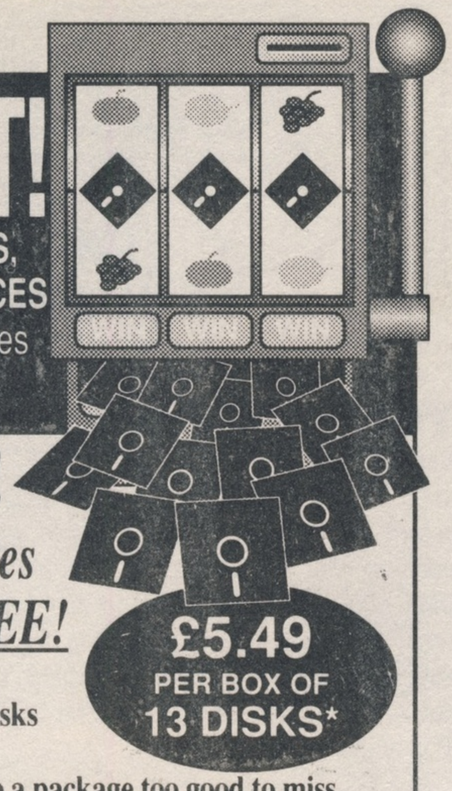
2. POWER DRIFT
Activision • C64, Amiga
Superb driving fun - possibly the best race game since *Pitstop II*. Can't wait for the Amiga version - I reckon it'll be the best race game since *Super Hang On*.

3. KICK OFF
Anco • Amiga, ST, C64
What can we say? It's still here and still the best footy game around.

4. POPULOUS
Electronic Arts • Amiga, ST, PC
The game that gives you more Godly power than a whole box of Shredded Wheat.

5. XENON 2
Imageworks • Amiga, ST
Thrash the living daylights out of aliens to the strains of Bomb the Bass and the visual delights of the Bitmap Brothers.

HIT THE JACKPOT!



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5104	5¼" diskette box holds 50 disks with lock	5.99	5.49	4.99
5105	5¼" diskette box holds 100 disks with lock	7.99	7.49	6.99
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PC UPDATE

Prospero prosperas prosperat

I had a copy of the Prospero software newsletter through the post the other day. This London company, which specialises in high-quality language compilers, started producing this quarterly information sheet around a year ago, and manages to make something readable of what is normally a very dry subject.

In this issue, the company is crowing about the recent British Standard survey of Pascal compilers. Its own version received a certificate of full compliance, passing all tests with aplomb. Apparently the compilers of certain other big names, such as B**l**d and M****s**t didn't quite manage it.

Prospero also market Pascal and Fortran compilers for use with GEM on the PC and ST. These products, which cost around £100, give full access to the GEM bindings and are two of only a few ways of writing GEM applications at reasonable cost. Ring Prospero on 01-741 8531 for more information, and maybe a copy of their newsletter.

Another batch of, er, batch files

Following on from last week's item on do-it-yourself batch files, here's another useful command to add to your arsenal.

```
Echo off
cls
DIR %1\*.BAT /W
DIR %1\*.COM /W
DIR %1\*.EXE /W
```

If you enter it and save it with a name like DIREXE.BAT, then typing DIREXE will display all the executable files (those with .BAT, .COM or .EXE filetypes) in the current directory. Up to 30 such files can be displayed without the screen scrolling. You can also follow the command with a pathname and display the relevant files from that directory.

If you don't have access to a text editor or word processor which can produce an ASCII text file, you can create the batch file by typing:

```
COPY CON DIREXE.BAT
```

The cursor will disappear and you can type the content of the file exactly as it appears above, pressing [Return] at the end of each line.

You can edit the current line using the [Backspace] and retype method, but you can't re-edit a previous line once you've pressed [Return].

When you've typed each line satisfatorily, press [Ctrl][Z] followed by [Return] to save the file under the name DIREXE.BAT and return to the DOS prompt.

Less haste, less speed

Another little anecdote from the Williams book of longwinded computing. I'm at present living between two houses.

The story is long and largely irrelevant to this column, but involves the need to move to a more work-rich area of Devon. I've moved most of my PC kit to the new location, but have left my trusty old Digitask XT at my old home for use at weekends.

Knowing I had some DTP work to do this week-end, I remembered to bring the Timeworks package and the data file with me. I humped an HP LaserJet II P - on review at the moment - into the car boot, so I'd have a printer. I even remembered the mouse (I only have one).

The first problem was that the data file was on 3.5" disk and the XT only has 5.25"s...

This was solved by connecting a laptop to the XT via LapLink III and transferring the file.

The next problem was harder to overcome; the mouse lead was terminated in a 9 pin D connector and the serial plug on the back of the XT has a 25 pin socket.

I have two or three adaptors at the other house, but nothing to hand to connect the two here. I tried using *Timeworks* solely with the keyboard, but this, combined with the basic 4.77 MHz XT was so slow as to be unusable.

The one remaining alternative was to install *Timeworks* on the laptop. This worked as the serial port on this machine is 9 pin, but as it is twin-floppy based, it was rather slower than the tired hard disk on the XT.

In all, the setting up of a working system took over three hours. The DTP work took less than two!

Lasers for the masses

The LaserJet II P is one of a spate of new 'personal' lasers introduced over the summer. The idea is to sell a laser onto each desktop rather than into each office - a financially sound approach from the manufacturer's point of view. For the end user, it means smaller, cheaper lasers.

The LaserJet II P, for instance, has an RRP of £1295, £700 less than the LaserJet II. The 'street' price could well be as low as £1000. It's considerably smaller than the II too, though it only runs at two thirds the speed. It can take up to 4.5 Mbyte of RAM and has a PostScript cartridge promised for the middle of next year.

Canon, whose engine the HP uses, have their own version of the printer for around £30 more than the II P, which includes the company's proprietory scaled fonts. These work in a similar way to PostScript, giving unlimited point size combinations. When the software is there to support it, this could prove a very cost-effective way into high-quality printing.

Directory enquiry

Roger Batty of Oxford asks me how to get a directory listing that doesn't reel off the screen. At the moment he's using DIR.

The answer is either DIR\P or DIR\W. The first gives you the listing a page at a time – you just press a key to see the next page – and the second gives you the listing in columns, fitting more onto a screen.

Let them eat le popcorn

I came across a fine French version of the hit game *Arkanoid* the other day. It was sent to me by a PCPLUS reader who is hoping I'll put it on a forthcoming SuperDisk and pay him a finder's fee. Once I can be certain it is truly PD, not shareware or a cracked version of a French commercial game, I may well do both of these things.

The game is excellent, with nice animated graphics, a lot of original ideas for the extras your bat can collect, and even a separate utility, POPSPEED, which adjusts the game for a variety of different machine speeds. It's still much too fast for my 386, though ●

Simon Williams

AMIGA BLIT

GFA upgrades

GFA BASIC has been with us for over nine months now, but due to a number of different factors, the language has very much failed to catch on among Amiga owners – firstly, due to the lack of any compiler and secondly, the presence of a few bugs.

When Les Player (he of ex-Atari technical support) set up GFA UK, shortly after the release of GFA BASIC Amiga, Les was appalled by the state of the Amiga version. GFA UK instantly stopped selling and advertising the product until GFA Germany produced a product that was up to the same standard as the Atari version. Thankfully, the work is finally complete and GFA BASIC Amiga version 3.041 is now available.

After running those same test programs through this latest version, I am pleased to say the GFA BASIC didn't crash once, a welcome improvement on previous versions!

Existing owners of GFA BASIC will be happy to learn that they can upgrade to the new bug free version free of charge by sending their original disks, plus a stamped address envelope, back to GFA UK. Like the Atari version, GFA 3.041 is available for only £49.95.

That's the bugs problem out of the way, but what about the lack of a compiler? Thankfully, that problem too is due to be solved with the release of both the GFA BASIC compiler and GFA Assembler in early December. Details are still thin on the ground concerning these two products, but GFA UK hope to sell the compiler for £29.95 and the Assembler for £49.95.

Several books specifically for the Amiga are in various stages of translation. The books are aimed at programmers of all ability levels, from the greenest beginner to the most hardened professional. GFA Hope that the combination of a bug free interpreter, compiler and books will make GFA BASIC a more attractive proposition to Amiga programmers. GFA Data Media (UK) can be contacted on 0734 794941.

Fat Agnus returns

It seems that *Music-X* has finally been toppled from its throne as the most talked about subject within AmigaBLIT; the tale of Fat Agnus returns with another instalment.

After having to just speculate on the finer points of the new Agnus chip, I'm relieved to be able to inform you that I've finally got my hands on a nice new revision 6 Amiga B2000 complete with obese Agnus. After running several tests, it appears that several games and serious products will not work with these new machines (including *Kick Off*! – shock, horror, is my life worth living without my regular dose of *Kick Off*?).

Quite a few of you have asked me whether it is possible to fit the new Agnus chip yourself. Well, according to a software developer friend of mine, fitting the new Agnus isn't just a case of removing the old chip and bunging the new one in – several jumpers on the main board have to be cut to allow the machine to recognise to extra 512k of chip RAM. However, when the chip is officially available 'off-the-shelf', owners will be able to upgrade by taking their machines to a Commodore-approved service centre (expect to be paying around about £50 for the chip + fitting charges).

As a side note, it is interesting to note that Commodore seem to have changed the keyboard used by revision 6 B2000s. Anyone who has used an A1000 will recognise it immediately as it appears to be exactly the same keyboard mechanism (and keys) used by that ill-fated machine, but in the new PC-like layout. Now we all know what happened to the A1000 stock Commodore had left lying about!

Holy Cheat, Batman!

Well, it certainly didn't take long for this one to reveal its inner most secrets. Yes folks, that illusive cheat mode for *Batman* has finally been discovered!

To gain infinite lives, load the game and once the title screen appears (the screen with the high score table), type 'JAM' and keep continuously pressing the 'M' key until the screen flips (literally!). You will now have infinite lives. Also, during the game, <F9> advances you forward a screen and <f8> takes you back a screen. Thanks to Bernadette for that one.

Snippets...

- MCM has announced the release of *Dr.T's Copyist Apprentice*, which is a notation package for use with MIDI sequencers that support standard MIDI file format (MFF) or the more common IFF SMUS format. Offering 16 staves per page and five pages per score, full cut, copy and paste, this is the only program available for the Amiga that offers such comprehensive score writing facilities. *Copyist Apprentice* costs £79.95 and is available from MCM on 01 258 3454.
- Fancy a complete colour teletext TV for £129? Then MicroText's teletext adapter is for you. MicroText's unit plugs into the parallel port and allows you to access both Ceefax and Oracle on the Amiga. By plugging the unit into the 'video in' socket on your monitor, you can also display all four TV channels. I've playing with one for about two weeks now and can highly recommend it. MicroText can be contacted on 0705 595694.

Jason Holborn

```
GFA-BASIC Editor
A| Save |Save,A| Quit | New  |BlkSta|Replac| Pg ◊ |Normal|Direct| Run 21:56:49
 | Load |Merge |Llist |Block |BlkEnd| Find | Pg ◊ |Insert|ClkOn | Test     203
  BYTE{bm2%+4}=0
  BYTE{bm2%+5}=dl|
  BYTE{bm2%+6}=0
  '
  FOR me|=1 TO d|                    ! Einlesen
    IF me|<=dl|
      bpad%=AllocMem(bpl%,3)
      LONG{bm2%+4+me|*4}=bpad%
      BGET #1,bpad%,bpl%
    ELSE
      RELSEEK #1,bpl%
    ENDIF
  NEXT me|
  '
  ~BltBitMap(bm2%,0,0,bm%,xof%,yof%,wl&,hl&,&HC0,&H3F,0)
  '
  FOR me|=1 TO dl|
    ~FreeMem(LONG{bm2%+4+me|*4},bpl%)
  NEXT me|
ELSE
  REPEAT
```

• *Could GFA BASIC Amiga achieve the same success as the Atari version?*

CLUBCLUBCLUBCLUBCLUBCLUBCLUB
CLUB ST CLUB
CLUBCLUBCLUBCLUBCLUBCLUBCLUB

TOS to DOS in one

Condor Computer (01 828 9755) has announced *Supercharger*, a full MS-DOS processor system that doesn't require you to open up your ST: instead, it plugs into your DMA port. And it can be set to boot directly from your hard disk, should you be lucky enough to possess such an item. It also has a hot key to let you switch between DOS and TOS without rebooting.

At £299, *Supercharger* should prove interesting competition for Gasteiner's £379 *PC Speed*, which sits on top of your 68000 chip and therefore requires you to be a dab hand with a screwdriver.

To B or not to B

"I know it's possible to make my ST boot from an external Megabyte drive," writes John Kelly of Oxford, "because it's been mentioned in ST Club (issue 34, to be precise). But I still don't know how to do it."

John, you know I'd do anything for you short of buying you a drink, so here goes. Before we go any further, however, I must utter the standard warning: if you think a soldering iron is for ironing solders, for heaven's sake don't attempt this modification. Get an expert in. And in any case it invalidates your guarantee. So if you break your legs don't come crawling to me...

What you're about to do is to make some links in your ST that fools it into thinking your external drive is A. Remove the motherboard's casing and, from the circuit board, desolder pins 19 and 20 of the Yamaha YM2149 sound chip. Connect the pins to a double pole, double throw switch as shown in the diagram below. It's as simple (and as nerve wracking!) as that.

Boy, look at us now!

52 issues of *New Computer Excess* – sorry, *Express* – who'd have thought it, doesn't look a day over 51, etc. And we've still got all our own teeth. I'm very keen to hear what you think of us, and what changes you'd like to see (if any). Write to: *Steve Carey, ST Club, Express, 4 Queen St, Bath BA1 1EJ.*

Musical notes: 1

Further evidence, if it were needed, that one of the ST's real strengths is as the musician's friend comes in the arrival of not one, not two, but three new programs.

First out of the starting blocks is *Chameleon*, the launch product of a brand new and self-styled "major" music software company called Keynote. It's claimed by boss Ian Paterson to be the "first true programmable universal patch librarian" for the ST. Complete libraries can be stored in memory and accessed instantly with the help of database-style librarian functions.

Chameleon (from the Greek, incidentally, meaning "ground-lion." Not a lot of people know that) costs £89.95: a demo version with saving functions disabled costs £3. Keynote is on 0761 32610.

Musical notes: 2

The second announcement of arrival on the booming ST music scene this week comes from Voxel Software, based in London's quaintly named Shoot-Up-Hill. Boss Al Straker explains: "launch product *MusicBase* is a database application for the music industry: a very comprehensive electronic storage and retrieval database/directory of essential names, addresses and contacts within the UK music industry."

Straker is cannily aiming *MusicBase* to tie in with the arrival of the Stacy, Atari's portable ST, which is undoubtedly going to be popular in the music industry.

I've yet to see a finished version of the database, so I can't comment on its range and accuracy.

MusicBase – "Enter the age of the paperless pop star" (ouch) – is available soon from Voxel on 01 452 1916.

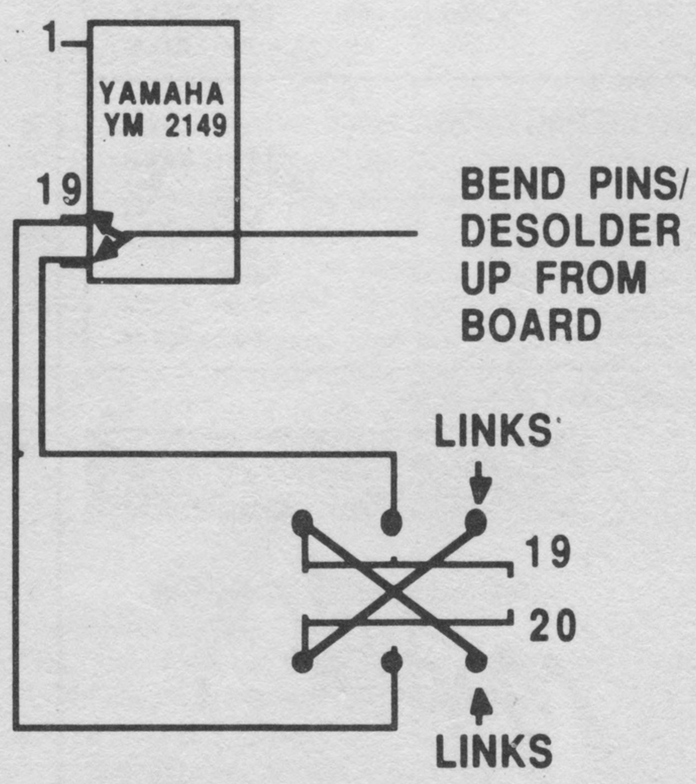
Musical notes: 3

Finally, an already established US company is beginning to make its mark felt in this country. Musicode produce a range of voice development programs to operate with Kawai and Yamaha instruments.

With them you can edit, randomise and mix patches using eight edit buffers, and select, edit and audition patches on one screen. The programs include chord, delay/pan, micro tune, program change and utility editors. The librarian can store up to 300 patches in each library which you can copy, sort, filter, swap and delete; create new banks from libraries and vice versa; print all patch data and bank contents; autoload voice banks, effects, micro tunes and sequences with selected performances.

Musicode is based at 5575 Baltimore Drive, Suite 105-127, La Mesa, CA 92042, and the Voice Development Systems cost between $69 and $99.

Steve Carey



• *How to make your ST boot from drive B (see "To B or not to B")*

SPEX

Dubious gun

The pretty dubious benefits of owning a Sinclair Magnum lightgun have so far only been available to punters investing in the +2/+3 Action Pack bundle but now, Virgin/Mastertronic are flogging it as a stand-alone add on for 128k +2 and +3 owners to slot in the back of their Speccys . The price they're asking is £29.95 for the gun plus six accompanying games that are also included in the action pack . That might seem quite good value for money but the standard of the bundled games is low, with even *Op Wolf* failing to offer anything like as good a game as it with traditional joystick or keyboard play, and you'd be mad to walk out of the shop with this one before having, a go on Cheetah's technically superior and cheaper Defender weapon. The prospects for both shooters look quite bad, in fact. They're pretty much incompatible with each other and unless we see the likes of Ocean including a lightgun option in their Chrimbo line up of suitable games, purchase of either can't be strongly recomended.

Sounding off again

Acres of paper have been devoted to the dreaded +3 sound fault in recent columns. Ted Kirk from Mersyside, just one of the many afflicted, wrote to get this off his chest.

"I was glad to have your latest information about the +3 sound (every user I know has the distortion, like me, although I purchased well after Nov,'88 or the launch of the +2A.) It's usally spoken of as if it were a rather trivial fault, but it totally wrecks any musical effect and as a writer of musical programs I deeply resent the havoc that has been wrought on what was a nice little sound system , and the lack of concern shown by those responsible. How could they possibly send out 40,000 computers with such a fundamental, obvious and destructive error? And what happened to the Sale of Goods Act... All in all it's hard to imagine a better example of bungled and misdirected product "development" than the successive stages of the Amstrad "Spectrum". It must be driving programmers off their heads all over - or am I the last idiot left?"

Well said Ted ! couldn't have put it better myself. As J.R.Cleveland pointed out several *Expresses* ago, distorted +3's are now being flogged as part of the Sinclair Action Pack bundle so Amstrad are knowingly inflicting the untold misery of distorted sound on the thousands who will buy a +3 this Christmas. That can't be legal, or if it is legal it certainly isn't very nice.

I know I've asked before but has anybody come up with a foolproof and cheap(ish) fixfor the +3's sound fault? If you know how to get the +3 making beautiful music again send full details to Robin Alway, SPEX, *New Computer Express*, 4 Queen Street, Bath BA1 1EJ . You'll gain the freindship and respect of millions of distorted +3 users and there's also lots of Speccy software on offer for the first easy to administer cure.

Let's get serious

I know lots of you want to use your Speccy for things other than inflicting genocide on alien races so it's good to see a few companies are still producing serious(ish) software. Garner Designs is a fairly new label that has quite a few serious progs on offer and also runs a PD library and the +3 User's group, both of which have recived their fair share of plugs in past Spexes

Their latest piece of software is *Desktop* (£12), which gives +3 users a hip and fashionable WIMP environment in which you can carry out all the chores of disk management. Everything you usally do in +3DOS (loading, erasing and the like) are apparently possible with *Desktop*. There's also a special extended version, called *Desktop Executive* (£16.45) for +3 users with a Genius or Kempston mouse. This is the same as the original but also includes a day to day diary, calculator, icons etc and obviously, lets you jiggle your much under used rodent around in order to control disk files and all the other fun things ST and Amiga owners get up to.

Finally, a similar program for cassette-based Spectrummers is available, it's called *WIMPY*, costs £8 and is pretty good although you will need to know a bit about BASIC to get it working to your advantage in home made routines and proglets.

All three programs are available, along with a few others mentioned before, from Garner Designs (57 Lovers Walk, Dunstable, Beds LU5 4BG). That's also the address of the +3 Users group which is still going strong with three issues of the club newsletter already published and the selection of PD software expanding even as we speak. S.A.E. for details.

Power up

A Mr P Barby has just written asking , nay demanding to know where he can get a new power pack for his +2 as his current one has got sick of too many all night playing sessions and popped its clogs. If you've found a reliable stockist of said items write to me at the above address and because this man's speccyless at the moment, the sooner the better . Incidentally , I'd also be intrested to find out where you can get the cheapest Spectrums from. That's all models and without any bits 'n' peices like lightguns or whatever.Any outfits you recommend have got to be reliable and without any appearances on That's Life to their name.

Passing comments

Nigel Keen of Cornwall has completed the first thirty two levels of *Titan* and sent me the passwords to prove it.

1.J4JMKR	2.HBHCH
3.4492LI	4.OSEOEL
5.24O1TO	6.O1LO38
7.04KJOB	8.198O75
9.OV7R7O	10.H67JR1
11.04JBR8	12.RDL89
13.B8JLJ4	14.DNEBO8
15.TMV281	16.LO9U3H
17.9JHTQN	18.UKUTB8
19.O1HFJO	20.1R7DCG
21.V3O9O6	22.4P4192
23.4ORSHP	24.E4DBQP
25.LFPOBO	26.1H9615
27.MOBOPV	28.B9HH22
29.RN4RH9	30.BG6W61
31.1W144O	32.O44O8O

Thanks Nigel, a freebie has been despatched.

Robin Alway

CPC centre

Amstrad figures

Oh dear. Oh dear, oh dear. Oh dear oh...

You've probably got the idea that Amstrad's figures aren't too healthy – and you'd be right. Preliminary results for the year ending 30th June 1989 show a dramatic downturn in profits before tax. Last year the Brentwood Boys made £160 million, this year it's a paltry £77 million. Turnover, however, is much the same – the reduction in profits has been due to "margin erosion". In particular, last year's rise in DRAM prices caused problems, and the recall of all those PC2000s can't have helped much...

Now clearly, what Amstrad needs to set it back on the right tracks is a relaunch of the CPC...

Compulsory purchase

Powerdrift is here, and it's brilliant! You had to pay 50p to plonk your posterior in the hydraulic arcade machine, but it gave you a ride to remember. It was hard to imagine getting the same adrenaline rush out of a home micro version, but Activision has done a really excellent job.

OK, so you don't get the gut-churning (and pocket-emptying) immediacy of the coin-op, but Activision have captured the spirit of the game perfectly. Basically, it's wellie-to-the-floorboards all the way, and the devil take the hindmost.

Which sums it up exactly, as a matter of fact, because the idea of the game is to continually finish your races in the top three in order to qualify for the next round.

There are five courses to race on, all featuring the same blend of fast straights, tight hairpins, and surreal, twisting mid-air sections. Each course is divided into five progressively harder stages – each one a four-lap sprint.

You always start from fourth on the grid, so whatever happens you've got to make up at least one place to make it to the next round. An easy enough task at first, with Stage 1 featuring nothing more challenging than a few old grannies.

After you've ground them into the dirt things get tougher, however, as you start mixing it with the big boys. One tip – settle for second if you want to keep racing. Numero uno on the track is an absolute b****r to get past, and will think nothing of taking you off if you as much as try.

Powerdrift is fun not just because of the fast, colourful graphics, but because every corner is an oversteering, wheel twirling, slippery-sliding seventh heaven for frustrated dirt track racers.

Like I said, it's brilliant.

Many a true word

Lee Barnard, clearly an experienced micro owner, has supplied a few alternative definitions to computing terms:

Array: A simple, effective, flexible and extremely powerful method of reducing available storage.

Byte: Eight bits, only one of which is wrong.

Compiler: A program which translates errors into machine code.

Dump: A method of programming based on the assumption that there must be something useful in memory if only you could find it.

Incompatible: What two bits of IBM-compatible equipment become when you wish to connect them together.

Literal: A simple, flexible and extremely powerful method of writing in the answer by hand.

Thanks Lee. May you bask for ever in the glory of being published in *CPC Centre*. Oh, and regarding the £100 publication fee you wanted...

Fee: Theoretical sum of money expected to exist only in the last five nanoseconds before hell actually does freeze over.

Little gem

Lost Caves and the Tomb of Doom is the extremely long and rather "now what does that remind me of?" title of a new budget release soon to appear from Players. Never heard of it? Nor us, till the pre-production copy landed in our in-tray.

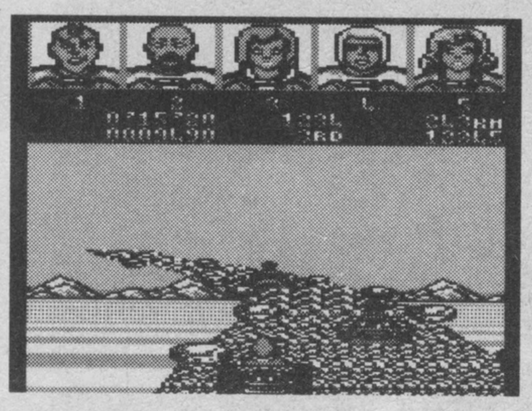
It's actually a rather good little game, featuring that tireless formula of a little character trotting around underground collecting diamonds and avoiding falling rocks.

For £2.99 you get sixteen levels, each of which is 30 times the size of your CPC screen!

The main character is a quite well-animated cross between Indiana Jones and Richard the Third, and he sprints from one hazard to another accompanied by a soundtrack reminiscent of a sitar caught in a waste-disposal unit.

For all that, though, it's really very playable and in my opinion certainly well worth the money.

Rod Lawton



• On a road to nowhere: the tracks appear out of the air in front of you, twisting off at a tangent as fast as you can react. Surreal or what?

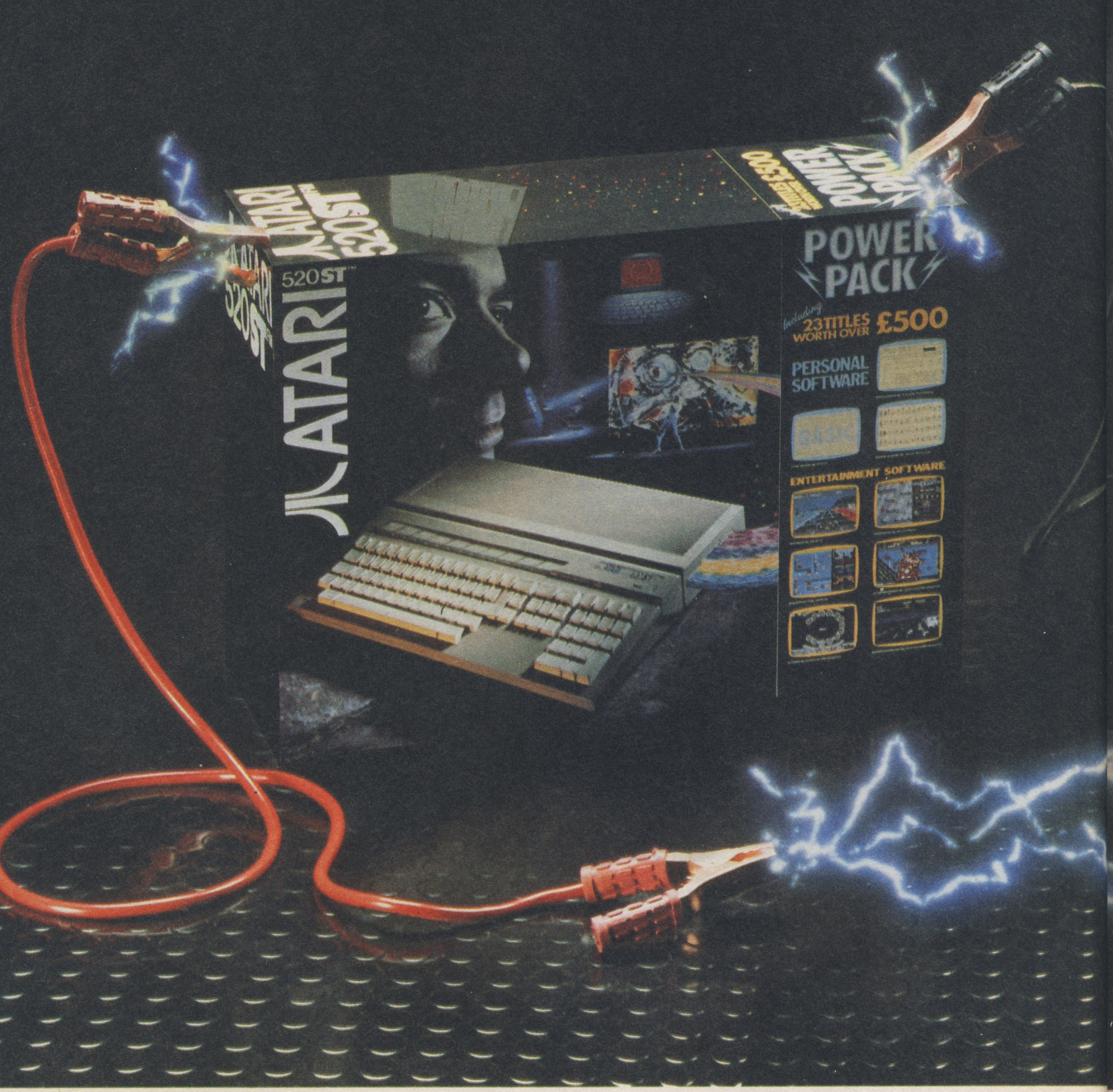
BATMAN POKE

Have you completed Ocean's original *Batman* yet? No? Well here's that man Phil Howard again, with a poke for infinite lives:

```
1 ' Batman - tape
2 ' by Phil Howard
3 ' AA Classic Collection
1Ø DATA 21,9Ø,1c,36,ØØ,
   c3,ØØ,Ø1
2Ø DATA 21,2d,22,36,d3,
   21,4Ø,2Ø
3Ø DATA 11,4Ø,ØØ,Ø1,f2,
   Ø1,ed,bØ
4Ø DATA 21,4Ø,ØØ,e5,21,
   ØØ,bb,e5
5Ø DATA
   21,f2,Ø1,e5,21,Ø7,
   b8,e5
6Ø DATA 21,bb,Ø2,e5,f1,
   21,ea,b1
7Ø DATA 11,d9,b1,f3,c9
8Ø MEMORY &2ØØØ
9Ø FOR x=&beØØ to &be34
1ØØ READ a$
11Ø POKE x,VAL("&"+a$)
12Ø NEXT
13Ø LOAD""
14Ø CALL &3a6a
15Ø LOAD"!",&2Ø4Ø
16Ø CALL &beØ8 1
```

And just why are we so keen for you to finish this old classic?

Well it might have something to do with *Batman – the Movie* coming up soon. Watch this space...



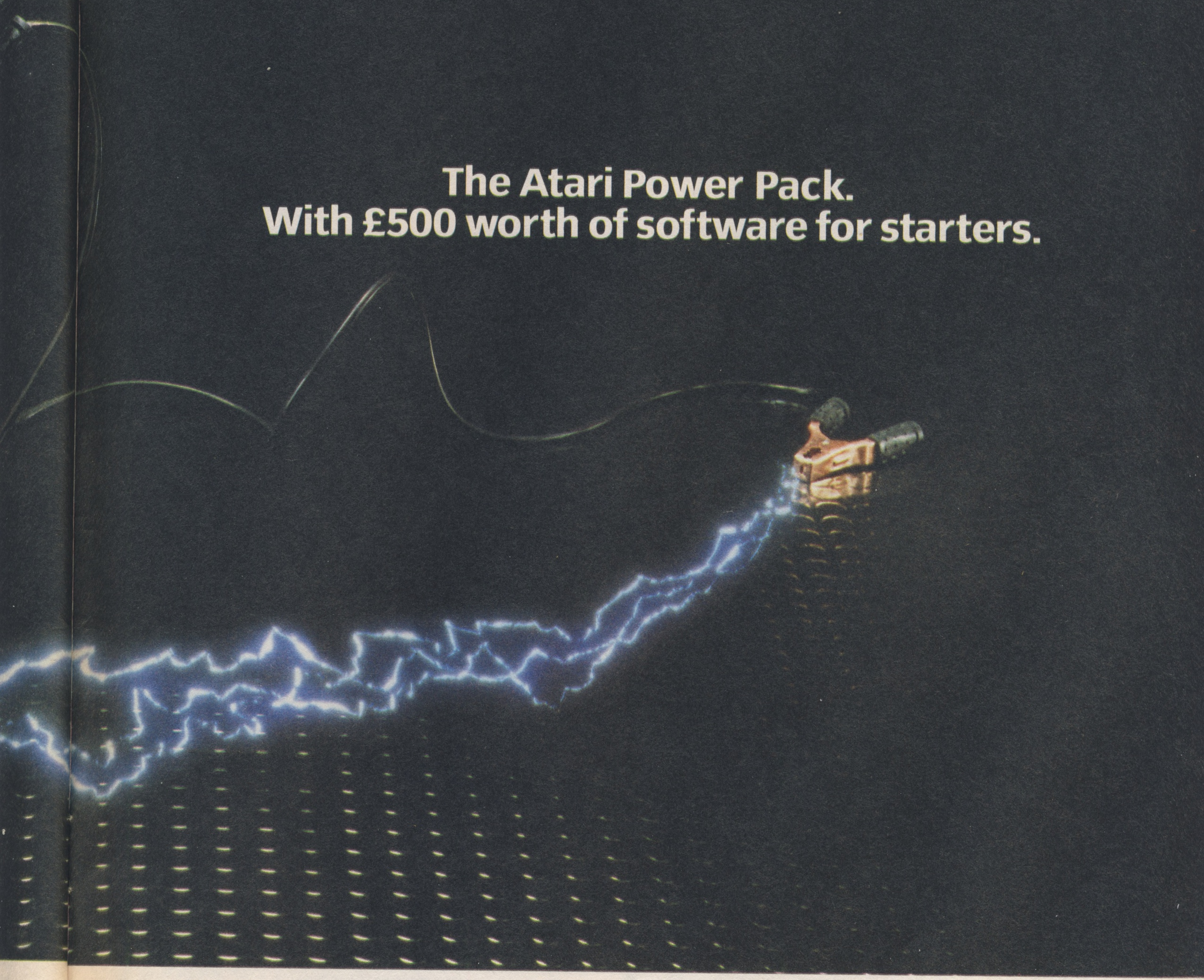


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QUANTA doings

QUANTA member Jim Gilmour has successfully ported the Inmos Transputer Development System ITDS0 to the QL.

Although the TDS actually runs on a transputer system, such as one of the Concurrent Techniques transputer modules which Neville Smith has interfaced to the QL, a "server" program has to be written for the host machine.

Jim translated the C source code for the IDS server into QL SuperBASIC, and then compiled it with the Digital Precision Turbo compiler.

I wouldn't get too excited about this, unless you have deep pockets, as the TDS will cost you £1,500 plus VAT!

The group's reprint of Jan Jones's excellent SuperBASIC book was a great success; the entire print run was sold in a few weeks.

A math is a Catholic thervithe

A sophisticated maths package for the QL has been developed by Chalmers University in the States. QUANTA has acquired the distribution rights for this package, which will be available for £14 to UK members and £15 to overseas members.

The package includes routines for the solution of equations, curve-fitting, definite and indefinite integration, Fast Fourier Transforms, and lots of other goodies.

John Attwood has replaced the 68008 in his QL by its grown-up older brother, the full 16-bit 68000, as used in the ST and Amiga. The brain transplant proved quite tricky, requiring 27 additional chips!

He's also converted the ROM and keyboard interfaces to 16-bits, which required another nine chips. John reports that SuperBASIC programs run about 25% faster, but machine code is a bit slower than normal, because the RAM is still 8-bit.

He will shortly be converting the RAM for 16-bit operation. I thought that hardware hackers like John were an extinct species - it's nice to hear that some of them are still alive and kicking!

Contact Phil Borman on (0472) 49850 if you are interested in joining QUANTA.

QL repairs

I recently had a word with Tony Firshman of TF Services, about the various faults found on QLs sent in for repair.

The most common fault (about 50%) is found on QLs sent in for repair. Next comes the 8301 ULA chip. TF has large stocks of spares, including the ULAs.

It even supplies these to British Telecom, for repairing the Tonto, the BT "badge-engineered" ICL One-Per-Desk.

In a very small number of cases, faults have proved to be so incredibly obscure, that TF simply replaced the entire QL printed circuit board.

However, stocks of working PCBs are drying up, which might cause problems in the future. Contact TF on 01-724-9053, if your QL needs attention.

John Torofex

SECTOR 64 SECTOR

Antipodean antics

Best new game around for the 64 at the moment has to be the dreadfully titled *New Zealand Story*, a faithful conversion from the coin-op by Ocean, a software company seemingly intent on taking over the entire world. The game is based around a rather strange idea. Wally Walrus has stolen 20 kiwis from New Zealand zoo, and is determined to have them for his tea. Friend of the kiwis, Tiki Kiwi (that's you!) has to explore the 20 areas that constitute the game and rescue all the kiwis. Graphically superb, and if you can forget the daft plot and concentrate on playing the game then you will find yourself in for a treat. A nice mixture of platforms, ladders, and gliding around, fighting dragons, frogs, bats, rabbits, and numerous other enemies, no 64 should be without one.

Get phone, dial number

To all 64 adventurers who are completely stuck up a creek without the proverbial paddle, fear not for help is at hand. A new company, called the Guiding Light Adventure Helpline, are there to serve your needs from 12 noon to 8 o'clock at night, seven days a week. The service was set up by Jackie Wright and hubby, and offers solutions to thousands of adventurers. So if your totally lost in an adventure give them a call on 0898 338 933 (costs 38 pence per minute at peak rate and 25 pence per minute off peak). Outside of the aforementioned hours there are competitions to have a go at , as well as a monthly draw so 64 adventurers need despair no more.

What's in a name

Why is it called the Commodore 64?

Oh I know it's got 64 kilobytes of memory and is produced by Commodore, but why wasn't it released under a name like earlier computers? We had the Commodore PET to begin with, and then the VIC 20, so why not another name?

Well I think Commodore might have become fed up with language problems. you see in some parts of France, the word PET is used to denote, erm, bit delicate this a four letter word beginning with F meaning 'to break wind'.

In Germany their word VIC is, well, let's just say that it's a very rude word indeed. I saw the original telex from Germany just before the computer was due to be launched at the Hanover Fair, and I've never seen a telex operators face go quite that shade of red before!

Perhaps they were wise to stick to the boring title of Commodore 64 after all...

P.S

Just got enough space to mention the umpteenth Commodore Computer Show, running under the subtle title of Santa Claws Is Coming To Town,which is the Novotel Hotel, Hammersmith, London from the 17th to the 19th of November. A good chance to pick up a few Christmas bargains.

Pete Gerrard

BEEB BOX

A game of two halves, Brian

As you may be aware there is no love lost between Superior and 4th Dimension/Impact games.

Recently this antipathy has been fuelled by both software houses releasing their own football simulation. 4th Dimension kicked Superior into touch by being first to the line with *Arcade Soccer*. This was a pretty decent strike at goal although the strategy options were limited.

Here comes Superior however with a surging run from the back. Can it score against mighty 4th Dimension, or is it going to be an own goal? (Don't you just love these footballing metaphors) Read on...

This is a full feature management simulation and arcade soccer game rolled into one.The two elements can be played seperatly or together, which should spread the appeal of the game to a larger audience.

Programmed by Peter Scott in his own unique style there are numeruous options to choose from, which are slected from an easy to use menu.

In the arcade game the screen shows a small view of the pitch which scrolls to keep the ball centred, and at the top left there is a map which helps locate nearby team mates or opponents.

There are several key press combinations required to dribble, pass, tackle and shoot. This complexity spoilt what could have been an excellent game. In other games of this type when you gain possesion of the ball you retain it until you are tackled. In *Superior Soccer* if you try to run with the ball and turn around to go in the opposite direction the ball is left behind.

The management simulation part allows you to play at being Brian Clough by navigating your team from the 3rd to the 1st divisions, buying and selling players along the way.

My thanks to Matthew Fifield for the above comments. His overall verdict? "Try before you buy, or you might be disappointed"

Higher level adventures

My second game this week is from Level 9 and takes a slightly more cerebral approach.

Scapeghost is a text and graphics adventure from the old masters themselves.

Although it has all the paraphernalia of modern adventures, including some rather odd looking pictures, you know from the start this is a Level 9 and definitely not an imitation.

The language used for example is distinctly adult, so this one is definitely not for the pre-teen market. I for one am glad these days everything from pop music to clothes to TV is pitched at nine year olds.

I am also pleased that Level 9 are keeping their commitment to the BEEB market, although you now need a Master 128 to absorb that unique atmosphere only they can provide. My conclusion; I'm actually going to play this game!

Andrew Brown

MSXTRA

MSXman's holiday

I've just been away on my annual holiday, and found so much mail on my hall carpet, I could barely open my front door. As 90% was pertaining to MSX, this is obviously good news for the MSX user, but a great deal of work for me. Therefore if you have recently written to me, and are awaiting a reply, please be a little patient – I will get back to you as soon as possible.

Possibly the most interesting item of news received, was the availability of yet more software for our format. K-Soft Computers of Retford kindly sent me a six page catalogue of titles they are now producing for the MSX range of computers. There are nineteen titles in all, which include games and utilities, and all available at very reasonable prices. In fact, the dearest titles are only £5.95, and many are only £3.99. A couple of examples of what's available is an MSX Music Sequencer at £2.99, and a Screen Designer, at £4.95. If you wish to see a list of what's available from K-Soft, send a SAE to *K-Soft Computers, 1 Stanley Street, Retford, Notts, DN22 7AE.*

Cat in L

At last I have received a copy of the MSX Public Domain Catalogue-Magazine, and am duly impressed. Not only can software be obtained at very reasonable prices, the magazine is full of useful tips and information. In fact I have gleaned several useful items of information from its pages, and even if you didn't make use of the library facilities, joining would still be worthwhile. So far there are over 30 disks available to the MSXer, each containing several programs, some of them are utilities, some games, and a few demo progs'. Unfortunately the software is only available on disk, 3.5 or 5.25", so this does limit the libraries appeal due to the lack of users using Disk drives. For more information on the MSX P.D.S.L send a SAE to Vernon Wyland, 396 Park Lane, Maghull, Merseyside, L31 1HQ.

Showing off

MSX Link have been in touch once again, this time to tell me that the proposed MSX show, planned for November, has been postponed, and will now take place early in the new year. This is due entirely to the fact that there are already several computer shows planned for November. When a new date has been finalised I will pass on the info.

Ghost of a chance

A Mr Sanderson writes asking where he can purchase the games compilation from, as I omitted Nightdates address in my article regarding this software. The full address is *Nightdate Ltd, 11B Walnut Road, Chelston, Torquay, TQ2 6HP.* Tel 0803 606146.

Also, I have a letter from a Mr E Bowman asking if anyone can help him to obtain some instructions for Knights easy assembler which he purchased second hand, but with instructions. If anyone can help Mr Bowman, please write to MSXtra, and I will pass on the information.

Thanks for all the letter you lucky MSXers, the feedback is good to see and is always welcome.

Keith Neal

PCW PATCH

Biggest bargain of all time?

Surely the biggest bargain of all time has to be the PCW8256 that was sold, new and unopened, for £25 at an auction this year.

Running it a close second has to be the *8000 Plus Tips Collection*, which was mentioned before in these pages, but which is at last ready. It's a 160-page compilation of all the best tips in *LocoScript*, BASIC, CP/M etc. from the pages of the magazine *8000 Plus*. If you've ever wanted to get two-column print out of *LocoScript*, set up an on-screen automatic calculator, make your PCW play music, or sort things alphabetically... this will tell you how.

It even comes with a disk packed with programs (spreadsheet, indexer, sorters, pools predictor, mail merger, spell checker) and details on how to use them. All for just £12.95 from The Old Barn, Somerton, Somerset TA11 7PY.

Sits Vac

The above mentioned magazine, *8000 Plus*, is still looking for a technical person for their editorial team.

If you have a sound knowledge of the PCW – *LocoScript*, CP/M, BASIC, the lot – and want to make a name for yourself in journalism, give Sharon Bradley a call on 0225 446034.

Many a flip

Ever seen *Flipper* at work? It must be the world's most expensive PCW program in terms of K per £ – it costs £30 for just 10K of program – but has the remarkable effect of splitting your PCW's memory in two, letting you run *LocoScript* in one half, and a CP/M program in another. Pressing SHIFT-EXTRA-EXIT moves you between the two, getting you back where you left off last time.

Well, now that Isenstein has brought out a memory add-on that can beef up your PCW memory to 1024K (with a 2048K version in the pipeline!) Flipper has been rewritten to make best use of the extra memory. You can now run *Loco* as normal in 512K (spell checkers, printer drivers, *LocoFile* and all) with 496K to run your CP/M program in the other half.

Isenstein is on 0244 822768; *Flipper* is available from Software Imperative on 0453 886931.

Ghost of a chance

Level 9 has brought out a new game for the PCW, called *Scapeghost*. You play an ex-cop called In-spectre Chance who died under dubious circumstances and is now trying to clear his name. There are the usual puzzles and high level graphics. Level 9 is on 0934 814 450, and the game costs £19.95.

Tip of the week

If you get a 'address mark missing' from a disk in drive B on an 8512, it could be because you've recently had an A drive disk in there. This confuses CP/M but causes no damage – just press R for retry and your B disk should be logged in perfectly.

David Welham

(Basil Pigg is on holiday)

ANTICS Roadshow

Correction time

Last time I told you about the forthcoming alternative micro show but didn't tell you was the correct date for the event! The alternative micro show is being held at the **Show Centre, Bingley Hall, Staffordshire on the 11th November**.

The Eight-Bit Micro Show, which I was muddling it with, takes place on the **26th November at the Tamworth Arts Centre, Tamworth** and ought to be just as much fun. My thanks to Ian Brooker of the Bournemouth and Poole Atari User Group for sending in the correct times, dates and venues.

DOS SOS

I've had several letters from frustrated SpartaDOS users who don't know how to boot Atari DOS and have the SpartaDOS cartridge connected at the same time. Mr Arthur Morris of Tregaron, Dyfed said "I can't understand how you manage to run [Atari] DOS on the computer and have the cartridge plugged in. When I plug in the cartridge, I lose DOS".

Simply boot the computer with the SpartaDOS cartridge plugged in (so you are booted into SpartaDOS) then issue the COLD command using the /N switch. This will allow your machine to boot up Atari DOS whilst the SpartaDOS cartridge is *still* connected!.

How does it do this? The Cold command is used to reset the Atari by running the reboot routine positioned at location $E477. The effect is similar to switching the computer off and back on again. However, unlike performing this drastic action, the Cold command allows the computer to retain any data stored in the extended memory banks.

If you have an extended memory 800XL or a 130XE and you have one or more ram disks set up, then rebooting using the cold command will allow you to keep all of the information stored in the ram disks.

The Cold command can be used with two 'clauses', /C and /N. Performing the command thus: Cold /C, reboots the machine, switches off the SpartaDOS cartridge and allows the computer to boot any cartridge piggy-backed on to SpartaDOS. For example, if you have SpartaDOS plugged in and the Tennis cartridge plugged into SpartaDOS, you can boot tennis using this formula.

If you issue the Cold /N, SpartaDOS is switched off and the computer reboots as if there were no cartridges present.

Have an Atari DOS disk at hand, boot the computer with SpartaDOS, insert an Atari DOS disk in your drive and issue the Cold /N command. The Atari will reboot using Atari DOS, Go into the menu, then follow the sequence of instructions given last fortnight.

Time spent DOSing

Do you use SpartaDOS? Write and tell me all about ypur DOS adventures. I plan to introduce a mini tutorial detailing the use of the incredible SpartaDOS, and it will be very useful to know which version is more prominent and indeed how many are still using Atari's dinosaur DOS.

The memory peeker program promised last time will appear next week. See you next time...

Edmund Blake

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