Issue 87 • 7 July 1990 • 58p

WIN £500 Worth of Prizes only in the EXPRESS SUMMER GIVE-AWAY Page 53

NEW COMPUTER EXPRESS

BRITAIN'S BIGGEST SELLING COMPUTER WEEKLY

AMIGA

- Professional Draw 2
- Dick Tracy coming
- Damocles on trial

ST

- Bitmaps' Cadaver
- Days of Thunder
- Skidz reviewed

PC

- Virus hits show
- Circuit's Edge tested
- Soviet identikit game

CPC

- Fighter Bomber
- Heroes compendium

SPECTRUM

- £2.99 Match Day II

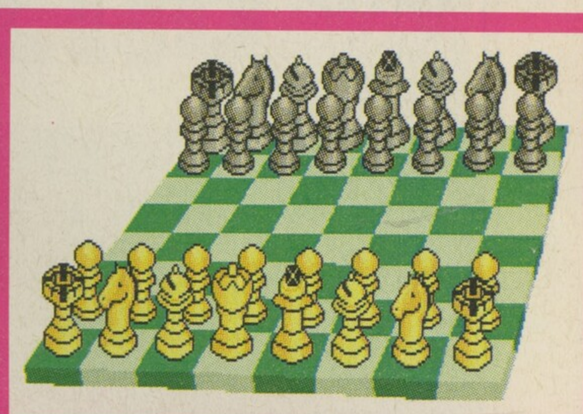
Specialist Columns for: BBC•C64•MSX•PCW•QL CPC•SAM•ARCHIMEDES



Auction stations: bidding for micro bargains – page 46



Lasers v Crystals: £900 printers on trial – page 48



Hard-core pawn: Chess Champion 2175 – page 52

IBM UNLEASHES CLONE KILLER

But just how well does Big Blue's sub-$1,000 286 PC stack up as a High Street budget micro?

page 3



BARGAINS! Thousands to be found in **SHOPPING EXPRESS**

GERMAN AIRBORNE OFFENSIVE

Battle of Britain' hit by swastika row page 2

ENGLAND WILL WIN WORLD CUP

Argentina runners up says psychic PCW page 6

CONTENTS

FEATURES

SALE OF THE CENTURY 46
How to save a fortune at a computer auction

LASERS ON THE CHEAP 48
Two budget laser printers on test

ADVENTURE PLAYGROUNDS 50
Adventure games aren't all about elves and wizards

CHESS CHAMPION 52
The lates in computer chess reviewed

REGULARS

NEWS 2-6

COMMENT & ARCHIVE 7

SUBSCRIPTION OFFER 53

COMPETITION 53
ST and Amiga software must be won

TECH TIPS 54

LETTERS 56

SHOPPING EXPRESS

BUYERS' GUIDE 19
Music

EXPRESS JOBS 36

EXPRESS SALES 38

PUBLIC DOMAIN 40

YOUR MACHINE

AMSTRAD CPC 9
SPECTRUM 10
SAM COUPE 10
AMSTRAD PCW 10
MSX 10
BBC MICRO 11
COMMODORE 64 11
SINCLAIR QL 11
ARCHIMEDES 11
PC COMPATIBLES 12
AMIGA 14
ATARI ST 16

Germans take umbrance at game's swastikas

FLIGHT SIM BANNED OVER NAZI SYMBOLS

The Amiga version of the highly rated combat flight simulator *Their Finest Hour* has become the latest game to run into trouble with the West German authorities, *reports Richard Small in Oberursel*. The PC version was released unchallenged some months ago.

Also known as *The Battle of Britain*, the simulator has fallen foul of censors in the Federal Republic for the inclusion of swastikas in its packaging. Despite Lucasfilm having the foresight to obscure a large military symbol from the front of the box, the company overlooked no less than 32 other swastikas buried within the package, many of them tiny and barely recognisable.

While displaying the one-time good luck symbol, later hijacked by Hitler's Nazis, is a question of taste elsewhere in Europe, it remains an offence in Germany. Software dealers, who can be held personally liable for packaging and be charged with selling offensive material, were advised to return copies of the game after it had been on the market for only three hours. Alternatively, they could go through the package scribbling out the offending symbols.

Their Finest Hour is not fully custom packaged for the German market. While it comes in a special box with translated text, the game's manual is the original English language version with a short summary of its contents carried on a German insert.

• One of the offending pictures from the manual – hardly gratuitous.

Ironically, the game was nominated by German magazines *Computer Live* and *Power Play* in the Best Flight Simulator category at the European Computer Leisure Awards held in London last April. In Britain *Their Finest Hour* is handled by US Gold.

West German government censors are charged with vetting games for violent content as well as Second World War/Nazi references. Among games previously banned in the FRG but subsequently reprieved on appeal are the Microsoft trio *F15 Strike Eagle*, *Gunship* and *Silent Service* – the latter is a WWII submarine warfare simulation. ■

Dick Tracy, at your service



***Dick Tracy* is the first release from the new Disney/Titus/Nathan software partnership. Coinciding with the movie starring Madonna and Warren Beatty, the Dick Tracy game has you crossing the city, to get to the scene of a crime in time to catch hoodlums. This done, it's time to rescue Tess at the Ritz and prevent the bad guys getting away. Finally, a major shoot-out should test your reactions. Amiga, ST, and PC versions will cost around £25; C64, Spectrum and CPC copies are expected to come in at £8.99, with £14.99 for the disk versions. ■**

Stock up

North American stock car racing is the setting for the latest Tom Cruise movie licence game, *Days of Thunder*, from Mindscape

200mph sports saloons roar around vector-graphics banked tracks with the ultimate aim being to win at the ultimate race at Daytona.

The game will be available on PC, Amiga and ST early in September and the 8-bit formats in October. Prices will be £29.99 for PC, £24.99 for ST and Amiga, £14.99 for 8-bit disk and £9.99 for 8-bit cassette. ■

Free Macs

Apple UK is giving away computers, Claris is letting software go for nothing and a poetry-reciting *HyperCard* stack is being written.

This piece of hard-headed strategy stems from the Apple Progression and Continuity Project, an education package which aims at putting the name Macintosh on every schoolchild's lips. ■

VGA 286 PC with modem for under $1,000 expected in autumn

IBM'S HOME MICRO TAKES ON THE PC CLONE MAKERS

Business computing giant IBM has launched a range of budget home computers for the first time in seven years.

The PS/1 range starts at under $1,000 in the US, which should make the clone manufacturers, including Amstrad, wince when it arrives in the UK this autumn.

The machines are technically unexciting, and do not include many of the innovations which pundits predicted for IBM's home machines. However, all are powerful enough for most domestic applications and considerably more powerful than many budget clones.

All are based on the 16-bit 80286 processor, running at a pedestrian 10MHz. The four-machine range starts with a single floppy monochrome VGA version with 512K of RAM at $999 (about £600 at current exchange rates) and a colour machine with a 30Mb hard drive and 1Mb of RAM costs $1,999 (just over £1,200).

UK prices are likely to be pound-for-dollar, like most American imports, putting the low-end machine at just under £1,000.

Unlike a conventional PC, expansion options are severely limited, with no expansion slots for add-ons such as scanners or networking hardware. An optional adapter can be added to allow short PC expansion cards to be used. Memory, however, can be expanded to 1Mb on board and 8Mb via the adapter.

All the PS/1s have a built-in 2,400 baud modem and in the States come with a free subscription to a number of on-line services. Because of the lack of British equivalent services, it is unlikely that the UK version will have similar subscriptions.

The unit itself is heavily styled with a matching monitor. IBM has chosen to take the Amstrad approach of building the power supply into the monitor, which although adding to the convenience limits upgrade options. A conventional 101-key keyboard and mouse complete the system. There is no joystick port, so the machine is clearly not being pitched at the home games player.

Unusually, the operating system, MS-DOS 4.01, in stored in ROM, so no boot disk is required, even on the single floppy machines. Bundled software includes Microsoft *Works*, an integrated application containing a word processor, database, spreadsheet and communications software. Also included is a DOS shell and BASIC in ROM.

Kevin Perlmutter, IBM UK spokesman said: "In the US, the PS/1s are aimed at enterprising individuals and families. In the UK it will be the small business, student or person wanting to take work home who buys it." ■

• As the low-cost 286 market heated up this week, UK manufacturer Prism announced that it was undercutting the rest with a £599 AT-class machine. A 20Mb hard disk version costs just £799. Contact Prism on 0753 580187.



• The IBM PS/1. The co-ordinated unit takes its power from the monitor, allowing it to be controlled by a single switch. Note that there is no potential for adding a second disk drive into the main unit.

How the price compares with Amstrad

THE IBM OPTION
IBM PS/1 ($999, probable UK price £1,000)
Single 3.5-inch 1.44Mb floppy
512K RAM
12-inch mono VGA display
80286 processor
Built-in 2,400 baud modem
MS-DOS 4.01
***Microsoft* Works**
TOTAL: £1,000

THE AMSTRAD OPTION
Amstrad 1286 (£920)
Double 3.5-inch 1.44Mb floppy
640K RAM
80286 processor
MS-DOS 4.01
2,400 baud modem card (£199)
Mono VGA monitor (£161)
Microsoft *Works* (£167)
TOTAL: £1,447

Even allowing for the Amstrad's second floppy drive (less important on the PS/1 with its MS-DOS in ROM), and 128K extra memory, the IBM clearly offers a good deal.



Cadaver is coming

Despite its deathly name, *Cadaver* should be quite a lively game with you playing the part of a bounty hunter. Entering a castle you have to wheedle out assorted nasties and avoid lethal traps.

The game features five levels of 70 rooms each, with adventure-style puzzles as well as arcade action.

Cadaver comes from the Bitmap Brothers via Imageworks, and will be available on the ST and Amiga in September for £24.99. A PC version will follow later. ■

• The Bitmaps' latest offering will be out on the16-bits in September.

Archimedes in the frame

An interactive image processing and analysis system has been developed for the Archimedes.

ArcImage and *C Images* use the Archimedes' high speed processing and graphics abilities to combine with the Hawk V10 framestore and provide a cost-effective 'visual media processing suite'. Its facilites include 'LUT transforms, thresholding, pseudo-colour tables and profiling'. So now you know.

More details from Acorn on 0223 245200. ■



My, what a big chopper!

Domark has released a compendium of hero games that will bring Bond, Schwarzenegger, Skywalker and Barbarian together in the same box.

***Heroes* contains *Licence to Kill*, *Barbarian II*, *Running Man* and *Star Wars* and is out at the end of July.**

ST and Amiga versions are £29.99, 8-bit disk versions £19.99 and cassette versions £14.99. ■

• Left: Mr Barbarian on his way to the office.

As Friday 13 approaches managers get nervous

VIRUS RESURGENCE FEARED AFTER SHOW

Oh no! Ach nein! Nyet nyet! It's that date again. All over the world, big businesses, small shops, games players and spreadsheet freaks, along with anyone who has ever copied, borrowed, cracked or stolen a piece of software will be shaking in their boot disks.

Face it people, virus time is here again. Friday the 13th of July will see clocks being changed and even machines being turned off for the day. It's a sad fact of life, but you just do not know what might have crept on to your hard disk over the last 12 months.

The recent *PC User* Show was the scene for at least two cases of computer infection. The Jerusalem B virus was the culprit. The companies concerned, Quarterdeck and ALR, were quick to warn dealers and customers alike that their kit had been taken ill.

No one is quite certain as to how the virus got on to both systems and steps were rapidly taken to disinfect. A likely source is a floppy used during the testing procedure.

The majority of stand-alone computers should be safe from hazards such as this. Networked systems are far more prone to these dangers – you never know who has been using copied games or even business software.

With recent reports that around 50 per cent of management staff actually use pirated software – pirated in the sense that it has not been registered – the chance of a Friday 13th tragedy is not to be underestimated.

Last year's viral vagrant was called Datacrime. It was supposed to sneak its way into unsuspecting computers by way of floppy-swapping and was to become active on Friday 13th October. After all the hype which surrounded Datacrime it proved to be about as noticable as Radion down a coalmine. No one actually reported any ill effects.

However, there is no excuse for complacency. Although many anti-virus programs have been released over the last year, no one can be quite certain how many new digital diseases have also been produced. ■

Autoroute electronic map takes US prize

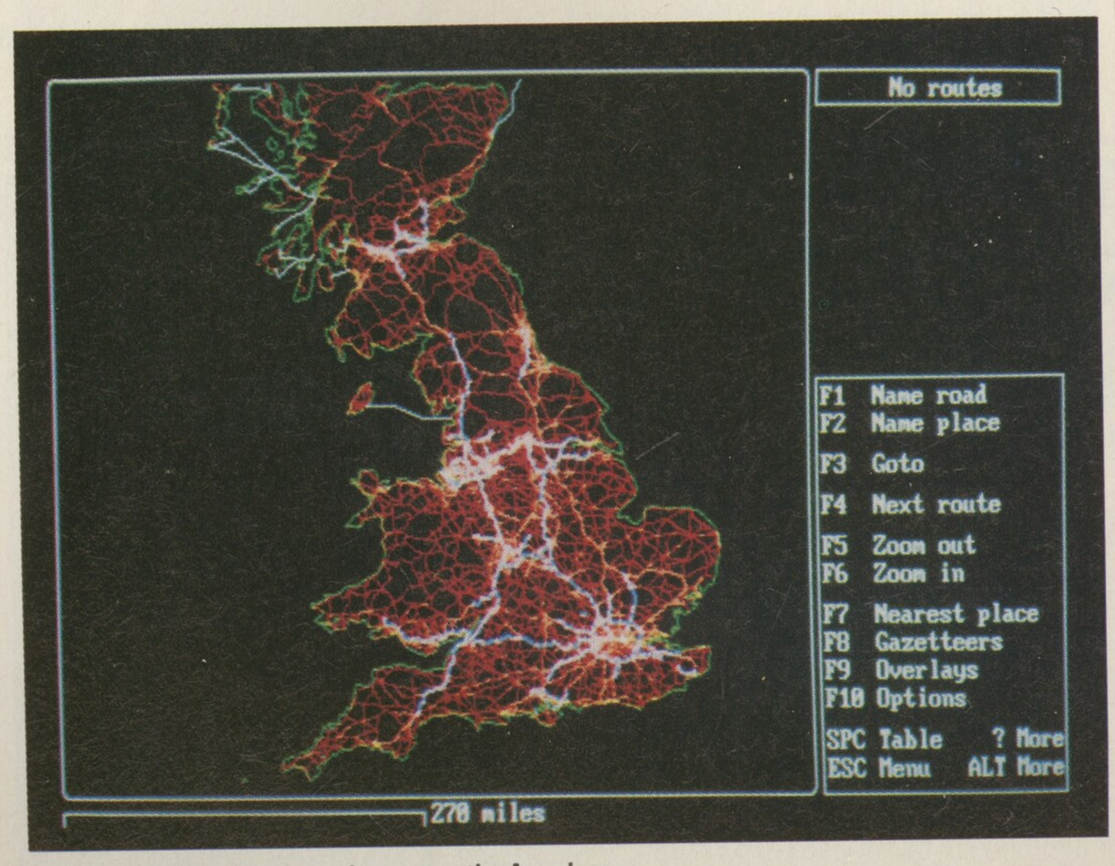
NextBase, publisher of *Autoroute*, has been awarded the North American ICP Million-in-One Award for sales of over one million dollars' worth of *Autoroute* software in the first year of the product's life.

The award is an impressive achievement since it normally goes to low-volume, high-price software designed for mainframes.

NextBase is currently extending the package's scope to include routing information for the rest of Europe and North America.

A new version of *Autoroute Plus*, selling for £399.99, and featuring maps and geographical data for France, is due within the next couple of weeks while a version covering all of Europe from Scandinavia to Portugal and Greece will be ready in time for the autumn.

Although no price for the latter is yet set, the amount of data used will be double that of the 2Mb employed in the English and French versions. ■



• One in a million: **Autoroute *impresses the Americans.***

Up the injunction

The court battles between chip giant Motorola and Japanese electronics mogul Hitachi concerning the 32-bit 68030 chip – the silicon at the heart of the latest Macintoshes, the Atari TT and the Commodore A3000 – grind on.

A recent ban on world-wide sales of the chip has been lifted after an appeal from Motorola. The appeal revolved around the fact that major computer firms such as Apple would be grossly inconvenienced by any ban. Apple, which works on the 'just in time' system of stock control, declared that it only had one week's supply of the chips left.

The rumpus surrounding the chip looks to run and run. It appears that only an out-of-court settlement will be able to solve the puzzle as presiding Judge Benton must be getting ban-drunk by now. ■

Super CDs

A three-inch CD that can hold over 80 minutes of music has been developed by Nippon Columbia in Tokyo.

The mini high-density CD was designed with recorded music in mind but could equally be used as a CD-ROM or part of a multimedia system.

The new CD system isn't compatible with existing CD players and the company expects it to be a couple of years before production of the new CD machines makes them a viable proposition. ■

Hands up, here comes a bus

A new system which will allow different computer and electronics products to work as one integrated system will soon be on the market.

Philips and Matsushita have got together to promote the DB2 – a digital bus which communicates electronic data between different types of machine.

Ideally, DB2 will allow users to set up complex audio, visual and computer systems – possibly controlled from a single remote control unit.

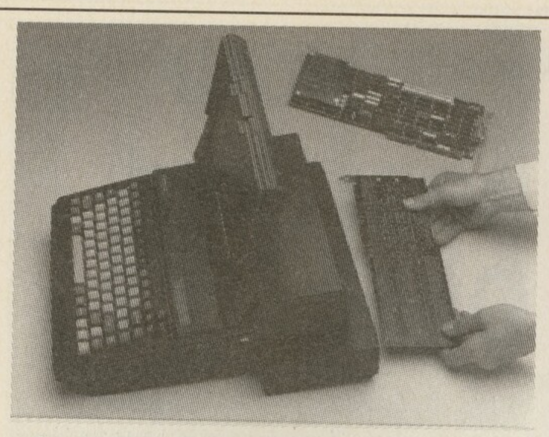
A new company based in Redhill, Surrey, and called, strikingly enough, DB2 has been set up with £2.25 million worth of Philips money. So far Matsushita has put in £750,000 to the project. The DB2 standard has already been ratified by Thomson of France and Sony. ■

New Faces

First *Tetris*, then *Welltris* and now *Faces ..Tris III*, the latest Soviet challenge.

***Faces* is a sort of identikit *Tetris* puzzle where dropping slices of famous faces have to be matched to complete levels and gain points.**

IBM versions are out in the US now with UK versions promised soon. ■



• *Mitsubishi's MP286LA.*

Expandable laptop PC

Another weapon has been added to the arsenal of business users and other people who require portables with add-on capabilities – the Mitsubishi MP286LA.

An 80286-based PC, the machine offers 1-slot and 2-slot AT-type expansion chassis options that can accommodate 16-bit and 8-bit peripheral cards such as LAN adapters, memory cards, internal modems, SCSI devices and the like.

At the basic price of £2,590, and operating from the mains or from an optional battery unit, the MP286LA also has 2Mb memory expansion modules, an external 40Mb tape streamer and an 5.25-inch 1.2Mb floppy disk drive. Contact Mitsubishi on 0707 276100. ■

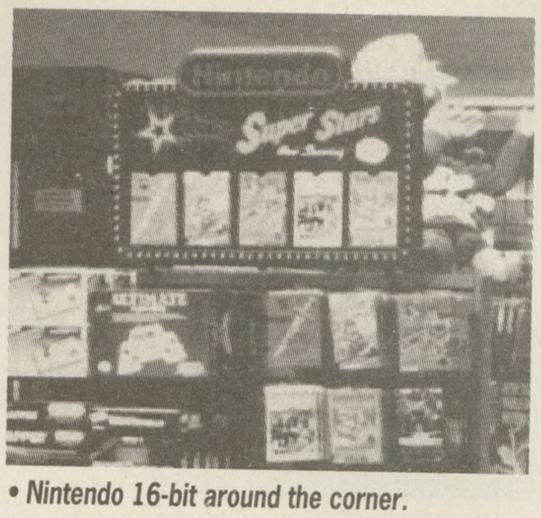
Japanese launch for long-awaited games console

DATE FOR NINTENDO'S 16-BIT MACHINE SET

Nintendo has finally set a Japanese launch date for its 16-bit Super Famicom games console. After a two year wait, November 21 will see the Japanese launch.

The unit uses a customised 6502, made into a 16-bit processor, and has the capacity to run games with 12 megabytes of memory.

Super Famicom, which is the upgraded version of the Famicom console (known as the Nintendo Entertainment System in this country), comes with 64K of SRAM (static random access memory), and a high resolution screen. Screen images can be manipulated in the background. Just so your ears don't feel left out, the console also has the capacity to play back stereo sound, including sound effects.



• *Nintendo 16-bit around the corner.*

The Super Famicom is priced at around 25,000 yen, and if it is seen in this country via non-official, grey importers, a price of £150-£200 might be expected.

The release of the Super Famicom will be matched with games such as *Super Mario Brothers 4* and the hugely popular *Sim City*. The games will be priced at around £30. Cartridges for the old NES unit will not be compatible with the zappy new model so owners will have to upgrade if they wish to make use of the higher resolution graphics and sound capabilities. This follows on from the initial launch plans, now two years old, which were to see trade-ins for Nintendo owners.

• High Street chain Dixons has confirmed its decision to stock the Nintendo NES console system in the UK from July.

350 Dixons stores will stock the Nintendo console system and there are plans to offer at least 22 Nintendo game packs alongside the hardware. Customers will be able to try out the games before they purchase them. ■

Let your modem do the walking

Now the Yellow Pages can be accessed by anyone with a modem for the price of a local phone call. The Electronic Yellow Pages (EYP) service supports VT100 and videotext terminals and automatically works out how fast and what parity your modem is set to.

Prestel and PSS users can access EYP, but, with local call charge access, it seems more likely that users will dial in direct.

EYP can handle speeds from 300-2,400 baud and is available nationally on 0345 444444. More details and documentation from EYP Customer Services on 0734 506506. ■

OUT ON THE MEAN STREETS

In US Gold's latest, *Mean Streets*, you are a private investigator in San Francisco in the year 2033. Your task is to ferret around looking for a beautiful woman who's been kidnapped

The game includes shoot-outs, searching for clues and flying around between cities in a solid 3D flight simulator.

The game will be released in September on C64, ST, Amiga and PC. ■

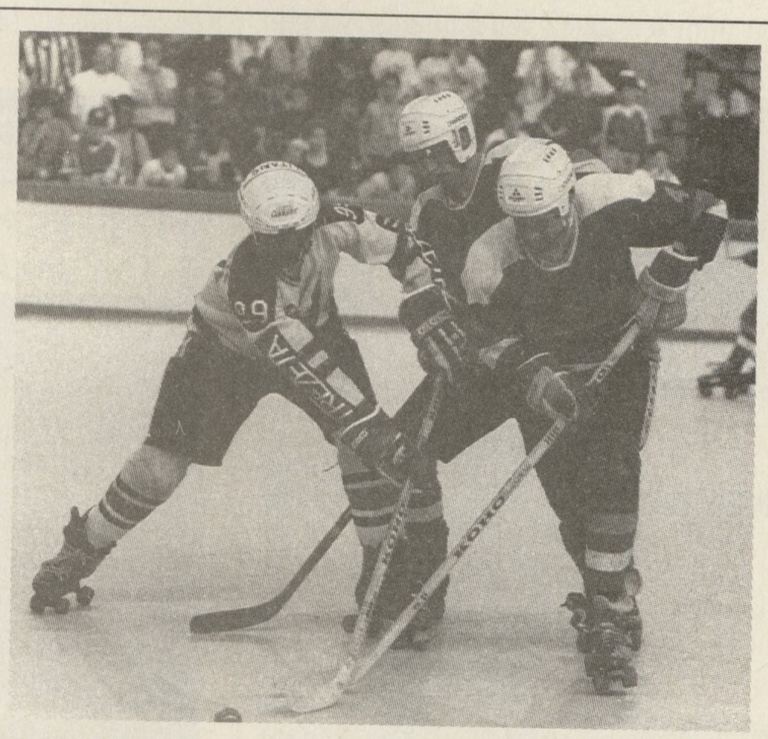
Hockey challenge

Playing hockey on the field is reckoned to be difficult enough, so the challenge of Gonzo Games' *Street Hockey* with street furniture, stop lights, fire hydrants and dustbins should make a game with a challenge that keeps you going.

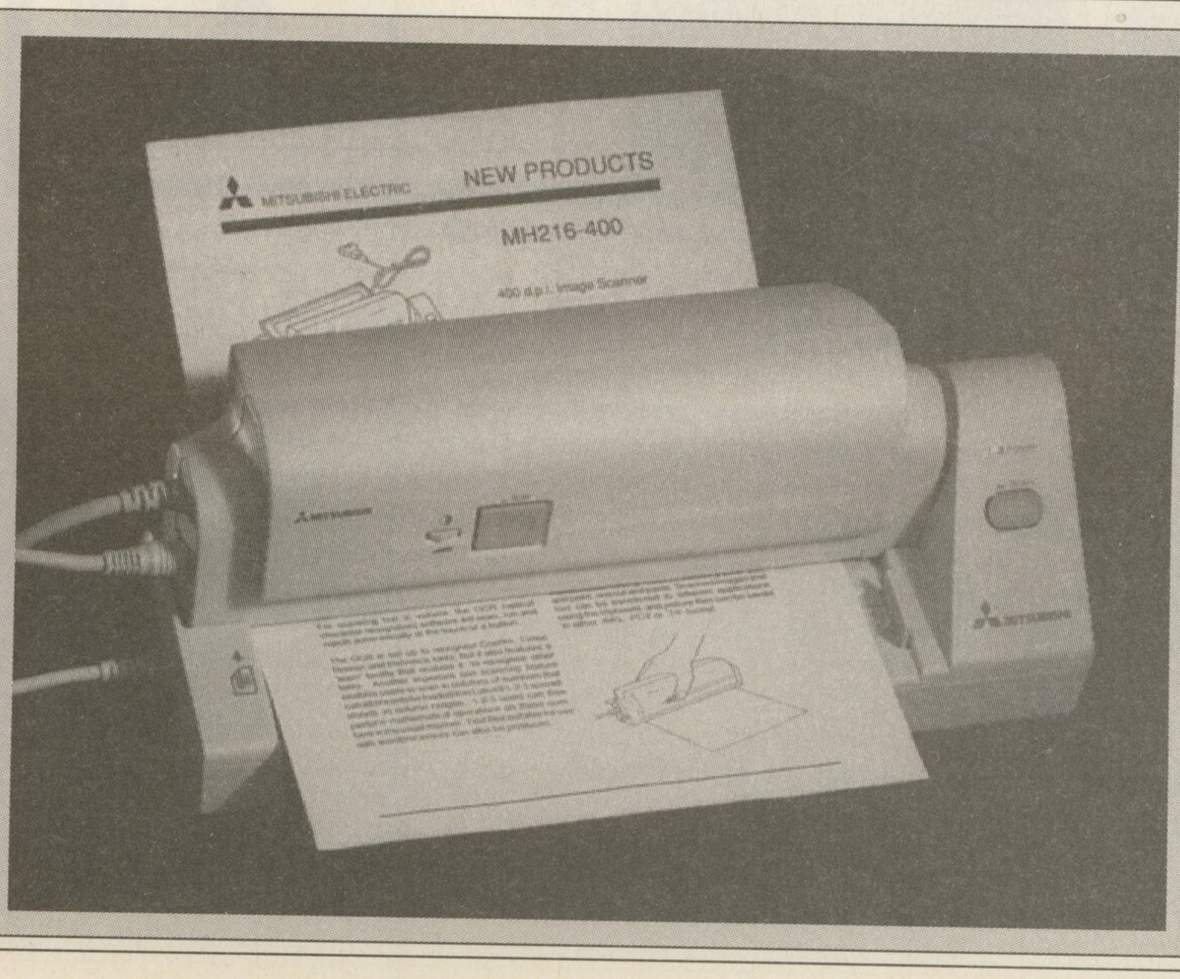
You take on opponents from Chinatown, Little Italy, Lower East Side, Greenwich Village, the Financial District, and aim to take your ultimate goal, Central Park.

The game features a serial link between two machines to allow direct competition, even between different models of computer.

Street Hockey will be out in September on the Amiga and ST, and PCs in November. ■



• *Right: take to skates with* Street Hockey.



Scan lines

The MH216-400 is a hand-held-cum-desktop scanner from Mitsubishi.

The unit, which requires a PC XT or AT with 640K RAM, comes with the capacity to scan in images at up to 400 dots per inch, the ability to 'dither' images plus built-in optical character recognition (OCR) mode which can recognise Courier, Times Roman and Helvetica fonts.

In addition to those capabilites it is also claimed that the MH216-400 can learn to recognise other fonts. On top of all this, yes there's more, the system also has the ability to scan in columns of numbers which can then be saved and ported over to *Lotus 1-2-3* spreadsheets.

All this will set you back £599. For more information you should call Mitsubishi on 0707 276100. ■

Football results from the spirit world via Amstrad

ENGLAND A CERT FOR THE CUP, SAYS PCW

There is a message here for someone with the last name of Robson. The World Cup final will be between England and Argentina. The hand of God will be avenged. England will win the match.

Express was given this hot tip before last week's quarter finals by way of a dead American Indian, an ex-environmental health officer and a PCW8256.

The Indian passed the message via the PCW's green screen and it was relayed to the world at large by the machine's owner, Ken Limage.

Ken has been receiving such messages for four months now. His spirit guide, Red Deer, who passed on the tip, also predicted the shock victory of rank outsiders Cameroon over reigning world champions Argentina in the first game of the tournament.

Mr Limage found the England prediction from the gifted red-skin angel-winger a little hard to take: "I'm still laughing about it now." he said.



• Ken Limage with his PCW with add-on Ouija board.

But the PCW doesn't merely pass messages from Red Deer: "I've recently been chatting to Winston Churchill", said Ken, "I asked him about Hitler and it seems that while Churchill didn't exactly like him, he did respect him. When I asked him whether Hitler was still alive, he said yes. When I asked him where Hitler was, he refused to say – he said it was privileged information."

Churchill, according to Ken's PCW, is rather opinionated, and he doesn't want the Channel tunnel. Aside from the great politician, Red Deer has also put Ken in touch with someone who "won't give his name, but he used to be a stand-up comedian and his partner is still alive. Most people I mentioned him to are sure that it's Eric Morecambe". What the tall one with glasses thinks about the World Cup, Channel Tunnel or Nazi war criminals is yet to be ascertained. ■

• As we went to press we ventured a fiver on Red Deer's prediction. Ladbroke's was giving 20-1 on England winners and Argentina as runners up.

Eat your heart out Dr Ruth

What's supposed to be more arousing than a candle-lit, champagne supper for two followed by a deep meaningful chat in front of a roaring log fire during a snow storm? Well, according to the London Neuro-Centre and a company called Cerebral Dynamics, it's the American 'Brain Machine'... but they would say that, they distribute the device in the UK.

The Brain Machine is another one of those units which transmits a combination of sound and light to the brain in an attempt to relax its users. It is claimed that people in the States have been plugging themselves into the devices and, while bonding in this way, have discovered that both arousal and sexual pleasure are increased. It is further claimed that Brain Machines may have some part to play in the treatment of sexual problems.

Brain Machines are available in this country at prices which vary from £295 to £595. For more information call the London Neuro Centre on 071-284 4769 or 071-383 5607. Candle-lit suppers and roaring fire are available all over the place – call your partner for a good bonding session. ■

Apple with poison worm

In Japan the Apple Macintosh is the type of computer most likely to be infected by viruses.

From a total of 55 cases discovered by Japan's Information Technology Promotion Agency (IPA) in a recent survey of 500 universities, public research institutes and manufacturers, 46 of the viruses were found on Macs.

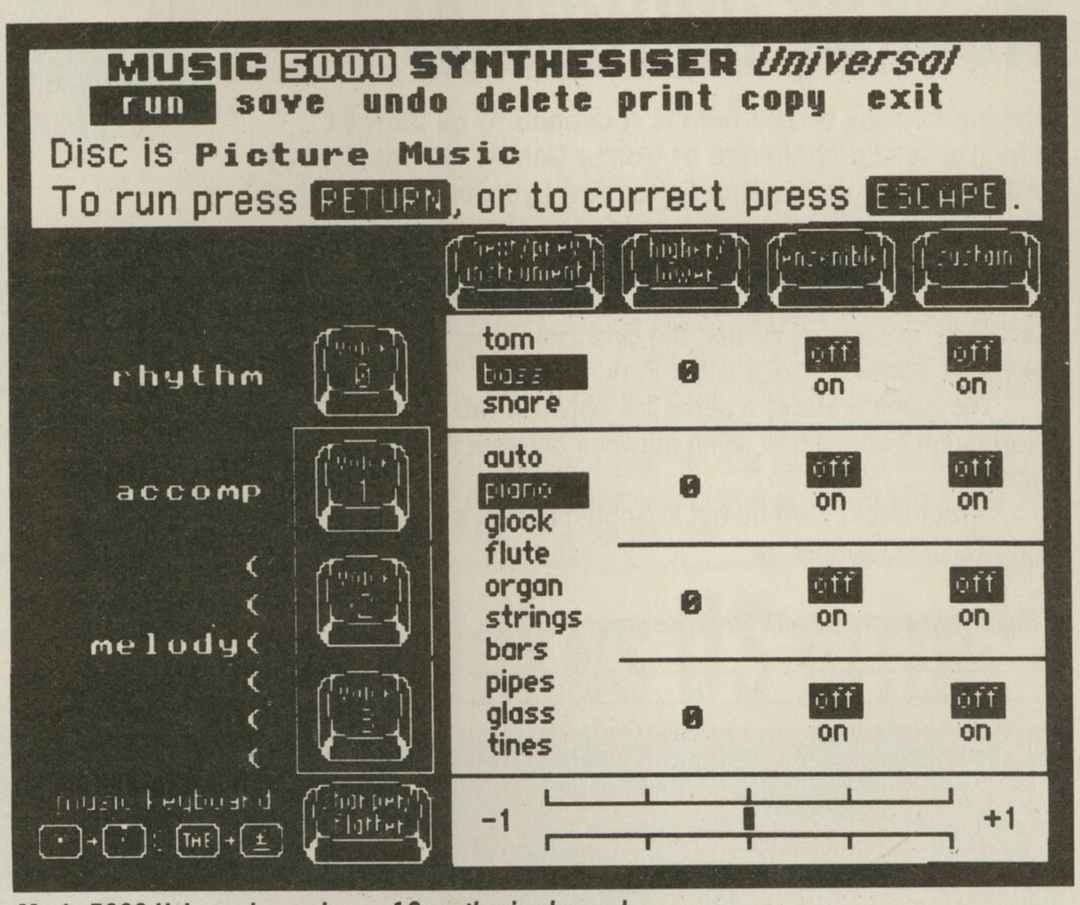
All of the infectious programs are believed to have originated in the US and Europe. The IPA recommends that people avoid use of copied programs, downloaded programs from on-line networks and floppy disk rentals. ■

WORLD POWER



• The man in the picture is globe-smacked by the fact that the Psion Organiser, in all of its guises, has now sold 500,000 units worldwide.

On top of that his company, for he is Dr David Potter, chairman of Psion, has recently received the Queen's Award for Industry and has just signed a order to export 5,000 custom chips containing the Psion XP Operating System to India. Due to a ruling from the Indian government, no finished products can be imported, so a Delhi company called Hope will incorporate the chips into a new hand-held specifically tailored for the Indian market. ■



• Music 5000 Universal promises a 16 synthesised sounds.

Sound solution for the BBC

Music 5000 Synthesiser Universal promises to deliver high quality sound to BBC Master owners, and will run in conjunction with almost all existing music software for the machine.

The Hybrid Technology package replaces the Master's beep with 16 digitally synthesised instrument sounds which can be played through the machine's own speaker or any external amplifier/music centre. Up to four sounds may be mixed together and treated with ensemble, sustain, stereo and transposition effects.

Music 5000 turns the normally unused right-hand section of the keyboard into 'hot' keys which can be used to change sound even while the music is playing. As well as claiming to support all standard BBC music programs, the software has preset selections for 50 popular packages and carries options to print and save custom 'orchestras'.

The £113.85 package contains a synthesiser unit, 16K ROM, dual 40/80-track disk, key-card, user guide and compatibility catalogue. Music 5000 Synthesiser Universal can later be upgraded by adding *Studio 5000* software and Music 4000 keyboard, while an existing Music 5000/Music 4000 system can be upgraded just by adding the *Universal* software pack at £33.35.

Hybrid Technology is on 0223 420360. ■

It's got to be WordPerfect

Users of the PC word processor *WordPerfect* will be pleased to note that memory resident pop-up menus are now available for the software.

Called *Perfectly Simple* the menu system comes with full keyboard and mouse support. The downside is that, for the moment at least, it's only available in the USA. The price for the US version is $129.95. Phone Publisher GR Technology on 0101 901 366 1202 ■

Back chat

Chatback is a new system which aims at allowing disabled children to communicate with each other via e-mail. Eighty children are already using Chatback but more money is required for modems. Call Tim Small of Microcare on 0296 84321. ■

COMMENT

The new IBM home micro, the PS/1, won't set the world alight in itself, but the new direction it marks for IBM just might...

IBM watching is one of the computing world's favourite occupations, and the pundits had had a field day with the rumours which preceded last week's announcement that, seven years after its last attempt, IBM had decided to try again for the home computer market.

Its last attempt failed miserably because it ignored the very standards which had made the PC so successful. The new machine, however, tries so hard to be standard it only succeeds in looking ordinary.

Top on the pundit's rumour list had been the Domestic Digital Bus, a system which would allow a computer to interface with and control virtually any piece of home electronics – video, television, hi-fi, lighting, anything. DDB is the old chestnut of computerised home control, redesigned for the Nineties. The other prediction was that the PS/1 would feature a CD-ROM drive, capable of accessing huge databases and acting a a multimedia machine.

The PS/1's hardware has actually turned out to be rather dull. At its core is a slow PC-AT without any expansion slots for ordinary PC cards, let alone a new bus design. Its mass storage, far from being a CD-ROM, is a single floppy disk, with the only option being a 30Mb hard drive.

But still the PC industry in the States has gone wild about the machine. Why? The main reason is not anything especially wonderful about the machine itself, or even its clone-killing price, but the change of direction it indicates for the world's biggest micro manufacturer.

Anyone who has ever tried to cost an IBM PC will tell you it is a difficult business; prices are usually quoted for the system unit only and you have to add the cost of a monitor, graphics card, usable amount of memory, and mouse – sometimes even the keyboard comes separately. The PS/1 is the opposite – it is a complete ready-to-use unit, shipped in one box with a guide to setting it up and switching it on.

This might seem trivial, but it is a major move toward's the philosophy of the computer as an appliance rather than a hobbyist's toy or programmer's tool.

IBM has built MS-DOS into ROM for the PS/1, removing the need for boot disks, and the machine starts up directly into a simple graphical environment. The software provided with the machine is Microsoft *Works,* a mouse-and-menus program which is simple to use and gives you a word processor, database, and spreadsheet without ever having to see the DOS prompt. IBM even installs *Works* on the hard disk for you.

Other dedicated software in the US version connects you to an on-line user group and home shopping system transparently – no messing with baud rates and parity bits.

IBM has made the PS/1 as simple to use as possible – not normally an IBM priority. That ease of use has been paid for by lack of flexibility and expansion, but the Mac Plus had the same philosophy and the same problem and it did pretty well. The US giant appears to finally be realising that most computer users are not computer experts, and don't want to be. It is a very positive sign and let's hope the trend continues.

Finally, a prediction. Next year will see the PS/1 GTi, a 16MHz, 2Mb 386SX with built-in modem, VGA colour monitor, and bundled with Windows 3 already installed. The machine will boot directly into Windows and will really be an IBM Macintosh. You read it here first.

FROM The ARCHIVE

ONE YEAR AGO

A computer with the power of 15,000 Archimedes and the memory of a billion Amigas was launched in the US. The N-Cube 2 Scalar supercomputer weighed in at about £20m, but for that staggering sum you got 8192 processors running in parallel instead of the more usual single processor found in home micros.

If HM Government were to purchase one for census purposes, there would be enough storage space on it to hold a complete 2,000-page encyclopaedia on every man, woman and child in the UK.

Atari boss Bob Gleadow confirmed that a reduced instruction set chip (RISC) ST could herald the next generation from Atari. He said: "The ST came downmarket to become a first time buyer's machine for the next three years. What we need to do now is look at providing a new up-market second time buyer's machine. It has to be fast and almost a workstation."

ISM improved the performance of Atari STs at a stroke with a set of coil springs to put under the keyboard. A fiddly and tedious job, but nonetheless one which made the *Express* ST perform as though it had been given a new set of keys.

A survey showed that 71 per cent of computer users were worried about the health risk from prolonged use of monitors. 94 per cent of the users polled said that they would prefer low radiation monitors instead of the current standard model.

• Almost a year to the day later, an EEC commission introduced legislation on the displays of computers and terminals to be phased in over the next four years.

Video was all the rage with :
1 Ace Computer Supplies putting out a VHS tape featuring the top 20 Amiga public domain demos of graphics and animation. The tape was aimed at the users of humbler machines such as the PCs, STs, C64s, CPCs and BBCs who craved a chance to view top-notch computer graphics and sound.
2 Hotshot releasing its second games demo video which also included an in depth interview with Domark.

A year too early for the World Cup, *Supreme Challenge Soccer Spectacular* offered a five-strong line-up of famous footie games.

It included *Football Manager, Peter Beardsley's International Football, World Champions, Peter Shilton's Handball Maradona* and *Soccer Supremo.*

Fears that the 3-inch disk drought was set to worsen during the dry summer were quashed when it started raining floppies in Brentwood.

Amstrad bought six million blank 3-inch disks causing PCW, CPC and Spectrum Plus 3 owners to breathe a collective sigh of relief.

The Government lopped a massive £5m off its planned expenditure on computers. This happened only a week after a report from the National Curriculum Council reccommended that more emphasis should be placed on computer education.

Microlink outgrew the Telecom Gold network and kicked its shoes off in the more spacious front lounge of the Istel Inet. Microlink boss Derek Meakin said: "We were dissatisfied with Telecom Gold and wanted to go elsewhere. With Istel Inet we'll really have room to expand and offer users the best."

FIVE YEARS AGO

Chelsea became the first British football club to use electronic ID cards to try to combat the growing wave of hooliganism. The £5 cards were like a bank hole-in-the-wall card with a passport photograph and embedded personal information.

TEN YEARS AGO

As supermarkets went over to 'star wars' laser reader checkouts, a spokesman for supermarket chain Waitrose said: "We do not feel the time is ripe to apply laser beams to our supermarkets."

• Ten years on, and Waitrose has finally installed laser scanning checkouts in one store as a pilot scheme.

Sources: *Express, CTW, Computer Talk*

COMPUTER EXPRESS MEN

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CPC

BOMB THE B*****DS!

Well, we had to wait for it, but Activision's *Figher Bomber* is here at last. And the good news is – it's a cracker!

You couldn't really call it a flight sim – not quite – because although it's a lot tougher to fly than a Centauran Battledrone from Zog, it's not in the same league as the dedicated aerial trainer.

In a proper flight sim, you've got your work cut out just trying not to drop out of the sky, while in *Fighter Bomber* there's certainly a lot more to do than that...

Apart from having to learn the intricacies of take-off, landing and staying in the air in between, you see, you've got to complete a specific mission. Once you've blown up an enemy base – the first mission – you go on to another, tougher job.

There are eight of these missions in all – and if that doesn't sound like much of a challenge, think again. There's a lot of ground to cover, a lot of thinking to do and not a bit of fancy flying thrown in their for good measure.

The worst thing is, your targets shoot back. And since your plane is equipped with fancy guided missiles that can wipe out a target from 25 miles, it would be unfair to expect the other guys not to have a few treats in store for you in the form of surface-to-air missiles that are even more persistent than they are fast.

Nasty, nasty, nasty... if *Fighter Bomber* is one notch down from a true flight sim, it makes up for it in tactical accuracy.

Mind you, you're not actually blasting commies to smithereens (for once). No, you are in fact in the lovely state of South Dakota, flying a series of specially-contrived missions in an attempt to win the Curtis le May Trophy. (Curtis le May, for those of you not in the know, and how could you be, was an American general of the 1950s. He was very interested in bombing things.)

Even though you're over South Dakota, though, the ground is just as hard, and those enemy SAMs just as explosive.

Of course, they do say a poor workman blames his tools, but it may be you eventually decide the plane you're flying is simply not up to the standards you require of it – ahem. In which case, you can simply choose another.

There are a total of four on offer – McDonnell Douglas Phantom, Saab Viggen, Panavia Tornado or MiG27. All have their different handling and performance characteristics, and if you can't find one that keeps up with your particular brand of flying, well, maybe you should go back to flying school.

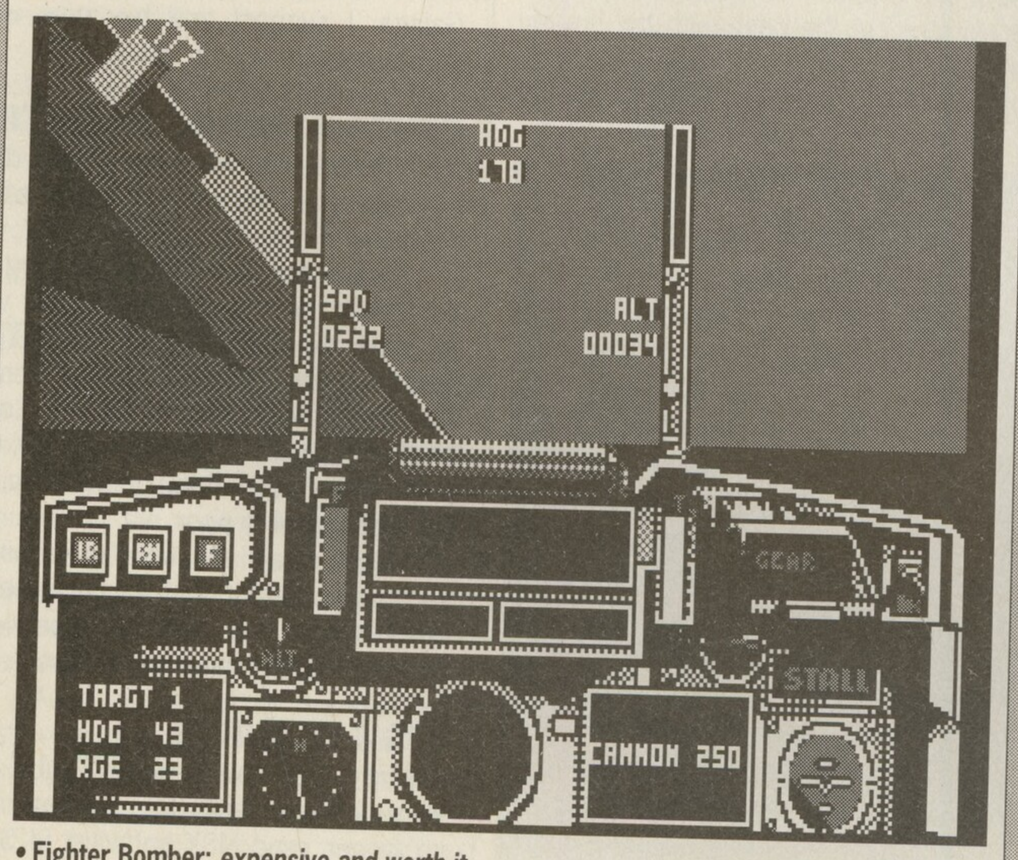
All this sounds impressive enough, but what about the graphics? Chucking around whole landscapes in real time is a pretty tall order for 8-bit chips – which is why *Fighter Bomber* is so impressive. Quite simply, it runs with the kind of speed and detail you'd expect on a high-powered PC, not a humble 8-bit.

OK, so the ground detail is either triangular or rectangular, but isn't it always? The point is that the ground detail is extremely solid (especially when you hit it!) and moves fast enough to make you think you really are in the cockpit of a $20 million aircraft doing a barrel roll at mach 1.5.

Your view from the cockpit is impressive enough, but that's not the only one. You can switch to out-of-cockpit views of your own aircraft in flight, and also one from your own control tower! The latter wouldn't be too much use if it wasn't for the game's zoom feature – another unexpected, but exceptional, bonus in a package already crammed with goodies.

Sound is limited to the shrill whine of your engine, and a few pops and bangs – but what else do you need?

So, it's all good news, then. Well, not quite. *Fighter Bomber* is quite a game, at quite a price. To be precise, £14.99 on cassette, £19.99 disk. Sorry, but for a game this good you simply gotta pay!



• Fighter Bomber: *expensive and worth it.*

AMSTRAD GOES SPARE

Amstrad is giving its spares system a good dose of shaking-up at the moment. Basically, instead of simply 'reacting' to orders, it is setting up a 'proactive' system.

Sounds like a lot of marketing hype? Not really. A new division has been formed – called Amstrad Spares – which will be based in Staffordshire.

From now on Amstrad spare parts will be marketed and promoted actively. New systems being introduced include 24-hour delivery of top-line priority spares anywhere in the country, a computerised telephone sales service and a generally re-vamped warranty system for spares.

All this should mean that dealers will be able to get hold of more Amstrad spares, faster. Which in turn should mean better support for Amstrad owners all round. This is undoubtedly good news all around.

NO MORE HEROES?

Well, Domark seems to think the world needs a few – especially with the World Cup and Wimbledon in full swing. Strange as it may seem, there are people out there who don't actually *like* football. With these in mind, Domark has assembled a compilation consisting of those old warhorses *Licence to Kill*, *Barbarian II*, *The Running Man* and *Star Wars* – and called it *Heroes*. We won't mention *The Running Man*, but the others are well worth having if you don't already. £14.99 on cassette, £19.99 on disk for three classic blasts? Can't be bad.

NO CREDIT

Michael Brown, of Leeds in the North, is just a little unhappy...

"I am thoroughly upset. Why? You may well ask. I recently purchased a copy of *X-Out*, and after a week of hard playing I finally completed it.

"To my disappointment all it said was (in very small letters at the bottom of the screen), 'Well done, you have defeated the alien intruders', or words to that effect.

"This, I thought, was a total anticlimax. OK, it's the game that matters, but at the end of many hours' playing time, you expect something decent. For the £15 I paid, I think a little more than a one-sentence conclusion is called for."

Crikey! I guess the programmers weren't expecting many people to get that far! Maybe the Lawton reflexes aren't what they were, but I reckon *X-Out* is one of the toughest shoot-'em-ups for some time. Just console yourself with the glory of completing the thing, Michael.

WRITE AWAY!

Have you got anything at all to say about CPC current affairs? If so, don't delay. Drop me a line at the usual address and you could get your own soapbox for five minutes, or ten if it's a slow morning.

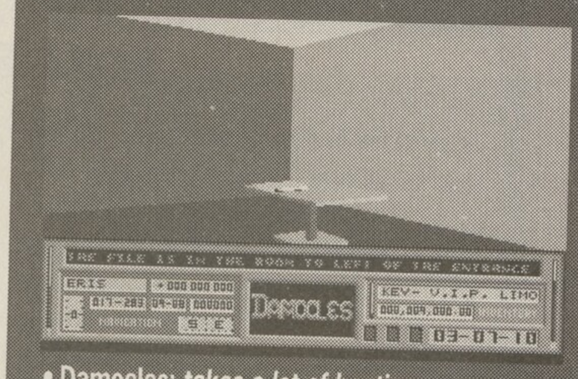
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Rod Lawton

YOUR FORMAT

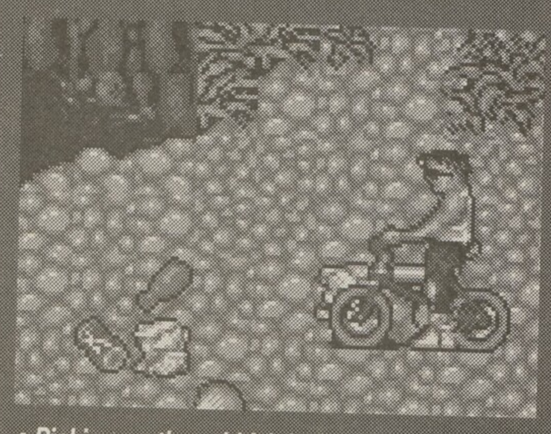
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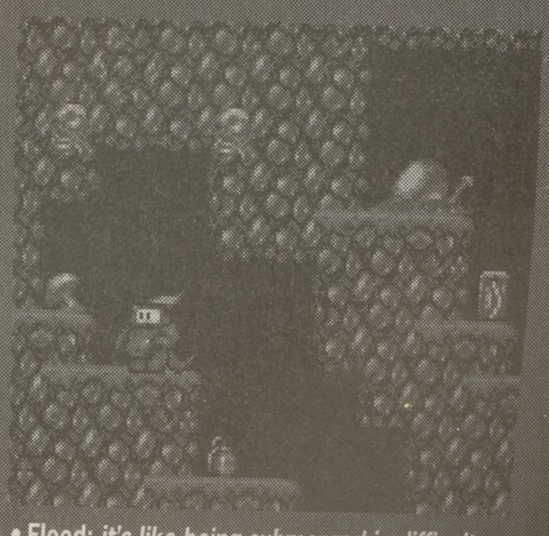


• Damocles: *takes a lot of beating.*

ST 16



• *Picking up the rubbish in* Skidz.



• Flood: *it's like being submerged in difficulty.*

SPECTRUM

IF THE SHOE FITS

World Cups really are brilliant things aren't they? What other event allows you to see such a varied collection of dodgy hairstyles, marvel at the elequent poetry of the commentator and find out just how groovy the anthem from UAE actually is – all from the confines of your armchair?

Apparently some people actually like the football part. Anyway, I bring up this probably-very-sore-by-now subject again because with almost spooky timing Ocean has just re-released one of the best Spectrum footy games ever. *Match Day* II is now available for £2.99, which is great news for all the bank accounts out there sadly decimated by numerous wallchart, commemerative coin and official team record purchases.

Chalking up 90 per cent in *Your Sinclair*'s recent 'Soccer on the Speccy Guide', this is one sequel that actually turned out to be better than the orgina,l offering as it does realistic(ish) action with headers, proper two player games, great diving goalies and a kick strength meter which allowed different strength, er, kicks, ranging from screaming shots to delicate little back heels.

Most of the game ican be redefined, thanks to a larger number of menus than Maximes, and the-viewed-from-the-side players' slightly dodgy appearance doesn't effect things a bit. Call me a biased old fuddy duddy, but, basically, I still think it's the best footie sim for any computer.

THE OLD FAITHFUL

Who said there weren't many fanzines around for the Spectrum these days? Er OK, so I did a few months back, but since then quite a few new publications have flopped onto my doormat to prove me wrong.

One of these was *Spec News*, which is first and foremost a tape mag, but comes stuck to the front of an eight page instruction booklet. The contents of the one I saw, issue two, (Issue one wouldn't load!) were pretty good, with *Ninja*, an un-original isometric arcade adventure, a demo version of a hacking simulation/adventure, a new Plus 3 front end routine and a program specifically for Videoface owners.

That's as well as the actual magazine text which you load in from tape and read using a Ceefax-style system. There are lots of rough edges and disorganised bits that need to be smoothed out as the mag progresses, but the enthusiasm of the two editors makes up for a few early teething errors. And at 75p (plus C60 tape and stamp) a copy, it's not bad value at all. Address is Imprint, 192 North Home Rd, Cirencester, Glos GL7 1DX.

Robin Alway

POKE FOR YOU

Bash in the first three lines and then either the first line 40 for *The Race* or the second one for *Assault Course*. Brilliant.

```
10 REM Remember to add relevant /DATA in!
20 CLEAR 24999: LOAD ""CODE 23440: READ A,B,C: IF PEEK (A-3) <> 195 THEN LET A=A+B
30 POKE A-3,33: FOR N=A TO A+C: READ A: POKE N,A: NEXT N: RANDOMIZE USR 23440
40 DATA 23482, 26, 9,175, 50, 50, 206, 201, 50, 235, 216, 233:
REM THE RACE - TIME AND TURBO DATA
40 DATA 23496, 26, 4, 175, 50, 154, 101, 233: REM ASSAULT COURSE LIVES DATA
```

SAM COUPE

GROWING LIKE A WEED

While the actual number of Coupés sold might still be relatively small, the machine nonetheless inspires virtually unheard of enthusiasm in its owners.

New user groups, PD libraries and fanzines are springing into life all the time, and with the future of the Coupé looking a bit unsure at time of writing these support networks deserve as much encouragement as we can give them. Get in touch with any of the following and prove to the world that the SAM deserves success.

Fastline is a user group for disk drive-based Coupé owners only. It churns out a regular club magazine on disk and also plans to put together a SAM public domain library. Send an SAE for details to Fastline (Simon Scott), 1 Ryelands Place, Kilgetty, Dyfed, Wales SA68 0UX. Naturally examples of SAM PD are heartily welcome at the same address.

One of the most organised and professional looking user groups I've heard about so far is known as Contact, the good people at which were formerly known as The Coupé Connection, before MGT politely asked them to change their moniker.

Contact is primarily a PD library and amazingly, its shelves have already got a few bits of SAM PD on them. As well as PD, the group also provides users with snazzy looking update sheets. For more details direct correspondence to 10 Ricardo Road, Old Windsor, Berkshire SL4 2NU. Send an SAE, and as with Fastline, the head PD librarians are on the lookout for Coupé public domain submissions of any kind.

Enigma, as well as offering a broad range of excellently programmed articles, reviews and columns also has in its latest issue a free adventure and most delectably, a Coupé music demo. Write to 15 Westfield Rd, Inverurie, Aberdeenshire AB5 9YR.

Robin Alway

PCW

ON YOUR RECYCLE

I wanted to start with a recycling joke, but I think I used it before. Instead I'll tell you that there's another place you can get recycled computer paper – Earthwrite, 99 Carlisle St East, Sheffield S4 7QN (phone 0742 739123). Continuous paper is available for the cost of £18.50 for 2000 sheets inc VAT and p&p; A4 paper is £20.

HISOFTLY HISOFTLY

David Rowan of Southampton asks me if it's worth learning another faster computer language to rewrite his homespun BASIC programs in.

The answer depends on the program. If it's a database using BASIC's JETSAM then you're probably best sticking with what you've got as these commands are fast and efficient.

If it's anything else, you may enjoy trying to learn Pascal, a compiled language reasonably similar to BASIC and easy to learn. 'Compiled' means that you write your program as a text file and then run a program called a compiler, which converts your test file into a further file of machine code that you can then run just like any CP/M COM file – much faster than the BASIC will run your listing. If you want to sell your COM file as a commercial proposition you can do.

HiSoft is doing one of those special mid-season unrepeatable offers (like the pre-season and end-of-season ones) which lets you buy the excellent HiSoft Pascal for £29: the difference in speed will amaze you. Details 0525 718181.

LIBRARY COPY

Good news for hard-up students in Oxford with PCWs: Oxfordshire County Library has just bought a copy of the *8000 Plus Tips Collection*, an astonishing collection of invaluable tips, sneaky short cuts, listings (word counters, spreadsheets, sorters, indexers...), covering *LocoScript*, CP/M, *Protext*, *Mini Office*, etc.

Why not get your library to order one for £11 from Future Publishing on 0458 74011? Of course, if you want, you can always buy one yourself and save the irritation of finding that someone's torn out the page with the tip you wanted.

Rob Ainsley

COPY CAT

Ever wanted to copy a whole load of files in *LocoScript* from one group to another and had to do it tediously one-by-one? Here's the smart way. Reset the PCW ([SHIFT] [EXTRA] [EXIT]) and insert your CP/M disk.

At the A> type PIP [RETURN]. At the * prompt insert the disk with the files to be copied. Suppose you want to copy all files from group 7 to group 3; then type `A:[G3]=A:*,*[G7]` or `B:[G3]=B:*,*[G7]` for the B drive, End with [RETURN].

Re-set the machine, re-start *LocoScript* and carry on as normal.

Sneaky types will guess that `A:[G3]=A:*,LET[G7]` copies just those files ending in LET, while similarly `A:[G3]=A:CHAPTER,*[G7]` copies just CHAPTER.1, CHAPTER, TEN and so on.

MSX

DETERMINATION

Despite poor attendances at the last All Formats computer show, the organiser Bruce Everiss is undeterred – he is already well under way with organising the next show.

The venue for this event will once again be the Royal Horticutural Society halls in London, with the event taking place on the August 5 and 6.

This time there promises to be a good MSX presence, due to the fact that the organisers are giving the major user groups, MSX Central and MSX Link, over 700 tickets to distribute throughout their membership.

All we need now is the support of the companies who are still involved with distribution of MSX hardware and software, and the idea of having an MSX village at this event should become a reality. With so many free tickets going out to MSX users, any enterprising retailer should be able to shift his MSX stock with ease.

WOE BETIDES

It has been a bad month for several companies in the computer industry, with one or two actually calling in the official receiver.

Two major software houses are now in this sorry state of affairs, namely Grandslam Entertainments, and Tynesoft Computer Software. This is very bad news for the MNX user, as both companies strongly supported our computer format.

Although Tynesoft only had a couple of titles on its full priced label, the company also supported MSX on the budget Micro Value label. Grandslam, on the other hand, has a large selection of full priced games as well as the budget label Bug Byte.

If both these companies cease to exist, or a purchaser of these companies slims down the operation, then it will mean that we could lose over 20 MSX games, with no further support from either company.

Furthermore, games that I have recommended recently on these labels will soon be in short supply, so if you wish to purchase the excellent *Attacked* by Micro Value, or Bug Bytes' brilliant *Galaga*, I suggest you buy now while stocks last.

CENTRALISATION SENSATION

MSX Central has recently closed down its software library, and is selling off its software.

I know that the titles are selling like hot cakes, so if you wish find out what titles are still available send an SAE post haste, (no pun intended) to MSX Central, 14 The Wardens, Allesley Village, Coventry CV5 9GJ. It's a shame that MSX Central had to close down this library, but support was very poor.

Once again the MSX user fails to support a venture that can only benefit his format. It seems everyone wants something for nothing these days.

IT'S A SCOURGE

Talking of computer piracy, a UK software house recently told me that it will no longer send MSX software to Spain, due to the amount of piracy.

Keith Neal

C64

GAMBLING UPDATE

In *Express* 85 I mentioned a suite of software from a company called Brimardon, the aim of which is to assist you in finding the one horse in the race that is going to finish ahead of all the rest. Or if you're the more cautious type of punter, a horse that is going to be placed and thus ensure you a return on your 50 pence each way, eventually earning you sufficient funds to be able to retire in wealth at an early age.

I am pleased to tell you that, in the two weeks that have elapsed since that first mention, the programs have come up with a 20-1 winner (as well as several other, rather less exotically-priced, nags)! A noble beast, I am sure, called Quip, romped home at the front of the field in the 7.45 night race at an Edinburgh meeting early in the month.

I just thought I'd let you know that the programs do, sometimes, come up with the goods. If that has whetted your appetite for more, the address to write to for further details is 75 Cockerton Green, Darlington DL3 9EG.

GOING STRONG

We've seen a few stories in the past concerning adventure houses that are defecting to the 16-bit market and refusing to touch the C64 – so it's a pleasure to tell you that Interactive Technology is doing no such thing and that all its releases to date are available.

HELP! HELP!

My supply of POKEs and other cheats is running, if not dangerously low, then a little on the wrong side of healthy. Can you lend a hand to those games players everywhere?

Meanwhile, let's see what we've got for you this week. On *Bombjack II*, you can `POKE 7053,200:SYS 3303` to enter the cheat mode. On *Mega Apocalypse*, player one can `POKE 32417,173:SYS 22562`, while player two has to `POKE 32509,173:SYS 22562`.

On *Stealth*, you can POKE 30590,173:SYS 53055. And for the last one of the week, *Kung Fu Master*, you have to `POKE 34142,128:SYS 32768`.

Play detectives with *Dead End* for £5.95, have all sorts of fun on the moon with a *Dark Sky Over Paradise* for £4.99, and get yourself tangled up in *The Dance Of The Vampires* for a mere £2.99. The company's advertisement suggests that it is 'out Infocom-ing Infocom'. The games are certainly very good indeed. For further details, write to Interactive Technology at P.O. box 146, Sheffield S13 7TY.

WORLD CUP FEVER

The winner of the World Cup is no easy thing to presage. What is not so tricky to predict is the continued success of football games on the C64 – no less than five of the top 10 best-selling games are football sims.

Pete Gerrard

QL

SUGAR TO SELL QDOS?

I've just heard from a reliable source that an approach has been made to Amstrad about the purchase of the rights to QDOS.

Amstrad has previously given the impression that it doesn't want to sell QDOS, but is now proving more amenable, it appears. This could mean that someone is serious about producing a QL clone. It cannot be the Qview International Megacorporation, as it already has its own Minerva QDOS workalike, if it goes ahead with its Medusa project. Watch this space!

MICRODRIVE CARTRIDGES

I've just been speaking with Bill Richardson, MD of EEC Ltd, about the Microdrive cartridge situation.

Ablex, which had stopped production, because of the unavailability of the special tape used, has produced a small batch of cartridges using a new source of tape. These have been supplied to some of EEC's customers. If the experiment is successful, Ablex might resume production.

EEC has been shipping about 5,000 cartridges a month, so there must still be lots of QL users around e who haven't upgraded to disk systems.

When the supply from Ablex dried up, large numbers were purchased from ICL (they were used on the QL-based One-per-Desk), although EEC had to pay through the nose for them, resulting in a selling price of £4. EEC has also been selling once-used cartridges, with the write tabs removed, for £1.30 to £2, depending on quantity. They are quite useable with the addition of a small piece of sticky tape, to replace the broken-off tab.

Incidentally, these cartridges are suitable for use with Spectrum Microdrives. A couple of weeks ago I mentioned that EEC had large stocks of QL bits and pieces. Thes include circuit boards, power supplies, keyboard membranes, cases, and chips. EEC is on 0753 888866.

John Torofex

APOLOGIES

Apparently I was given some duff information when I said, some time ago, that the MINIX operating system couldn't be ported to the QL. Not knowing that it couldn't be done, one Felix Croes a denizen of Holland, has now got MINIX working on his QL.

A message to this effect recently appeared on USENET, the e-mail system used by the UNIX community, according to reader Jim Gilmore.

Minix, best described as a 'poor man's UNIX', is mainly used on Atari STs, by people who like that sort of thing. Although I have Croes's USENET address, I don't have access to a suitable UNIX system. I've asked a friend of mine who works for SUN to find out his address.

BBC

MORE SPREADSHEETS

I've compared the two most common BBC word processors for speed in a number of ways. The criteria used are simple – either they pass or they don't. *Wordwise Plus* scores three out of five, which is a fair pass, but not a flying one, and *View* fails, scoring only two.

In the case of *View*, it is speed of scrolling which is the program's Achilles heel. There are two ways of improving this situation, speeding up the cursor with `*FX12,3`, and holding down SHIFT to speed up scrolling.

Wordwise, on the other hand, feels fast, but is let down by its lack of 80 column display. Incidentally longtime *Wordwise Plus* users will be pleased to know that there is a version running on the Archimedes offering both 80 column display and greater storage capacity.

HEY, PSSST

Here's a little tidbit of information for all you Electron owners out there, and I know there are plenty of you. Steve Hanson, boss of Superior Software, was spotted at the recent Archimedes summer fair actually purchasing a new Elk to replace his old one. This can only mean continued support for your favourite machine for the forseeable future.

As a postscript to my comments last week. I have found that it is worth placing EPROMs on the Electron into socket 15, (Normally containing the (BASIC ROM), which means you will boot up into your EPROM on switch-on, assuming it is good.

Andrew Brown

ARCHIMEDES

NEW RISCOS

Rumours have been circulating for quite some while about a major upgrade to RISCOS. A report in *BBC Acorn User* offers a few details of a new chip set, which the magazine thinks likely to come on four 4Mbit ROMs and provide 2Mb of software on tap.

Under this scenario, a lot of improvements would be in store, including *!Edit*, *!Paint* and *!Draw* in ROM.

Each of these applications would sport improvements over the current versions, with *!Edit* being able to autoreformat text. A new icon would be incorporated on the icon bar to get at the applications directory quickly.

If this isn't direct enough for you, the rumoured upgrade would also enable you to specify the setup of your Arc at startup, thereby opening or running whichever files are most useful to you.

ADFS, RAM and SCSI filing systems would also be squeezed into the ROMs, and all three would be able to multi-task. The upgrade might be available sometime in 1991 at an upgrade price of around £100. All current Arcs would be able to run the new RISCOS, though the 300 series would need some hardware modifications to take the physically larger chips.

Acorn refused to confirm this report, though a spokesman did say that Acorn is 'continuing to develop the Archimedes series', which is comforting.

Perhaps of more interest is a similar statement on the PC emulator. Although no release date has been settled for a new version of this program, it should offer considerable improvements on the current product and is likely to support EGA resolution screens.

NEW EMULATION

While in Rumoursville, another peachy one is an overnight thousand-fold increase in the number of games playable on the Arc.

This is not, apparently, anything to do with the Arxe Spectrum emulator. From a brief talk with Arxe, the people at which are also working on a 68000 emulator, it's unlikely to be an ST or Amiga copy, either.

There simply isn't enough headroom, even in the Arc's superfast instruction set, to replace the custom graphics chips and fast 68000 processors of the two leading games 16 bitters. It might just be possible on an ARM3-based machine, though.

So what are the other possibilities? A better BBC emulator would open up a few hundred more games, but not a thousand. What about something like a C64/C128 emulator? The number of games is certainly there, the processor power is more on a par with the BBC and some of the games are reasonable, too. I'll try and delve a bit deeper into this one.

HEREWITH THE CLUES

Another games review, but a rather different type of game. *Herewith the Clues*, which costs £24.95, is based on a Dennis Wheatley murder mystery from the heart of the 1930s.

The original 'crime dossier' consisted of all kinds of artifacts as well transcripts of interviews and reports on suspects. By reading all the texts and examining the clues, the intelligent reader could piece together the motive, opportunity and personality of the perpetrator. The 1990 version of this idea revolves around a digitised photograph of the detective's desk.

On the desk are the various reports, pictures and artifacts, as well as a ball-point pen and a cup of tea. You are given the basic scenario of the crime, which involves IRA suspects and a murder in a theatre, and left to get on with it. Clicking on one document shows the top sheet, which you can read.

Flicking the page, accompanied by a digitised sound effect, gives you the next sheet and so on.

Sound bites are used extensively through the game, with the noise of slurping tea if you click on the teacup, and a well-mannered voice asking you to swap disks when you need to access data on the second of the two disk set.

I've not had enough time to delve deep into *Herewith the Clues!*, as I suspect it will take as long as a conventional adventure to solve the mystery.

It's certainly a novel and interesting development in gameplay, though I'm still more intrigued by the thought of the original physical 'crime dossiers'. Perhaps they will make a come-back of their own.

Bertrum Carrot

PC

ELONEX HEALTHY SERVICE

Two bits of news from the Elonex's ever-lively PR company, The PR Resource. I got my wrists slapped when I referred to JWP as GST's PR *organ* the other month, so *company* it is, this time.

The first reports that Elonex has recently been awarded NHS (Nationally Approved Supplier) status. This apparently gives Elonex a clean bill of health as a computer supplier – their poor pun, not mine.

The other *morseau d'excitement* is a 33MHz EISA-based tower. Indeed, the Extended Industry Standard Architecture does seem to have taken off.

For many months it was thought to be a dead duck and only a ploy by certain non-IBM manufacturers, such as Compaq and Hewlett Packard, to extract licence fee reductions from IBM has managed the process of resurrection.

In fact, it seems to be growing in popularity as a high-end 'serious machine' bus which still benefits from the advantages of compatibility, what with the thousands of AT and XT cards already in use and on sale.

The PC-386V/33E starts at under £2,500 and includes a 32K cache, 2Mb of memory and two parallel and two serial ports as standard.

The base system, priced at £2,495, also has included a 28ms 40Mb hard disk, a 1.44Mb 3.5-inch drive, a mono monitor, a Microsoft mouse, DOS 4.01, Windows and a copy of *Works*.

The package also has a 12 month back-to-base warranty, with on-site cover available for a further £30. For more information on this and other delights, phone Elonex on 081-965 3225.

THINK LATERAL

I've recently be playing around with an image scanner, the Mitsubishi unit I mentioned a couple of weeks back. The expansion card for this device is full length and a tight squeeze in my 386 box.

The other night I felt like a mindless blast of *Menace*, still my all-time favourite shoot-'em-up, though I have to admit that the PC version is not a patch on the Amiga one.

PC *Menace* is geared up for keyboard, Amstrad joystick or IBM joystick (though not mouse, which is daft). To play with the analogue IBM joystick, you have to set the four co-ordinates of the corners of the screen by moving the joystick to its four extremes.

The customary beeps of conformation were not forthcoming on this occasion, however, and the game wouldn't start.

'Ah', I thought, 'I bet it's a conflict with the scanner interface card'. I slid the case of the PC and fiddled for 10 minutes to remove the card, only to be confronted with exactly the same reaction from *Menace*.

So what could be the cause – the software was obviously not receiving anything from the joystick? What else had changed since I last ran the game? It must be something to do with the installation of the scanner card, since that was all that had been done.

I then remembered that I had had to move other cards around to fit the full-length card in the chassis. In doing so, the joystick card had been moved to a different slot and screwed back in.

The card had been misaligned and at least one of the edge connector pads was no longer making contact with the corresponding pin on the connector. Releasing the screw slightly re-aligned the card and, hey, presto, as they say, I could shoot again.

PCs are such complex beasts that any work on one part can have effects on many other parts. These don't have to be software conflicts, and the physical configuration of the machine can be disturbed just as easily.

INITIAL RESPONSE

When you think mainstream PC word processors, names like *WordPerfect, WordStar* or Microsoft *Word* spring most easily to mind.

For corporate buyers, though, there is a fourth name, IBM's own word processor, *DisplayWrite*. Version 5 for DOS has just been released in the UK, at a price of £406 or £91 for the upgrade.

The new version offers WYSIWYG page preview, split-screen, twin document editing, command line menu by-pass and network support.

In among all this new gadgetry, though, which I'm sure will be welcomed by old and new users alike, *DisplayWrite* 5 still retains the pivotal feature known only by the apparently random series of letters – RFTDCA.

What's RFTDCA? It must rank as one of the most meaningless acronyms for an inanely-named feature. *DisplayWrite* 5 uses – Revised Form Text Document Content Architecture.

CHEAPER LASER

Kyocera (you may phone the good people there on 0734 311500) is a major manufacturer of laser printers, and has a wide range of machines with a good name for reliability and value for money.

The F-800 is the company's entry-level model and features 79 resident fonts – that's not a misprint – including three scalable faces.

It includes full HP LaserJet II emulation, as well as Kyocera's page description language, called Prescribe. This particular language is better than Hewlett Packard's PCL or Adobe's PostScript in one distinct respect.

Instructions for its use come with the printer, so you can write your own macros and design your own pages in the language. It's only through Prescribe that you can get at the scalable fonts, however – so a bit of effort is needed to make the most of the printer.

The two remaining good things about the F-800 are its speed – which ranks at an outstanding eight pages per minute, and its price, which is a very reasonable sum: £1,595.

This rather low cost is a reduction from £1,890, which Kyocera has just announced. Ali Demin, Kyocera's sales and marketing manager, feels the new price will 'better position the F-800 in terms of long term added-value'. I reckon it'll sell better, too.

HORSES FOR COURSES

I'm working in a local primary school to help the top class, of 10- and 11-year-olds, produce a school magazine.

The children, in pairs or threes, have picked aspects of the school to write about, and to get other children to write about. They're covering subjects like the annual school camp, visits to field centres and festivals, and the inevitable gallery of teachers, drawn in scintillating and sometimes revealing detail.

The magazine is being put together under *Timeworks Publisher PC* as a series of A4 pages, which will then be photocopied, stapled and distributed to all (and perhaps a few sundry as well).

This technique is fairly low-budget, but there is keen interest in including photographs in many of the pages, both to liven up the page layout and to reduce the number of words they have to write!

I originally thought of scanning in all the photographic material and putting together the pages completely electronically.

In fact, with the resolution of available scanners, around 200DPI, and the number of grey scale levels, it will give a better overall result to leave gaps in the page layouts and paste in black and white prints before copying.

The only other hitch, so far, is with headlines. Optimally, these should be around 50 or 54 point, and *Timeworks* still limits LaserJet output to 36 point type – even though that hasn't been a hardware limit for some years.

The only easy solution to this dilemma is to use output from another program – perhaps *Express Publisher* – for headlines and paste these strips onto the page before printing.

The practical moral of this short tale is that it's all too easy to be swamped by the technology.

It is very important to bear in mind the look of the final document, and then work towards that with the best combination of traditional and electronic techniques. This is how the systems managers do it – they look at the product first, and then they develop the system to manage the problem.

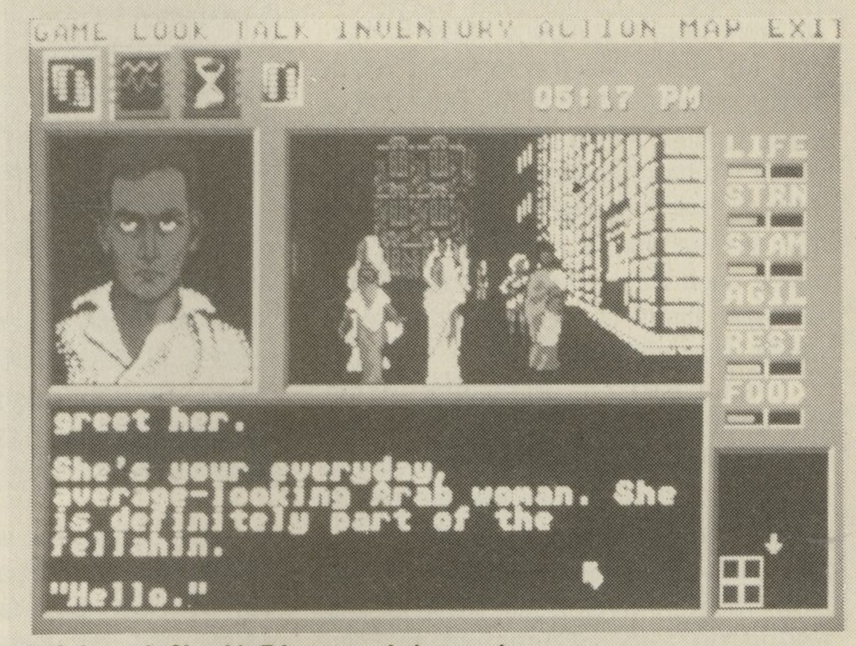
Indeed, to end this latest fairytale, let me state the moral as Grimm might have done it: we can learn from and make use of the professional approach to help us conquer whatever difficulties our own endeavours might bring up – no matter how humble.

Simon Williams

CIRCUIT'S EDGE

PC GAME of the WEEK

Infocom • £29.99



• Infocom's **Circuit's Edge:** ***moody but not humorous.***

It was well after midnight when I left my apartment. It felt dangerous, even for the Budayeen, so I jacked in Mr Edge, the chip I'd taken off a mugger the night before. It took over instantly, turning me into a knife fighter and changing my personality in various nasty, but necessary, ways. Now I was a mean mother, too.

I made it into the street, and headed over to Chiriga's, feeling an uncontrollable urge to slash every fellah I met. Perhaps I should remove Mr Edge before I do any damage.

I realise something is wrong. Every fellah I look at has the same face, smiles the same smile. I lurch into the comfort of Chiriga's, hoping Chiri might knock some sense into me. But she just repeats the same phrases over and over again.

I stumble round to Frenchy's, but the place looks just like Chiriga's, and two of the hookers appear absolutely identical – nice, but identical. What's going on? Have I RPM'd just once too often? Or is this just a computer game?

***Circuit's Edge* is the latest title from Infocom, and continues the company's move away from text adventures. It is a moody piece, set in the 23rd century Middle East of George Alec Effinger's cyperpunk novel *When Gravity Fails*.**

You play private eye Marid Audran, working for Papa to find out who killed Kenji Carter, and have got the whole of the Budayeen, a particularly seedy part of town, to play with.

The game is certainly complicated, with 10 major characters and something like 70 assorted bars, clubs, bordellos, tattoo parlours, pawn shops and more off-beat establishments to explore.

Graphics are not too hot, though; they are puzzling, a little limited and the characters are a bit flat. It has a certain something, but can't match the Electronic Arts version of *Neuromancer*. It hasn't got the sense of humour, for a start.

Matt Nicholson

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AMIGA

A NEW DIMENSION

Within the last six months or so Progressive Peripherals & Software of Denver, Colorado, has established itself as one of the most innovative producers of software and hardware for the Amiga.

Following on from the recent release of its professional CAD system, *Ultra-Design* and its highly-acclaimed video digitiser, FrameGrabber, Progressive has launched *3D Professional*.

3D Professional is a powerful three-dimensional object rendering and ray tracing package that looks set to give marketing leading packages such as *Sculpt*, *Turbo Silver* and *VideoScape* a serious run for their money.

Among other things, the program supports both 24-bit (including the sensational Mimetics 24-bit Frame Buffer) and Amiga screen rendering (HAM and overscanned screen modes both supported). Not only that, but the package can also be used to produce PostScript, RGB and *X-Specs*-compatible image files.

The program employs an intuitive mouse-driven interface that includes powerful 3D object editing and manipulation tools, all from an easy to use *DPaint*-style user interface.

Furthermore, object editing tools include rotation, scaling, shearing, mirroring, slicing, merging and splitting.

Objects can be created using the powerful lathe, conic and extrusion tools. Any standard Amiga font can be loaded in to obtain original and exciting 3D effects.

For anyone who wishes to do raytracing, the program includes full surface attribute control, including built-in textures such as marble, wood, snow, rippled, blend, etc.

Even more impressive is the addition of fractal land and tree creation tools, which can be used in conjunction with the other object tools to produce some breathtaking effects.

3D Professional is available from Marcam Ltd, which can be contacted on 081-941 6117.

MARCAM UP

On the subject of Marcam, the company has finally recieved stocks of Progressive's *FrameGrabber*, and the good people are selling the device for £575 – definately a very competitive price. Indeed, costing that much, *FrameGrabber* is a bargain!

SUPER LITTLE SUPRA

While we are still waiting somewhat anxiously for the release of ReadySoft's *A-Max* 2, news in from the States says that ReadySoft has produced an upgrade to the existing *A-Max* system which will be of special interest to all of you A500 owners (who won't be able to use *A-Max* 2).

ReadySoft has teamed up with the Supra Corporation to produce a new version of the Supra Hard disk driver software that is compatible with *A-Max*. For more details, contact your local Supra Harddrive dealer.

HOLDING OUT FOR A HERO

Rumour has it that Domark is soon to release a value-packed compilation for the Amiga. Called *Heroes*, this latest pack constists of four previously full-priced games, all of which feature well known characters from the movies.

First up is *Licence To Kill*, the computer game adaptation of the very latest Bond film; next up is *The Running Man*, which features muscle bound Arnold Swarzennegger fighting for his life in a sadistic TV game show; that old favourite, *Star Wars*, returns again – it may be old, but the gameplay is second to none; and finally, the pack is made complete with the addition of Palace's *Barbarian II*, which (although not actually a film) bears a striking resemblance to the old Arnie Swarzennegger Conan movies.

You can expect to see *Heroes* arriving at a software stockist near you real soon – look for it.

NEXT WEEK...

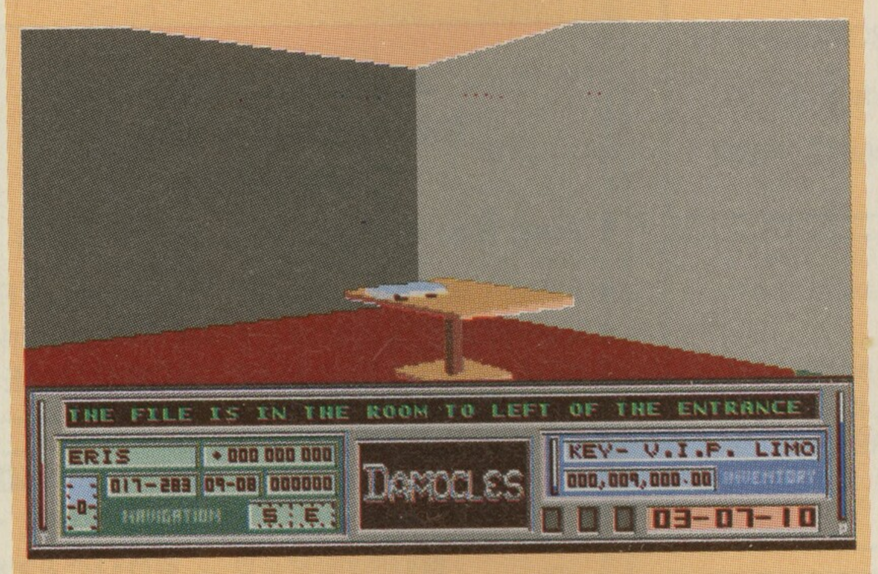
NewTek has finally unleashed its long-awaited VideoToaster card onto the American market. Full details and a look at this amazing peice of hardware in next week's *Express*...

Jason Holborn

DAMOCLES

AMIGA GAME of the WEEK

Novagen • £24.95



Way back in the mists of time, a 3D hunt-and-blast space adventure wowed computer gamers all over, and Novagen had a smash hit with the game *Mercenary*. A follow up was promised and early demos of *Damocles – Mercenary II* started to appear.

Here we are, years later, and what should finally appear? *Damocles*! But has it been worth the wait? Fortunately the answer is affirmative!

You play the same inter-galactic adventurer who made his fortune in *Mercenary*, but with a more vital mission to undertake. The planet Eris in the Gamma system is under heavy threat from a huge impending disaster; a gigantic comet is heading its way towards the planet and is due to strike in three hours.

After you have collected your instructions from the president of Eris, you are furnished with an Eagle spacecraft, in which you must travel around the solar system searching out clues to help you stop the comet. Throughout the game you will find various pieces of equipment, that may either prove useful or hold some information to benefit you on your quest. For example, searching one of the blocks of flats will give you a Filofax that contains a couple of hints.

As well as the mission from the president, various political factions will try to persuade you to carry out their interests. For example, Lloyds 4 of Eris will try and get you to find some way of saving Eris without destroying the comet – as it may prove a useful tourist attraction to boost the company's profits!

This kind of humour is to be found all through the game – from subtle jokes about how late the game was brought onto market, to the inclusion of a Novagen office, where a gigantic safe can be located – a safe that holds vital clues for the game. Indeed, the humour backs up an already strong program – that contains fast and effective 3D routines – serving to add a light approach to the deep and involved gameplay.

If you enjoyed the original *Mercenary*, or just like getting involved in challenging adventure games, then try and get hold of a copy of *Damocles* as soon as you can. All the systems and locations are believable, making it one of the most atmospheric adventure games available. It has most definitely been worth waiting for.

Maff Evans

PRIZE DRAW

Gold Disk's *Professional Draw* version 2 is finally here. Thanks to Gold Disk, I've been able to get my hands on this powerful structured drawing tool, and I'm definitely impressed.

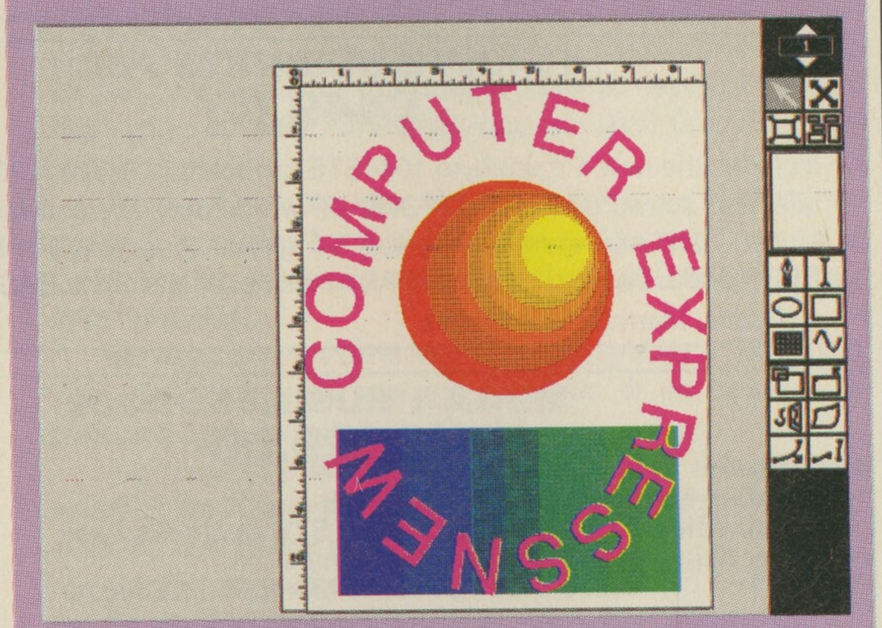
Previous Gold Disk products have unfortunately suffered from operation speed problems, but *ProDraw* 2 is fast both in use and in rendering. So, if you're serious about your desktop publishing, *ProDraw* 2 is a must.

For a full review, check out the very next issue of *Amiga Format* which will be available at your friendly newsagents on the second Thursday of July. Anyway, enough waffle, here's what this exciting new package has to offer:

• Compound Objects – put simply, this allows a object within another object to become transparent, thereby creating a hole the shape of the smaller object within the larger object. If you imagine the small object to be the shape of the hole in a donut, and the larger object to be the actual doughnut itself, this should make things clearer.

• Colour Blending – this is a little bit like the colour spread function to found within *DPaint*. Simply by creating two objects, one containing the start colour and one containing the end colour, *ProDraw* will create a spread of colours between the first and second object. Used properly, this blend operation can create some breathtaking shading effects.

In true DTP-style, the number of colours available for colour



• Some of ProDraw*'s impressive tools in action.*

blending isn't restricted by the colours available from the computer. Using postscript colour separation, you can define as many steps between one colour and another as you require. *ProDraw* displays these colours onscreen using dithering.

• Object Transformation – The blend function isn't just restricted to producing colour spreads. It can also be used to create transformation between two objects. For example, if you created two objects, one the shape of a caterpillar, and one the shape of a butterfly, *Prodraw* will create a series of objects depicting the transformation between the first object and the second.

• Text Control – Text within *ProDraw* 2 is no different from any other object. Every letter of every word that you place on the screen is built up from smaller graphic objects. Each letter can therefore be edited in the same manner as any other object within *ProDraw* 2 – you can resize, colour, distort, rotate letters, and even 'hook' any of the individual points that make up a letter.

Using *ProDraw*'s powerful text distortion tool, it is possible to manipulate the text in ways that were previously thought impossible on an Amiga. Text can be sheared in either the X or Y axis, moved in three-dimensional perspective (just like in *DPaint*), twisted and distorted beyond belief.

• Align Text With Curve – *ProDraw* 2 also allows any string of text to follow a defined path. Simply by creating a path using the freehand pen tool, text can be made to follow a path of any shape or size across (or even around) the page.

***ProDraw* 2 includes an extensive range of options to allow you to specify how this text curve alignment should take place.**

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WATCH WITH NETWORK NEWS

Of all the many and varies professional uses for the ST, perhaps desktop publishing is growing fastest. But it's also a complex process to learn, especially on your own in the company of manuals which frequently tell you what you already know and assume you already know what you want it to tell you.

A smart move, then, for Network News Services to develop a series of videos to show what can be done, and how. NNS is the company that has done what many thought was impossible and transformed the disastrously-bugged *PageStream* into a competent and stable program, namely *Proxima*, which, at £155, is a third the price of the industry standard, *Calamus*. You can find out just how well it performs against 'Big Brother' in the new issue of *ST Format*, out on Thursday July 12.

NNS is also engaged in creating a new monthly magazine called *Micro-Biz*. Naturally the focus will be the ST, for what other machine is so cheap and yet so powerful? (Answers on a postcard, please, to: No Other Machine is As Cheap, Yet Powerful, as the Atari ST, *Express*, 30 Monmouth St, Bath BA1 2AP.)

If you'd like to receive more information about either of the above-mentioned projects, or, indeed, if you feel you have a story NNS should feature, get in touch with Frank Shean on 0375 859103. And tell him *Express* sent you.

MAKE A GRAB FOR IT

Two mates of mine are currently engaged in developing a cartridge that should enable you to 'grab' a screen from just about any program and then save it to disk in *Neochrome* or *Degas* format.

So? Hang on, give me a chance. This means that anyone who uses one of the major DTP packages (*Calamus*, *Timeworks*, *Proxima*) can import these 'grabs' and print them as part of his or her pages. Brilliant if you're explaining some tricky feature of a program or trying to demonstrate how to get past the end-of-level-demon on the third level of some particularly impossible game.

If you're interested in finding out more, or reckon your technical knowledge of such matters might be of some assistance, give Stratford and Duplain (not the team of downright solicitors they sound) a buzz on 0634 684770.

PROSHARE GETS MICROTEXT

A few weeks back I brought to your attention a stockmarket program for the ST called *ProShare* (how did you guess?). I'm told by TC Developments that the latest upgrade includes full compatibility with the Microtext teletext adapter, so users can automate the daily – and hiterto somewhat tedious – process of entering share prices into their database.

From what I've seen of the software, it looks admirably flexible, enabling you, for example, to download selectively – to the extent of sucking in multiple files from different TV channels, should you so require.

The price remains at £49.95, and existing users who've been wise enough to return their registration cards will receive the upgrade free. Now that's what I call user-friendly! So, if you fancy making your first million in the stockmarket, give TC Developments a call on 0937 61145.

But remember, Donald Trump's bank balance can go down as well as up, I'm pleased to say.

STRIPES

A warm welcome, please, for *Quick ST* II, the five program package that will have any GEM-based program zipping along like there's no tomorrow.

It works by replacing many TOS and GEM functions with faster, smoother versions, and it runs on all STs from single-sided 520s right up to Mega 4s and Stacys. You can also install Desktop backgrounds of your own choosing.

Your £19.95 buys you a drawing program, a fast file viewer and a progam to check out the speed of your ST's various operations. Give Advantage a buzz on 0242 224340.

GOING DOWN

The range of education software for the ST is big and growing ever bigger – a couple of months ago I counted 40 new titles out or due for release – but such material tends to be somewhat on the expensive side. Not so the MichTron/Software Direct range, which has just been announced at knockdown – indeed, virtually PD – prices.

At just £3.99 there are Pre-school Kid's programs: *AB Zoo*, an alphabet of animals (you should see what U stands for!), with both 'serious' and 'fun' pictures to illustrate; *PerfectMatch*, a bizarre game of match-the-(mostly biblical)-statements; a decidedly out of date algebra compilation grandly entitled *Algebra Series: Volume 1*; and typing tutorial *Invasion*, which asks you to type to save the New York skyline.

At £3.99 rather than £25 or more, these programs represent value for money. Phone MichTron/Software Direct on 0726 69692.

GEM GETS GO-FASTER GOINGS AND COMINGS

Children's Learning Software has ceased to be, but its titles, the well received *Let's Spell* series, are now under the Softstuff banner. In addition to the highly successful *Let's Spell at the Shops* and its French language-tutor counterpart, Softstuff has released a companion package, *Let's Spell at Home* which is every bit as good as the earlier packages and features digitised speech. Each Let's Spell package costs £19.95 direct from Softstuff (phone 0732 770234) or, as they say, from all good computer suppliers.

DATE FOR YOUR DIARY

Don't forget the 1990 British Music Fair, which takes place at London's Olympia on Friday to Sunday, July 20 to22. Latest information indicates in excess of 150 exhibitors demonstrating and doing good deals on several hundred tons of the latest and sexiest MIDI and recording equipment. So you'd do well to bring along a few credit cards.

Expect to see dozens upon dozens of Atari STs, for everyone who's anyone in the music biz. You do run the risk of running into yours truly, but every silver lining has a cloud.

Steve Carey

FLOOD



The game currently occupying all your correspondent's spare time (as well as some time that isn't really spare at all), is *Flood*, a devilishly difficult, not-so-cutesy platform that's like *Rainbow Islands* on acid.

Flame throwers, teddy bears with mad, staring eyes and a constant danger of drowning are just three of the items that guarantee a pair of cold, sweaty palms and the mysterious disappearance of three and a half hours (I know, I've been there).

The fiends responsible for this cunning bundle of depravity and corruption are the notorious Bullfrog gang, who did not carry out the Great Train robbery but are believed to have been responsible for the Great *Populous* Takeover of 1989. This blasphemous item, you may recall, had people the length and breadth of Britain rivetted to their monitors for hours, and in some cases days, at a time.

And that's not all. Oh dearie me no. For not only do the Bullfrogs have detailed plans for *Populous II: The Revenge*, they're on the brink of bringing out their next major title. *Powermonger* (peculiar name, I agree: it was *Warmonger*, but the Yanks thought it 'too aggressive') looks just a little like *Populous*, but has tons more to it.

I've seen the future, and its name is *Powermonger*. Will those dastardly Bullfrogs stop at nothing in their pursuit of world domination and a bigger bank balance?

SKIDZ

ST GAME of the WEEK

Gremlin • £19.95



Gremlin has moved away from golf simulators only to come up with the ultimate challenge – a street-cleaning simulator! It sounds an odd choice for a computer game, but when you get going, the action is surprisingly addictive.

The game puts you in control of either a skateboard or a BMX push bike which you need to steer through a variety of levels in a race against time. Your objective is to ride along roads and pavements, picking up rubbish by riding over it. As you collect the rubbish you need to find dustbins to toss it into.

En route you also need to pick up food in an effort to sustain your energy levels, while collecting time clocks which buy you valuable seconds. Since time ticks by very quickly, it's essential that you collect as many as you see. To complete a level you must collect at least 75 per cent of the rubbish littering the roads and deposit it in bins.

But your task isn't as easy as all that. Along the way you encounter a variety of obstacles from workmen digging up the road to dogs, cats and pedestrians. If you're travelling at speed, bumping into them can knock you from your bike. Even if you're moving slowly, they can hamper your progress, and with the seconds ticking by all too quickly, you cannot afford to stop for long.

There are eight levels in all. The course takes you through quiet roads, parks and beaches. As you advance, the obstacles become more troublesome and there are fewer time clocks to collect.

Visuals in the game are surprisingly detailed – especially the workman in charge of a pneumatic drill. Scrolling takes place in eight directions and is perfectly smooth even when you build up speed. Unfortunately, collision detection is suspect on some occasions.

The fun element in *Skidz* makes a welcome change from the host of violent shoot-'em-ups littering the shelves. Though the action isn't nail-biting stuff, the game is surprisingly absorbing. *Skidz* becomes very repetitive in a short time but for the first few hours of play you just can't put it down.

Mark Higham

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★ Battery Backed Real Time Clock/Calendar
★ 1024x768 SVGA Card 256Kb RAM (expandable to 512Kb)
★ High Res Mono Monitor
★ DR-DOS Operating System

	P/W	SVGA PW	VGA	SVGA 1024
As Above	£795	£895	£995	£1145
45Mb 25ms*	£1145	£1245	£1345	£1495
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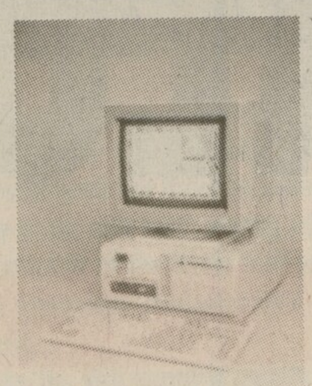
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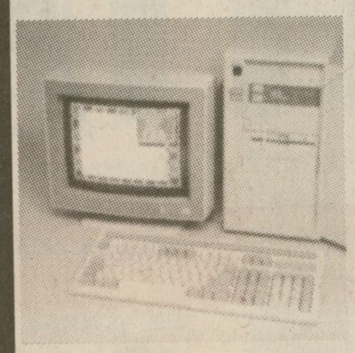
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THE SHOPPING EXPRESS GUIDE TO

SOUND

SAMPLERS, SEQUENCERS AND INTERFACES

Computers can be of great help to musicians. As well as making noises from their own loudspeakers, musicians can sample sounds and replay them, or control a synthesiser via a MIDI connection.

The borders between music and software are becoming more blurred with each passing year, as music companies invest in both hard and software companies. The industries are working hand-in-hand to produce an ever wider range of products. Indeed, the choice is baffling and growing larger month by month To some extent, of course, the choice of software and its possibilities are marked out by the computer that you choose to run it on. Now *Express* gives you a comparison of the major computers, followed by a comprehensive run down of the best software available across the board.

COMPUTERS

● ATARI ST SERIES

▲ Built-in MIDI ports
▲ No compatibility problems
▲ Large software base
▲ Not expensive

▼ Some programs require hi-res screen
▼ GEM environment can be slow
▼ Internal sound chip not very good

● COMMODORE AMIGA SERIES

▲ No MIDI compatibility problems
▲ Excellent internal sound chip
▲ Stereo output
▲ Multi tasking

▼ MIDI interface not included
▼ Software base not so large yet

● PC

▲ Large software base

▼ MIDI compatibility problems
▼ Poor internal sound chip
▼ interfaces relatively expensive

● ARCHIMEDES

▲ Excellent internal sound chip
▲ Very fast processor
▲ Multi-tasking
▲ New models have built-in MIDI interface

▼ Small software base

SEQUENCERS

Perhaps the most widely available type of software. MIDI sequencers come in all shapes and sizes from the public domain to the bespoke facilities. The usual mark of excellence is ease of use coupled with hosts of labour-saving musically intelligent routines. Hopefully it will also be able to save in MIDI file format so that work on one sequencer can be transferred to another without tears.

● CREATOR

FOR Atari ST series
FROM C-Lab (Sound Technology): 0462 480000
PRICE £285

Becoming the most used of sequencers it has excellent editing and arranging features. Although not cheap, if you are serious about music then this is the one to go for. Hardware expansion to control up to 64 instruments independently

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

▼ Handbook can be difficult
▼ Expensive if you are not serious

● TRACK 24

FOR Atari ST series and Amiga
FROM Comus/Soundbits: 021 733 2063
PRICE £75

Well priced budget sequencer with more features than you would expect, rivaling software twice it's price. Compatible with more up-market sequencers and scoring packages.

▲ Cheap
▲ Good sequencing facilities including Mixdown
▲ MIDI File

▼ Editing is peculiar

● STEINBERG PRO 24

FOR Atari ST series and Amiga
FROM Evenlode: 099 389 8484
PRICE £285

The Steinberg Pro 24 has been the industry standard for many years. The soon-to-be-available Amiga version should prove interesting, if all the rumours are true. They are pushing their new program 'Cubase' at present but one should not neglect this easy to use and very popular program. Make sure you get at least version 3 though.

▲ Easy to use
▲ Established program
▲ Easy editing

▼ Price

● VIRTUOSO

FOR Atari ST series
FROM The Digital Muse: Audio Software: 071 586 3445
PRICE £225

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

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

▼ New and therefore untested in the general market
▼ Price

● K.C.S. 1.6

FOR Atari ST Amiga, Mac and PC
FROM Dr T: 071 258 3454
PRICE £199

Dr. T programs, are nearly all made to run in a Multi Program Environment, which means that you can work on several of them simultaneously. KCS runs on 48 tracks, has loads of features and is the most popular sequencer from the range. It can also be upgraded with add-on programs to enhance editing features. What is more the KCS can be enhanced as far as music printing goes as well.

▲ KCS is a very well established program
▲ Upgrades and works with other software
▲ MIDI file

▼ Editing not easy

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REPAIRS FOR AMIGA AND ATARI

● M.R.S.

FOR Atari ST, Amiga,
FROM Dr T: 071 258 3454
PRICE £59

The MRS is a low cost eight track sequencer that provides a decent introduction for the beginner. It has a few quirks in its operation, like defining song length from the length of track one. Generally, however, this has quite generous facilities. Indeed, the Amiga version will support the internal voices.

▲ Easy to use
▲ Low cost
▲ Can be upgraded to KCS
▲ Well documented

▼ Has a very laborious editing facility, that slows it down
▼ Has a few peculiarities

● SUPER CONDUCTOR

FOR Atari ST
FROM Microdeal: 0726 68020

This is a very popular little sequencer that will control the ST sound chip. It has been extremely well thought out, especially in the song arrange section. Can also cope with the fine details of MIDI including systems exclusive editing.

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

▼ Editing not too easy
▼ Quantize limited

● WADDINGTON SEQUENCER

FOR Atari ST
FROM Public Domain
PRICE about £2

Canadian 64 track sequencer. Although limited in facilities like quantize and editing it is nevertheless a real bargain.

▲ Costs next to nothing
▲ Excellent introduction to MIDI
▲ Easy to use

▼ Limited facilities
▼ Can crash on occasions

● EZ TRACK PLUS

FOR Atari ST
FROM Syndromic Music: 081 444 9126
PRICE £49.95

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

▲ Good price
▲ Easy to use
▲ Compatible with Hybrid Arts EZ Score

▼ Unfortunately, limited on editing and quantizing

● STUDIO 24 MK 1

FOR Archimedes
FROM EMR: 0702 335747
PRICE £99

The cheapest sensible sequencer for the Archimedes. Cuts a few corners here and there but is not a bad sequencer with average editing facilities.

▲ Best for the Archimedes in this price range
▲ Can be upgraded to more powerful Mk2
▲ Very fast

▼ Poor documentation
▼ Editing of data non-graphic

SYNTHESISER VOICING SOFTWARE

One of the great boons of MIDI, especially with the complex multi-timbral synths/tone modules that are on the market. You are able to see the set-up on-screen instead of labouring over a LCD, which allows you to create sounds easily. Additionally, many programs have automatic voice generation to help with creating new sounds.

● CZ ANDROID

FOR Atari ST
FROM Syndromic Music: 081 444 9126
PRICE: £75

The most useful program to get if you have any of the Casio CZ series synths. On their own they are pigs to program and the preset sounds are rancid; use this and your CZ will never sound the same.

▲ Easy to use
▲ Excellent graphics
▲ Good library facilities

▼ Can't really think of any!

● 3D PROGRAMMER

FOR Atari ST
FROM Soundbits: 021 733 2063

This is a smart piece of software that not only covers the Roland D110 but also covers the keyboard versions D10 and D20.

▲ Easy to use
▲ Configures a very difficult instrument

▼ Roland's version of D110 may not work with it (or any other software for that matter!)

● X-ALYSER

FOR Atari ST
FROM C Lab (Sound Technology): 0462 480000
PRICE £175

Very intelligent voicing program for the DX7 synth. It has a built in conversion to MIDI sample dump in order that the sound might be replayed from the sampler directly.

▲ Very easy to use
▲ Good library facilities

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▲ Sample dump
▲ Use of graphics

▼ Price is on the hefty side

● SYNTH LIBRARIES VARIOUS

FOR Amiga, ST
FROM Public Domain
PRICE £2.95 approx.

It is worth noting that there are various public domain programs that will voice the most popular synths; e.g. DX7, CZ series, as a cheap cheerful introduction - they could well be your best bet.

▲ Price
▲ Usually have a set of new voices for your synth
▲ Sometimes have random voice generation

▼ Sometimes fail for no apparent reason
▼ Editing not always available
▼ Editing is nearly always numeric and not easy to understand

SAMPLERS

Samplers is another growth area for computers. In fact, the public domain market is full of samplers of all sorts, from well worn rock numbers to Thunderbirds! However to actually digitise sound you will need hardware and this is where the expense comes in. The main points to remember are that editing needs to be clear and easy, sounds should be able to be filed away to be re-used in other utilities and MIDI support is certainly a must for the serious user.

● FUTURESOUND 500

FOR Amiga
FROM HB Marketing: 0895 444433
PRICE £89.95

Very clean and clear sampling with good editing facilities.

▲ Easy to use
▲ High quality sound

▼ No MIDI
▼ Cost

● A.M.A.S.

FOR Amiga
FROM Microdeal: 0726 68020
PRICE £75

Quality sampling plus MIDI interface.

▲ Clean samples
▲ Comes with MIDI interface
▲ Well organised program

▼ None, unless you think it is too expensive

● PRO SOUND DESIGNER

FOR Amiga
FROM Eidersoft: 0234 273000
PRICE £75

If you get the 'Gold' version, you will get a far superior program. MIDI is included but the interface is extra.

▲ Clean sounding samples
▲ Has many on-screen features

▼ MIDI interface is extra

● I.S. DIGITISER

FOR Atari ST
FROM Innovated Software: 0903 213614
PRICE £69

A sampling package with the options of buying extra software for MIDI and/or clever wave form displays.

▲ Very high sampling rate
▲ Good filters
▲ Program can be expanded

▼ MIDI not in original program
▼ Could be costly

● REPLAY 4

FOR Atari ST
FROM Microdeal: 0726 68020
PRICE £59.95

One of the first sampling packages not in it's fourth version. Earlier versions available on Public Domain as sample players only. MIDI well looked after.

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

▼ The ST is not the best sample player.

● SAMPLER

FOR Archimedes
FROM EMR: 0702 335747
PRICE £126.50

Has all the funtions for sampling plus the of the computer to make them very clean 8 bit samples.

▲ Fast
▲ Many good features
▲ Very smooth samples

▼ Price

MULTIPLE PURPOSE PROGRAMS

The 'all talking, all singing, and all dancing' section. These are programs that cross over from having just one dedicated function. In the case of Music-X you have a complete music studio under one roof. The rest are mainly for fun (but what's wrong with fun anyway?) although some serious work can be done on them.

● MUSIC-X

FOR Amiga
FROM SDL: 081 309 0300
PRICE £199.95

The best package in the market. It has every feature you could ever conceivably want. MUSIC–X will program synths, organise and store the MIDI data from anything and sequence in a very professional class. This package singlenotedly establishes the Amiga in the music market.

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SYNTHESISERS

As mentioned earlier, at the beginning of this piece, the quality of sound does depend on the computer at your disposal. In truth, only the Archimedes and the Amiga are serious contenders for real sound synthesis at present, although Atari is attempting to fix this with the STE. Future computers will doubtless go even further down the road to having a synthesiser tucked under the housing. As a mark of just how far this is going, PC owners can actually now buy synthesizer cards from the likes of Roland. Indeed, it would not be unwarranted to expect a large growth in this field soon, moving away from just replaying sample files towards a more active music synthesis with your computer, and of course, with your ear.

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FOR Archimedes
FROM EMR: 0702 335747
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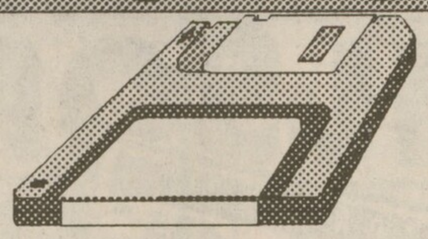
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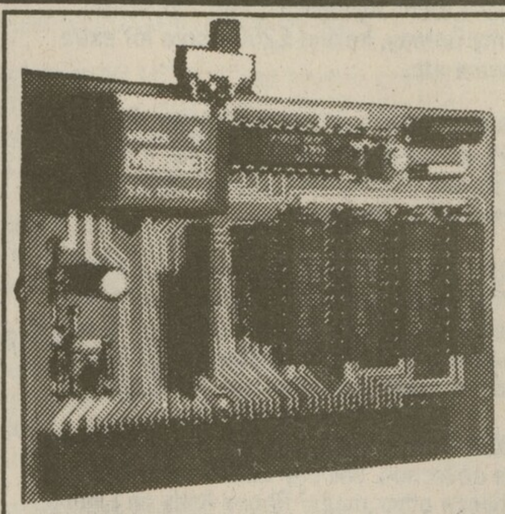
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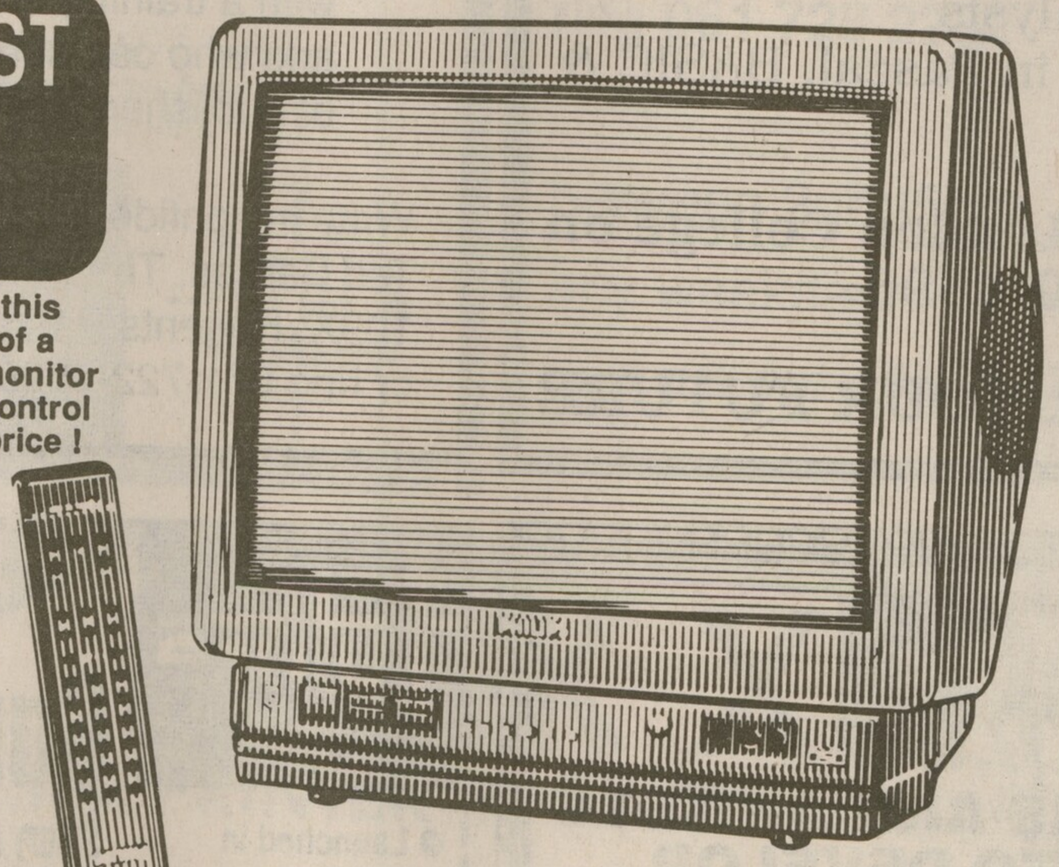
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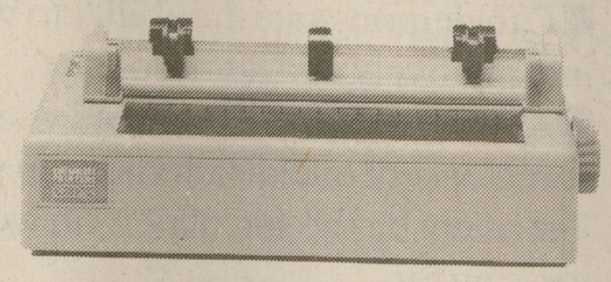
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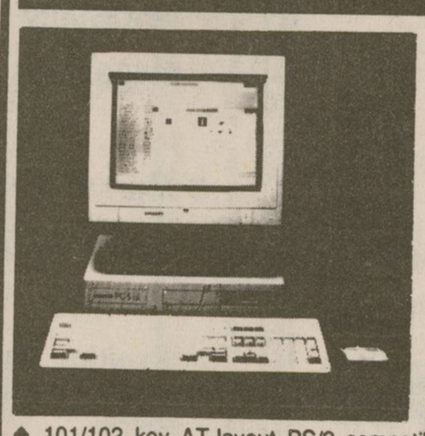
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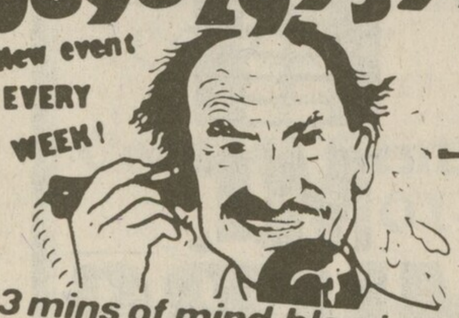
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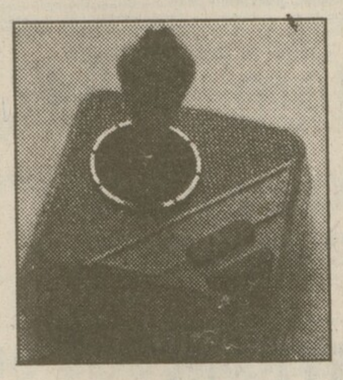
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ADVENTURE enthusiast seeks contacts to exchange ideas etc for ST and PC games. Mr S Lucas, 47 Longcroft Lane, Cheadle Hulme, Cheshire.

ANY computer users who use Klaver Music Notation interested in forming/joining a user group; ring Mike on 01 520 5223.

BBC contacts wanted to exchange software, hints, tips etc. All letters replied to, write to K. Scotney, 17 Cromer Avenue, Burley, Lancs BB10 3HA.

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THE PD COLUMN

This week's PD column is a veritable cornucopia. Indeed, Adam Waring starts ladling out advice for PD users with ST machines, and then he marches on to cover the best available for the PC and the machines from Commodore.

Are you positively rumbling with hunger for PD on your ST? Paradise Computers may have just the thing to whet your appetite.

It has cooked up a little program that, if you keep your ST in the kitchen, could be a recipe for success. *Assistant Chef* is your handy helper.

No, it doesn't do all the washing up for you, instead it tells you just how to cook that speciality dish – and I'm not talking beans on toast.

Basically, it's a computerised recipe book. It has all the ingredients of a simple database, adapted to give you those step by step directions at the touch of a few buttons.

Everything is laid out in a friendly sort of way, so you can scan through your culinary collection at ease. There's a built in selection of around 40 or so mouth-watering examples to start you off. And adding your own entries is as easy as pie.

On loading you're confronted with a menu, from which there are various options to chose. For starters, or as an appetizer, you can look through the predefined list. If you're after a particular kind of dish you can sort them into order of food group, food type and dish type. Dish group is the odd one out. All the recipes are numbered.

When you have managed to decide on the one you want, it's selected by typing in the number. Unfortunately you can't simply click on the recipe itself, which would have made things a lot friendlier.

The actual recipes consist of a couple of pages. The first is an ingredient list, so you can quickly check that you have what you need in the pantry.

The next page consists of the cooking instructions – a complete step by step guide, just like in any printed cook-book.

Assistant Chef may not be to everybody's taste. In fact it probably only caters to the minority. It does the job fairly efficiently, though, without making a meal of it.

PC

Ever fancied writing your own book, or editing your own magazine?

Without lots of expensive DTP software, laser printers and Lord knows what else, you'd really have quite a job on your hands. Until just recently, that is...

Agog is described as a book compiler. It allows you to create interactive disk-based magazines.

You can write your words onto a series of pages, add graphics, and slap a nice front-end on the thing to make it as easy for your readers to flick through as it is for them to have a good old-fashioned read.

Because of the nature of the magazines that you can produce, ie disk-based, your readership is of course limited to other PC users.

It's a shareware program, and the distributed version only allows you to use text in your works. Send off the registration fee, though, and in return you'll receive an updated program that allows you to include graphics in your literary masterpiece.

The registration fee isn't fixed. You're encouraged to contribute what you think the program's worth.

Accompanying the program are two examples that have been created with it. One is the manual – essential reading if you're going to use the software properly. The other is a sample magazine called *Agog Ago Go*.

The mag starts off charmingly: 'I

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have included some help pages for those of you who are very stupid. Reviewers and computer journalists should start here.' Apart from the initial insult, that is, I found it to be a suitably entertaining read, if just a tad on the long-winded side.

It is comprised mainly of silly stories and witty anecdotes. And there are plenty of pages to browse through, if I was disappointed when I finally reached the end.

Each issue of *Agog Ago Go* costs £4. By anybody's reckoning, that makes it a pretty expensive magazine.

Now the purchase price does get you a copy of the *Agog* program. Once you have one copy, however, you're not going to need another.

The documents created with the program are very easy to use – even for reviewers and journalists. The different sections are accessed simply by typing a number.

From this start-off you can flick through the pages using the 'Page Up' and 'Page Down' keys. If there's something you're after in particular – but you're not quite sure of its whereabouts – there's even a search option.

Just enter a keyword and the computer looks through the entire contents and matches up your request with the available subject matter.

COMMODORE

Commodore Business Machines is responsible for far more than the Amiga that we all know and love (with the possible exception of any dogmatic ST computer owners).

The company has been there from the start of home computing. Indeed, ilts long history has seen several computers out from the stable.

The original was the PET – a bit like an old time CPC, with built in monitor and tape drive. Then came the VIC 20, the first colour home computer.

The VIC's successor, known as the C64, is still a very popular 8-bit machine. The Amiga brings us up to date, and is currently the UK's hottest selling machine.

Not everything from Commodore has been a success story though. The C16, C128 and Plus 4 computers all flopped.

Unfortunately for Commodore, the machines offered out-dated and over-priced technology. As a result, Commodore was in serious financial strife for some time.

So some of the computers were arguably better than others. ICPUG doesn't care about that though. As far as this organization is concerned, all Commodores have their place.

ICPUG is the Independent Commodore Products Users Group. The good people from ICPUG publish a mini-magazine that comes out every two months.

So why am I telling you this? This is supposed to be a PD section, not a fanzine review. Well, the user group has PD galore. Now PD for the Amiga is commonplace.

But what about its older relatives? It's all here. Plus 4? No problem! ICPUG caters for virtually every Commodore product ever made. And the best news of all is that it's absolutely free!

Well, that's not entirely true. You need to become a member of ICPUG in the first place, but after that, the price of a disk, a jiffy bag and a couple of stamps is all you'll need to pay.

So how much does membership cost, I hear you ask. A years subscription will set you back £16. In addition to that though, there's a £1 joining fee, which entitles you to become a shareholder of the club.

The whole thing is run on a co-operative basis, with all the funds going towards the running and upkeep of the club.

The club has a 12 year history, boasts around 3,000 members, and as well as an extensive Amiga PD library, has the UK's only Pet and C16/+4 PD collections.

WHERE TO GO

• ICPUG – contact the membership secretary at PO Box 1309, London. N3 2UT. You may also, if you prefer, telephone 081-346 0050.

Whatever your computer, as long as it is manufactured by Commodore, ICPUG has more than plenty of PD for you.

Everything's free – there's not even a copying charge – but you have to be a member to get hold of even the slightest, smallest bit of it.

• Agog, 116 Eswyn Road, Tooting, London. SW17 8TN.

Supplier of the PC disk book compiler *Agog*. This group also produces the magazine, *Agog Ago Go*, written with the software.

The whole bundle costs £4 an issue, and comes with a cut down version of the program. For a full graphical version you need to register, as the program is shareware.

Price is completely unspecified – it's a case of 'pay what you think it's worth.' Thus the honour system at its best is in play here.

• Paradise Computers, 9 Westfield Cresent, Brighton, Sussex. BN1 8JB.

This is known as an ST-only library. Prices are set at a quite reasonable £1.95 for a single-sided disk, and £2.95 for double-sided.■

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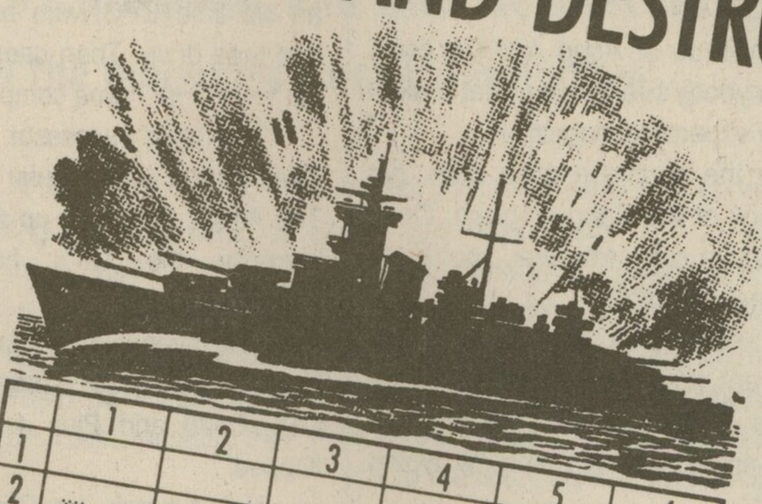
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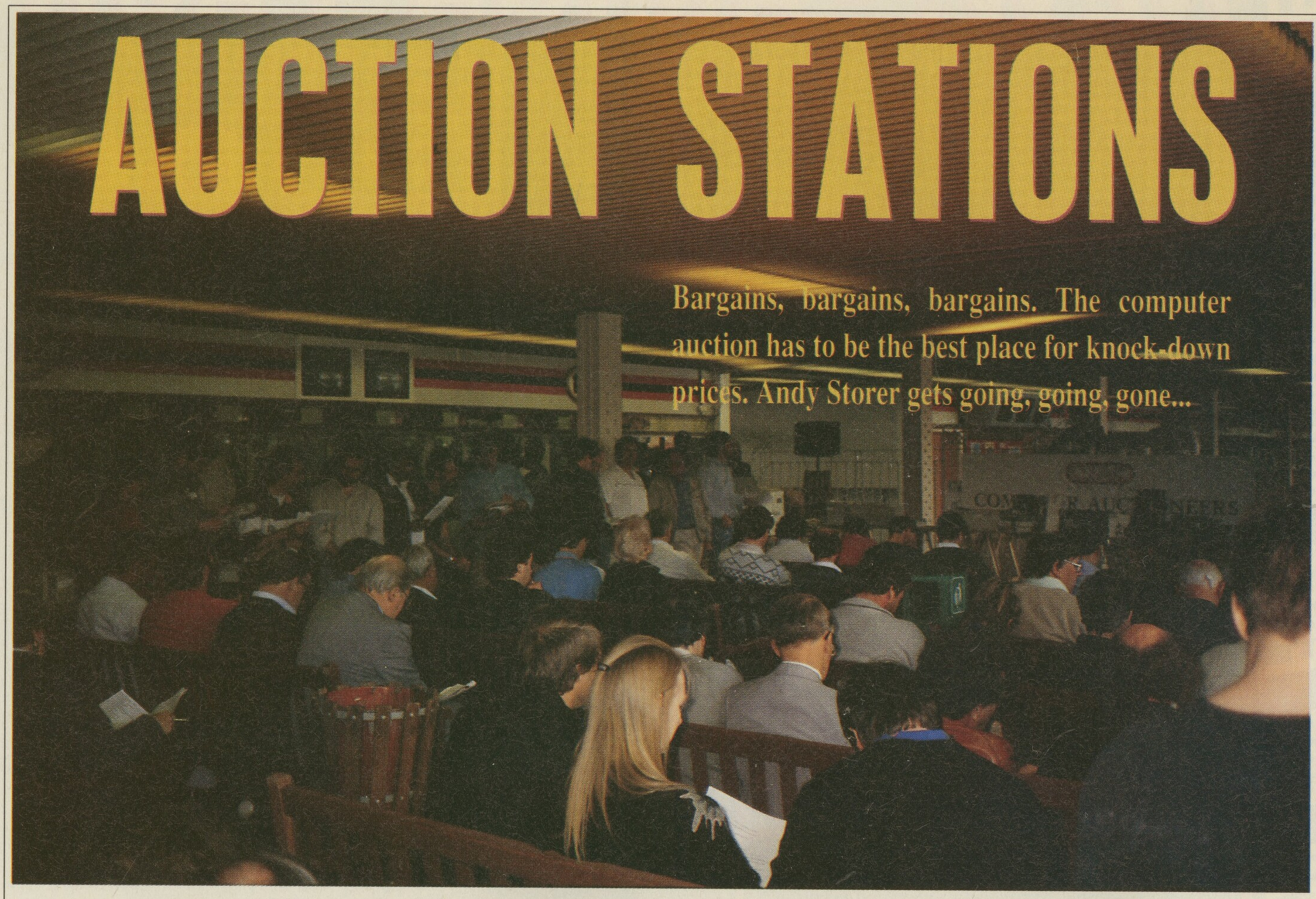
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AUCTION STATIONS

Bargains, bargains, bargains. The computer auction has to be the best place for knock-down prices. Andy Storer gets going, going, gone...



I'm selling at 15... 16 anyone? 15... I'm selling at 15...", the mallet hits the trestle table with a sharp, solid smash. "Sold." The 15th brand new Mitsubishi 720K disk drive in a row goes for 15 quid. Moments earlier a couple of hi-res mono monitors had been picked up for £32 a piece.

Yes, it's Bargain City UK – Kempton Race Course on a wet Saturday in June. Maybe 200 punters looking for a cert in a room full of repo gear.

Printers, modems, monitors, laptops, 386s, hard drives, hard cards and hard cheese. Sometimes someone will bid you through your limit. The odd fax, a single CD player, a couple of Macs. Stacks of software, mountains of motherboards and piles of PCs.

Nearly a hundred grand's worth all told of lease repossessions, liquidated stocks, dealer exchanges and public cast-offs – 800 lots spread over 200 feet of trestle table.

WHAT AM I BID?

"The software alone must be worth a grand"

"Yeah, but the things are out of date, who you gonna get to fix them?"

" There's always some place somewhere... anyhow you can always junk them at the price they'll go for"

It's not all the brands that time forgot though. In among the antique Osbornes are a couple of matte black ex-military Grid laptops – the kind you can throw across a room while they're still rounding up your VAT figures. A nearby orange-screened Toshiba 5100 portable has just gone for £1,825 – shop price £2900 if you're lucky. A Mac SE/40, with around £1,000 of software on-board sells for £900 under the mark for a snip at £1,300.

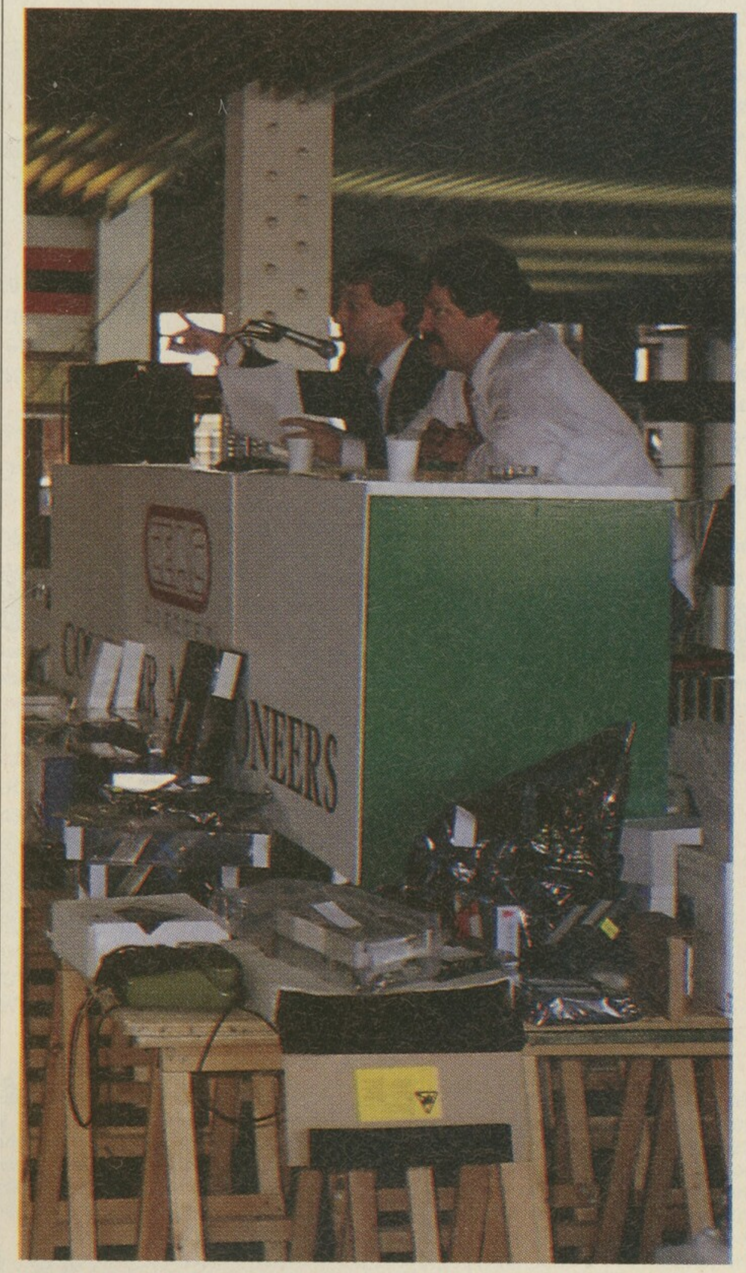
But it's not all bargains, bargains, bargains. Two 386 tower systems with VGA monitors are withdrawn after they've failed to meet their reserve price. A brand-new Psion MC400 is taken out of the proceedings too. There's limits to the discount on offer and if you've been waiting for four hours for lot 487 to come up it's no joke. But then you counts yer money and takes yer choice.

STARTER'S ORDERS

" It seems to work OK, I wonder why it's here?"

"Don't know, maybe it's faulty or hot"

Although the police reckon that nearly 40 per cent of second-hand computers for sale are stolen property, you won't find one in an auction. The items on show at any hi-tech auction comprise liquidated, end of line and retailer returned stock along with leased or rented hardware that's had to be impounded because someone couldn't keep up with the payments.



• *At a rate of over 100 lots per hour, the man with the gavel really has his work cut out.*

WINDOW SHOPPING

The catalogue of objects on sale at the Kempton auction ran to 1,400 items of which 800 were on offer on the day. Although appearing in the list, some kit may often be inexplicably rescheduled to appear at an auction the following week.

Most of the brand-new kit goes for something between 70 and 80 per cent of its normal price, but if there's a batch of identical lots – say a couple of dozen disk drives – then prices can be as low as 40 or even 20 per cent of the usual.

But don't expect the last of the batch to go for the lowest amount. That's what everyone thinks. It's often best to bid for the first item in a batch and double bluff your competitors.

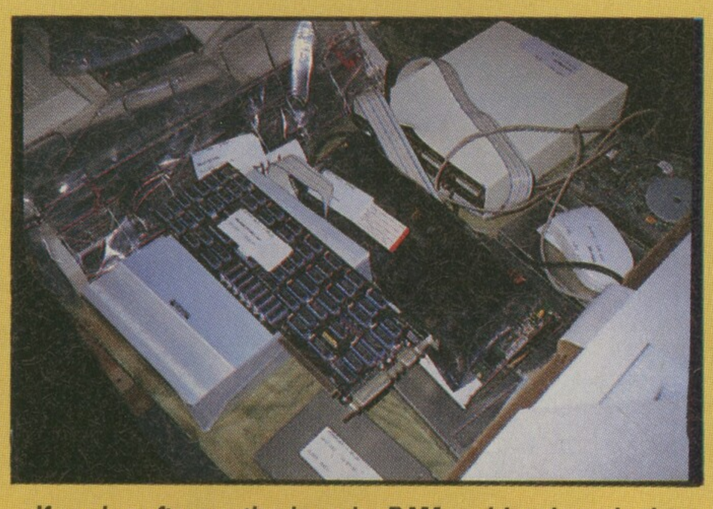
Here's just a taster of what was on offer – would you have found what you've always wanted at the bargain price of a lifetime?

- **IBM AT-compatible 2.5Mb RAM expansion card**
- **Amstrad 30Mb 3.5-inch hard disk drive**
- ***WordPerfect* 5.1**
- ***WordStar* 6**
- **Amstrad PC1640 with 20Mb hard card and mono monitor**
- **Toshiba ExpressWriter portable printer**
- **Amstrad PC 2086/30 with VGA mono monitor**

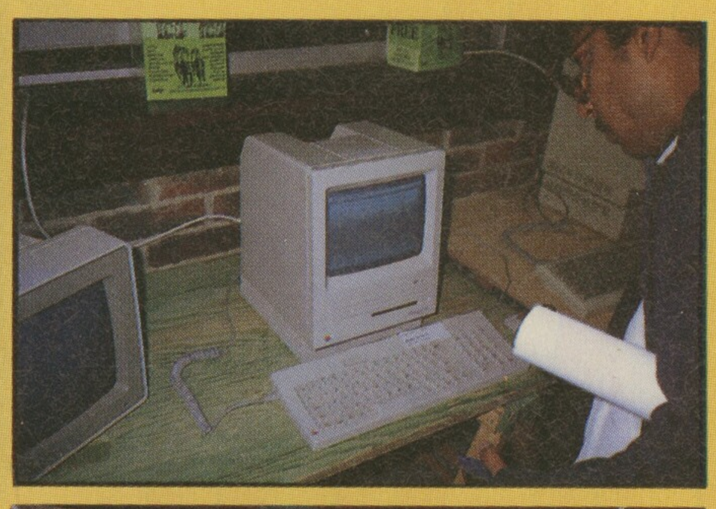
THE SIGHTS OF THE AUCTION

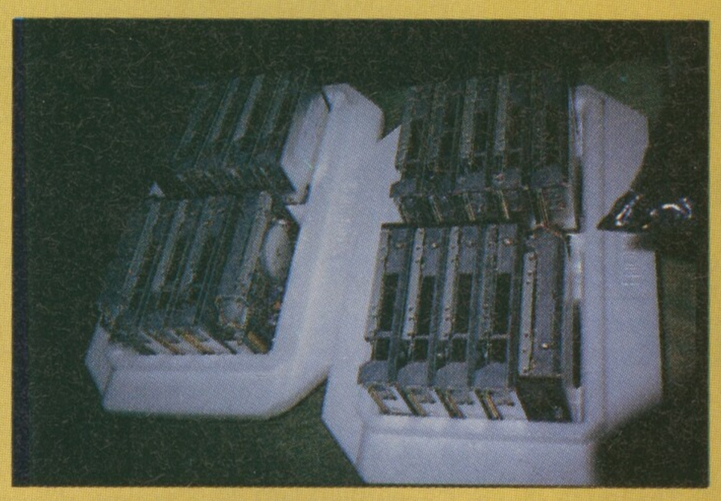


• *This 24-pin Epson LQ2550 would cost you £900 in the shops – here it went for £220.*



• *If you're after motherboards, RAM and hard cards then you're spoilt for choice*





• *Fifteen Mitsubishi 720K disk drives sold for between £15 and £22 each. List price? Around £70.*



• *Making the bids. Don't worry about accidentally buying something – the auctioneers know the difference.*



• *If you had bought this Mac SE/40 (top) and Toshiba 5100 portable you would have saved yourself £2,000.*

As far as getting your hands on this often nearly new kit is concerned it's best to turn up at a computer auction an hour or two before the hammer starts crashing. Find a mains supply and power up the kit you're interested in, try out the software and play around to your techie heart's content.

Better still, phone up the auctioneers before hand and get them to send you the catalogue of lots – that way you'll know what time to turn up. At an average rate of 100 lots per hour you won't want to save money by wasting time arriving miles too early and have to sit through anything up to 1,000 lots. For where there's muck there might be brass – but there's also a lot of useless junk.

Once you arrive at the auction's venue, check on the desk to see whether any items from the catalogue have been withdrawn, and pick up a numbered card in exchange for your name and address. This card will then act as your flag – just hold it up if you want to join the bidding.

And don't be put off by the fear of swatting a fly and ending up with a derelict mainframe. The auctioneers are pros. They can spot the intended from the accidental a mile off.

At the end of the day, the whole process is fun. From rummaging through the boxes of printed circuit boards to the thrill of the fare on hand, there's the anticipation of the once-in-a-lifetime hardware bargain. But its not just hardware. Word processing, databases and languages seem to dominate the software side with even greater reductions.

Finally, auctions tend to bring out buyers' fever and you might end up coming away with a completely different item to the one that you had your eye on, so there are certain golden rules you should follow.

- Get a catalogue before hand
- Set yourself a limit
- Give your selected items a good looking over and see if there's a warranty card present
- Wait for the auctioneer to call the first bid – he'll come right down if no one offers
- Don't be tempted to outbid over the odds – you might be up against a dealer for whom a bargain is just a higher than normal margin. ■

BEST OF THE BARGAINS

Since there's more IBM compatible kit out there than any other, PC bargains dominate most auctions. You might stumble across the odd Mac and a few PCWs, but the Big Blue rules the repo world – as the following show...

- **An IBM 20Mb hard card for £74**
- **A PC-compatible 40Mb ST251 Seagate hard drive for £52**
- **A CGA colour monitor – £46**
- **A Tandon 1.2Mb floppy drive – £24**
- **A Hitachi LM 2236 LCD display with 640 x 200 resolution – £14**
- **Assorted XT keyboards – £4**

And the pick of the printer price cuts...

- **Epson FX 100 wide-carriage dot-matrix – £100**
- **Epson LQ2500 24-pin wide carriage NLQ – £220**
- **Micro Peripherals 9-pin printer with parallel interface and NLQ – £75**

RIGHTING WRONGS

In theory, everything at an auction is sold as seen, but you do have the rights of a second-hand buyer. The onus is on you to make sure the kit you buy is worth the money you're likely to bid.

Most auctioneers won't mind you opening up machines and having a good look at the contents. As most of the machines are powered up, you can always take along your own software to see if it runs, also taking along a benchmark tests to make sure that a 386 isn't just a case with a 286 at its heart.

However, if an item doesn't tally with the description in the catalogue, the Sale of Goods Act entitles you to a refund. Unofficially, most auction companies will refund your money if you buy piece of kit that doesn't work as it should.

COMING TO A TRESTLE TABLE NEAR YOU

Several computer auctioneers will be holding Saturday sales events over the summer – here's the countdown to auction stations...

IN THE SOUTH EAST

• CEAC on 071-738 2400 will be holding auctions on July 7 and 20 at North London College of Technology, and on July 13 and 27 in Grant Road, Clapham.

• Technology Computer Services on 081-651 3639 has an auction on July 14 at Kemnal Manor /School, Seven Oaks Way, Orpington, Kent. Another one is scheduled for August 4 at an as yet to be announced location in Kent

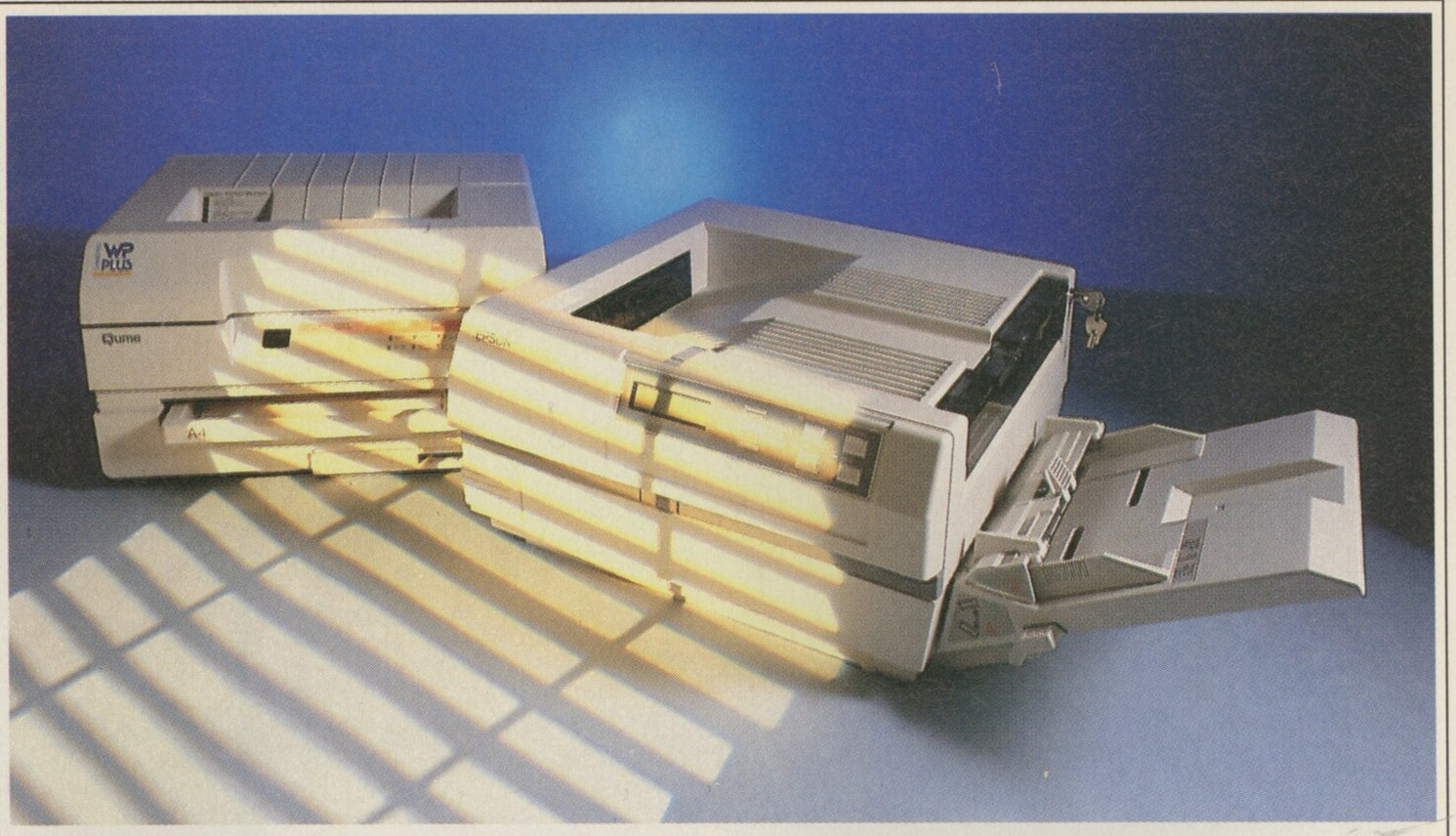
• MCD on 0276 692260 will be holding auctions at St Paul's School, Sunbury on Thames on July 14 and August 4

THE REST OF BRITAIN

• Traderdesk (0527 579120), arguably the country's biggest hi-tech auctioneer, has planned events in the following locations around England and Scotland:
Glasgow – The Bothwell Bridge Hotel, Main Street, Bothwell on July 15 and October 14
Yorkshire – Metrodome, Quenn's Ground, Queen's Road, Barnsley on September 15 and November 24
Bristol – BAWA Leisure Centre, 589 Southmeade Road, Filton on July 28, September 1 and October 27
Birmingham – National Motorcycle Museum, NEC, on August 4, October 6 and November 10

• Derbyshire Trade Centre on 06982 5608 has an auction planned for July 26 at the Adam Bede Centre, Wirksworth, Derbyshire

THE LASER SQUAD



If your documents need a lift to make them look truly professional, try a laser printer – it might not be as expensive as you thought. Stuart Anderton tried out two for around £900...

So you've spent hundreds of pounds on a computer, even more on word processing and DTP software, you put hours of effort into getting that newsletter just so, you hit PRINT and... disappointment.

The dot-matrix printer grinds away for 20 minutes producing a grey, smudged, grainy image which is barely legible and looks appalling – not something that will impress at all. A cost-effective option is a 24-pin dot-matrix, but the page still looks tacky and text is difficult to read. You can dream of a laser printer, but of course they cost thousands. Or did – two models are now on sale for around £900, within the small business' range.

The two machines are the Qume CrystalPrint WP Plus and the Epson GQ5000. To confuse the issue, the Qume is not a laser printer at all but a liquid crystal shutter printer (see below for the technical details), and the Epson has an RRP of over a grand. But the Qume offers laser quality, and ACS sells the GQ for £865.

GQ STYLE

The Epson GQ5000 has a number of modes; it can emulate Epson dot-matrix printers (9-pin and 24-pin) to allow it to be used with software which is not set up for a laser printer, and it has full LaserJet II emulation for the majority of applications. Most interesting though is its native GQ mode. Here you can select from three typefaces (Times, Helvetica and Courier) and choose any size up to 240pt. Unfortunately, little software supports GQ mode so these features have to be controlled from the front panel, and I found that I tended to leave the machine in LaserJet II mode for convenience. You cannot access the scalable fonts from LaserJet mode, but some fixed sized of Times and Helvetica are available.

The GQ5000 is bulky for a modern printer, but it is pleasantly styled. Paper is taken from a large protruding tray on the right of the machine, and the printed page is either delivered face down on the top of the machine or face up on a photocopier-style tray on the side. The fan in the Epson is quite loud, drowning out the PC it was attached to, a problem in a confined work space.

Print quality from the GQ was excellent. Both its built-in fonts and downloaded typefaces printed sharply with even blacks and a very fine dot structure which appeared to give a better resolution than the office Apple LaserWriter, also rated at 300 dots per inch.

CRYSTAL QUEST

The £945 Qume CrystalPrint WP Plus is very different to look at. It must be the smallest and tidiest laser on the market. The paper tray is almost entirely buried in the front of the machine which, combined with its small footprint, means that the CrystalPrint will fit neatly almost anywhere.

The CrystalPrint is not a laser printer. Lasers work by scanning a laser beam over a static-charged light sensitive drum. Where the light hits the drum the static charge is lost, then the drum is dipped in ink powder which sticks to the static and the drum is rolled onto the paper. Finally the paper is heated to melt the powdered ink onto it. The CrystalPrint works on the same principle, but instead of a laser an ordinary light bulb is used and the pattern of the page is made on the drum using a liquid crystal shutter. The final result should be indistinguishable from a laser printer.

There are far fewer options with the Qume – it thinks it's a LaserJet Plus and that's it. This shouldn't cause many problems to PC owners as any software worth its salt will happily drive one, but Amiga or ST users should check that their software supports the LaserJet Plus – the big stuff like *Calamus* or *Publisher's Choice* usually does. When it comes to fonts the Qume only has typewriter-style typefaces built in. To use more interesting faces you must either invest in a font cartridge or use a downloaded font from a package like *Bitstream Fontware* or *Typografica*.

The Qume is considerably quieter than the Epson and, while they both run at roughly the same speed, the print quality of the Qume wasn't quite as good. Although the blacks were rich and saturated, small text had a rougher appearance and complex graphics had a tendency to smudge. Overall though, the print quality is acceptable.

OVERALL

The GQ5000 is a fine printer which must be counted a bargain at £865. It offers excellent print quality and the flexibility to print out from almost any software on any machine, and it has several useful built-in typefaces.

The Qume falls short of the Epson in most categories, but is a good competent printer. It will come into its own in places where the larger and noisier Epson would not be welcome. ■

Contact ACS on 0800 333333, Qume on 081-446 8431.

THE TYPE CAST

There are three types of laser printers around (I'll class the Qume as a laser for semantic simplicity): PostScript, Hewlett Packard LaserJet, and plain vanilla.

PostScript is the totally flexible and ridiculously expensive system which produced this page. You can scale typefaces to any size you like, rotate text and do slick graphics tricks. The down side is that a PostScript printer costs at least £2,500.

Plain laser printers either rely entirely on the computer to tell them what to do, in which case they can only be connected to one brand of computer (like Atari's SLM804), or they emulate a dot-matrix printer with no increase in output quality. These printers are faster and quieter than dot-matrix models, but check the print quality before you buy. They start at around £750.

Finally there is the most common type, the Hewlett Packard LaserJet and its vast range of clones. Both the printers tested for this review are LaserJet compatible.

The great advantage of LaserJet compatibility is that virtually every piece of software for every computer has a LaserJet driver, so will work with the printer straight away. This is slightly complicated by the several varieties of LaserJet produced by Hewlett Packard, with different clones duplicating different models. However most PC software offers you the choice of which variant you have so there is usually no problem.

The major weakness of LaserJets is their lack of ability to scale or rotate type, so each individual typeface has to be defined separately. LaserJet printers usually come with a couple of typefaces built in, and others can be added with plug-in cartridges or by downloading fonts from the computer. They print graphics at 300 dots per inch, which is great for line drawings but not enough for halftone 'photographs' from a hand scanner.

Most LaserJet compatibles, including the two reviewed, come with 512K of memory – enough for text and limited graphics. But for DTP work you really need at least a megabyte, and two to be comfortable, which adds further to the cost.

CEAC

LIMITED

COMPUTER AUCTIONS

Substantial lots of Microcomputers, laser printers, dot-matrix printers, and complete systems to be auctioned upon the instructions of their owners to the general public, including: IBM & Compatible Systems, Compaq 286 & 386, Deskpro & Portable Systems, Apple Mac Plus & SE Systems.

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ADVENTURE PLAYGROUNDS

Role playing games aren't just for people who are more at home with orcs than humans, discovers Tim Smith...

People have always told each other stories. Cliff-hanging endings have appeared in the Bible (would David do Goliath – if you were David would you have gone for the sling or run west, found the cave, taken the leaves, hid in the leaves until the Philistines went away?) Everyone relates, no pun intended, to stories.

For the most part, however, there are story tellers and story listeners. What the adventure game provides is the ability to become both at once.

GO WEST YOUNG MAN

You, the player, are provided with a basic framework within which to work. Older adventure games drew heavily on the Dungeons and Dragons ethos – knights in armour doing battle with large monsters for treasure and the favours of a maiden. It soon became clear that this was just not sophisticated enough. 8-bit machines could cope quite efficiently with larger story bases and more powerful parsers, and 16-bit computers were being seriously under-utilised.

Things have changed since the early days of the text-only, soundless, obscure and dwarf-ridden adventure. The dedicated adventurer now has access to fully illustrated, musically scored, real-time outings into goldfish bowls, ancient tombs, sex palaces, financial institutions, in fact anywhere you could conceive of whether sober or otherwise.

All these different locations also produced weirder and weirder characters and more complex interaction between human players and computer counterparts. Although gnomes and goblins still exist, more exotic creations such as Leisure Suit Larry, the Seven Deadly Fins – a bunch of grotty pescian criminals from *Fish* – Floyd, the pleasantly ineffectual robot from *Planet Fall* and *Station Fall,* and many more.

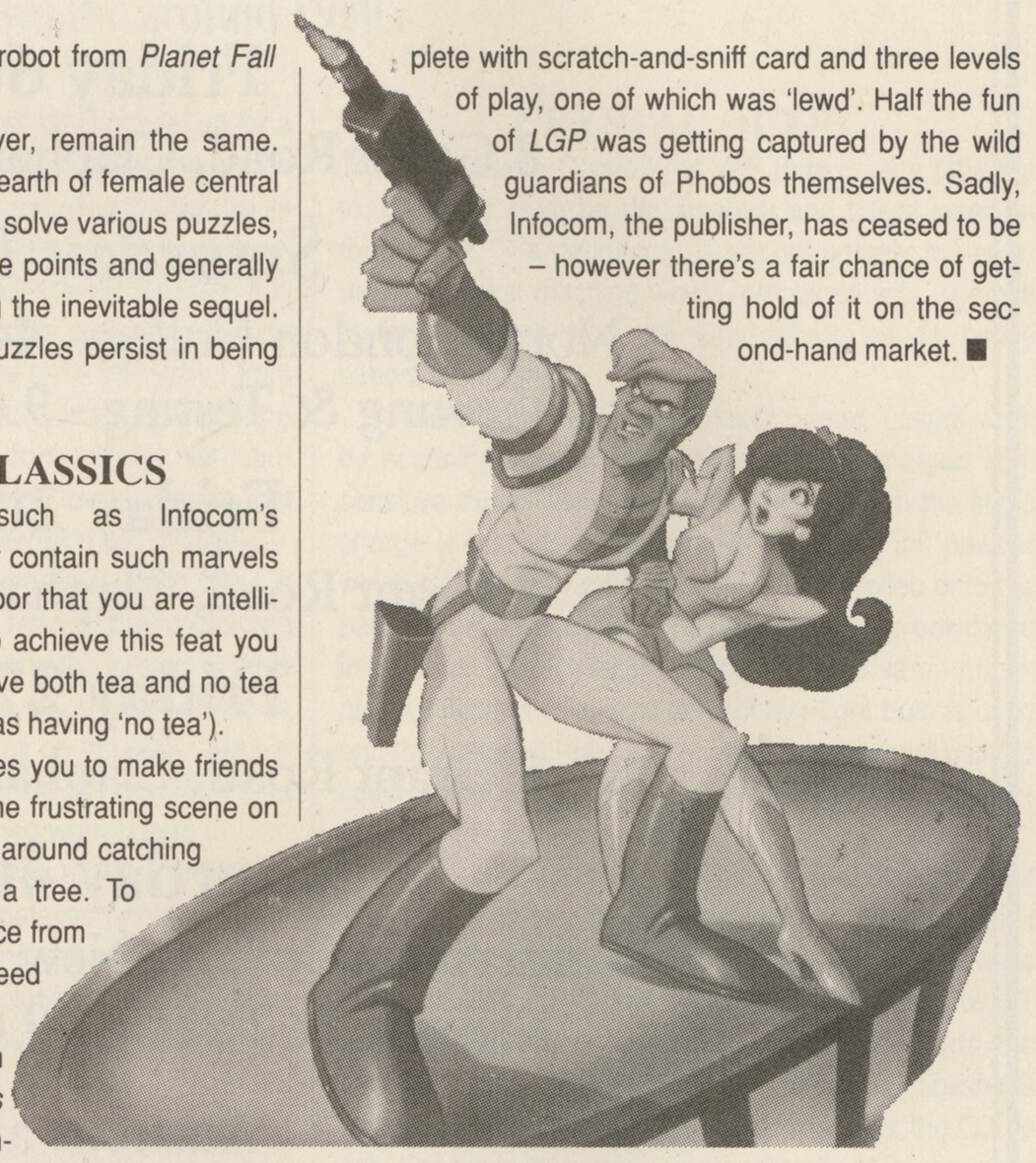
The basic principles, however, remain the same. You, the hero (there remains a dearth of female central characters in this realm), have to solve various puzzles, make a few contacts, score some points and generally prove yourself capable of playing the inevitable sequel. The plots may change but the puzzles persist in being minefields of lateral thinking.

HOOKED ON CLASSICS

Classic adventure games such as Infocom's *Hitchhiker's Guide to the Galaxy* contain such marvels as having to convince a robot door that you are intelligent enough to go through it. To achieve this feat you have to make it think that you have both tea and no tea (on your inventory you are listed as having 'no tea').

Rainbird's *Knight Orc* requires you to make friends before completing your quest. One frustrating scene on the road to the solution revolves around catching a rotten apple as it falls from a tree. To achieve this you require assistance from the correct ally, you also need thought and timing.

Finally, the all-time tack turn must be *The Leather Goddesses of Phobos.* This one came complete with scratch-and-sniff card and three levels of play, one of which was 'lewd'. Half the fun of *LGP* was getting captured by the wild guardians of Phobos themselves. Sadly, Infocom, the publisher, has ceased to be – however there's a fair chance of getting hold of it on the second-hand market. ■



TALKING TO THE PARSER

Computer adventure games owe much of their heritage to the Dungeons and Dragons type of diversion. There is, however, one crucial difference. D&D games require a Dungeon Master (DM), the person who acts as God, creating environments and manipulating situations for maximum realism and excitement. When adventuring on a computer you have to do without this, in effect your micro becomes the DM.

In order for play to flow smoothly, the human end of the game should be hardly aware of the computer's existence. This is where the parser comes in. Parsing, as any 'latin-student or fule kno', means breaking a sentence down to its constituent parts. For example, the sentence, 'I would like to go west and pick up the bucket' can be broken down as follows: I (*pronoun*), would like (*verb*), to go (*verb*), west, (*noun*), and (*conjunction*), pick up (*verb*), the (*definite article*), bucket (*noun*).

However, even within a simple sentence such as that one, there are extraneous pieces of information. An adventure games parser would look at the same sentence something like this:

I (*irrelevant*), would (*irrelevant*), like (*irrelevant*), to (*irrelevant*), go (*verb*), west (*direction*), and (*irrelevant*), pick up (*verb*), the (*irrelevant*), bucket (*noun*). This would give you: GO WEST, PICK UP BUCKET.

This, of course, is a highly reductionist way of looking at parsing, especially in computer terms. Each sentence is set in context and has to be dealt with as such. This adds an extra strand to the parsing – each word must be related to a scene and, in turn, it must have a set of verbs and adjectives attached to it. Say, for example, you march into a castle courtyard which has a door to the west; there are four keys on the floor in front of the door. A command such as: 'Go west, take the key, kiss the door, unlock the door with the key.' would probably elicit the response; 'Which key?'.

Once you've defined the iron key (as opposed to the plastic one or the bronze one) and re-entered the command you will be met with the response: 'You can't do that to a door' or even 'I don't understand the word kiss in this context'. The parser would have looked at the command as follows:

Go (verb = direction = N,S,E,W), west (Scene 1. West = Door), take (verb. Scene stone, knife, sand), the (irrelevant), key (Scene 1 = key, iron, bronze, plastic, wood) STOP! Which key? = goto error message.

As a consequence the command will break down and you'll have to re-key the whole thing from the start.

So, next time you attempt an adventure, especially one which uses graphics – these eat up memory and limit the size of the computer's vocabulary – you should be gentle with it, and don't complain too much about its ignorance.

After all, you are dealing with a fairly simple creature with less of a grasp on the English language than the average six-year-old.

CD GOINGS ON

Time for a quantum leap. Forget ancient, slow parsing, after all it only had to cope with maybe 70 to 100 scenes, forget the Timeline system (used in such brave attempts as *The Hound of Shadow* – nice try but too many subsidiary puzzles), forget all the games where computers would tell you that 'You don't need the word 'gullible' to finish this section' and try taking CD-I and hypermedia on board.

New advances in computer technology which have been released to the public in last few months will warp the adventure game into as yet unexperienced levels of complexity. Systems such as CRL's Expert Graphic Adventure System (EGAS), used in *Herewith the Clues*, don't even bother with a parser. Using a similar system to the much vaunted hypermedia, the programmer doesn't bother with words but makes use of invisible 'buttons'. The player has to locate these hidden buttons – they may be placed over pictures of people or things, in fact anything which can be graphically captured. Once one of them is 'pressed' a link is made to a related scene and the action shoots off the the next relevant section.

Once adventure games are given CD technology to work from there will be no holding them back. Instead of the traditional 100 or so rooms, fields and castles, you will be able to work in thousands. This in turn will create the need for more characters and greater interaction between computer-generated players and their human counterparts.

Parsing, in the traditional sense, will pass away, probably giving way to captured speech.

With the advent of CD technology, hypermedia and the new games writing systems which are bound to emerge from them, the first gnome you meet along the way will probably have a larger vocabulary than you will!

DO IT YOURSELF

Sick and tired of playing the games? Want to get your own back and create your own worlds? The following software packages, all of which help take the boring bits out of adventure writing, might do the trick:

STAC, the *ST Adventure Creator* from Incentive.

Talespin, for the Amiga and ST from Microdeal.

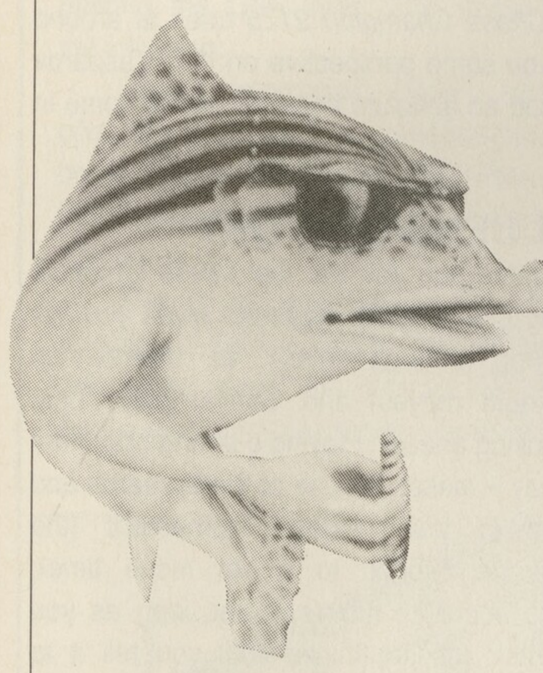
PAW, the *Professional Adventure Games Writer* for the CPC, PCW and Spectrum.

GGC, *Graphic Games Creator* for the CPC

AGT, *Adventure Games Toolkit*, shareware for the PC.

Adventure Writer, more shareware for the PC.

THE TOP TEN



A game is a game is a game ... oh yeah? Here based on the internationally respected 'Subjective Assessment' grading is the *Express* top 10 adventure games chart.

1) *Fish* (Magnetic Scrolls)



Even played on a (t)rusty old PCW this game has everything you could want. No elves, multi-dimensional beings, warping and lateral thinking which is so lateral, it's almost horizontal. Combine all this with neat graphics, good in green, even cooler in colour, and you have a game to keep you locked to the keyboard for weeks.

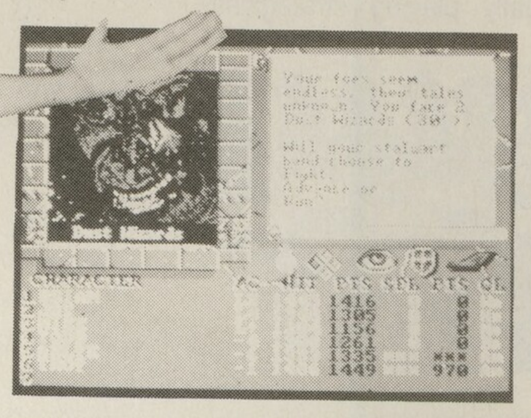
2) *Personal Nightmare* (HorrorSoft)

Breaks some of the rules by having a poor parser, but makes up for it with a whizzy story line and the ability to click on various objects on screen. You are then told about them and given various options as to how to use them.

Nice game, shame about the company.

most taxing adventures yet.

3) *The Bard's Tale* (Electronic Arts)

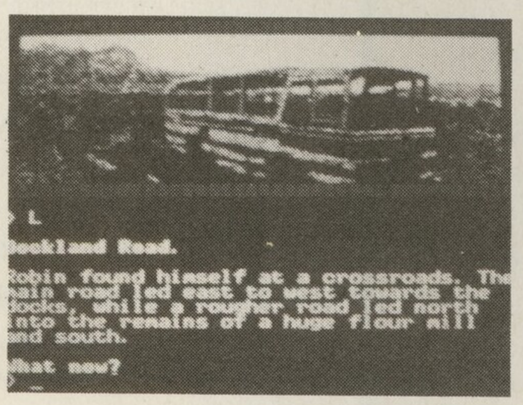


Thematically what we have here is a basic thrills-and-spells outing. It is set apart from the throng by marvellous graphics, superb character interaction and more hexes than you could find in a machine code routine.

4) *Avon* (Topologika)

Thought I'd put this one in to show that there is life before the 16-bit. Topologika has been knocking out games for years now and *Avon* is one of its best. A knowledge of Shakespeare, while not being essential, is certainly an aid. Crack it if you can.

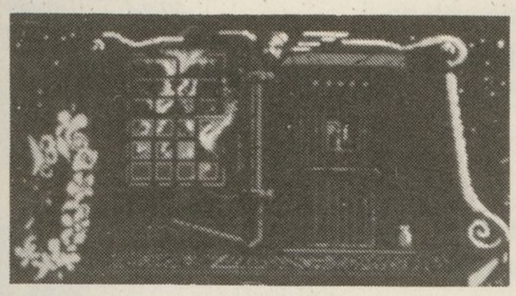
5) *Mind Fighter* (Abstract Concepts)



More stimulating than a Joy Division album, more uplifting than a night out with Marvin the paranoid android, *Mind Fighter* has it all – minus the packet of razor blades. Set in post-holocaust Southampton, the game comes with a novel (not a novella) and is one of the

6) *Planet Fall* & *Station Fall* (Infocom)
It's that robot again, Floyd. He's ineffectual, frustrating and compulsive. Both of these games are eminently playable and feature some of the finest puzzles yet to be solved.

7) *Scape Ghost* (Level 9)



Such marvellousness in one small package. You play a dead detective in this three-part story. First off you have to make allies from the inhabitants of your cemetery. Then you must learn to use your ghostly powers. Finally, you have to defeat the criminals, including a colleague who framed you.

Play it on any machine and you'll be hooked.

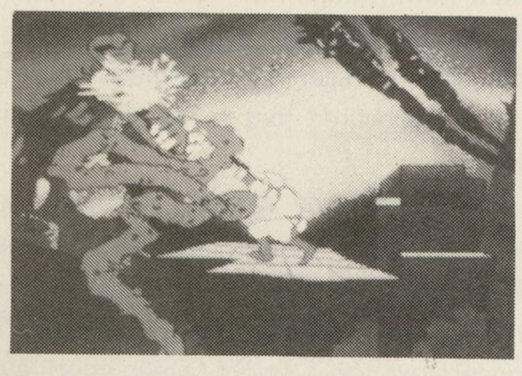
8) *The Hitchhiker's Guide to the Galaxy* (Infocom)



You've read the book, seen the series, got the T-shirt, and been bored to death by Hikettes, so now play the game. Programmed by the boy Adams, the game features all the familiar characters and more. No graphics, but who needs it with that kind of storyline?

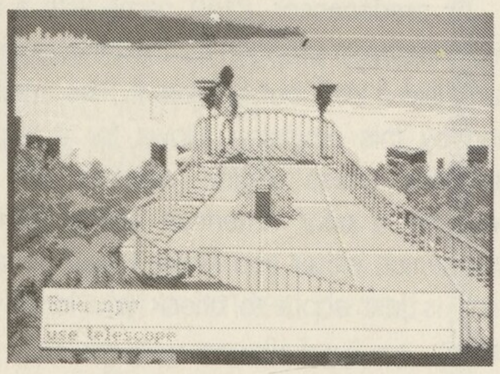
By the way, hang on to the junk mail if you want to clean up later on.

9) *Space Ace* (ReadySoft)



Not strictly an adventure game, and you need to take a positive pleasure in disk swapping. Nevertheless it's nearly worth the sum of money required to purchase it just for the daft look on the face of the hero when he gets stuffed – regularly.

10) *Leisure Suit Larry* (Sierra)



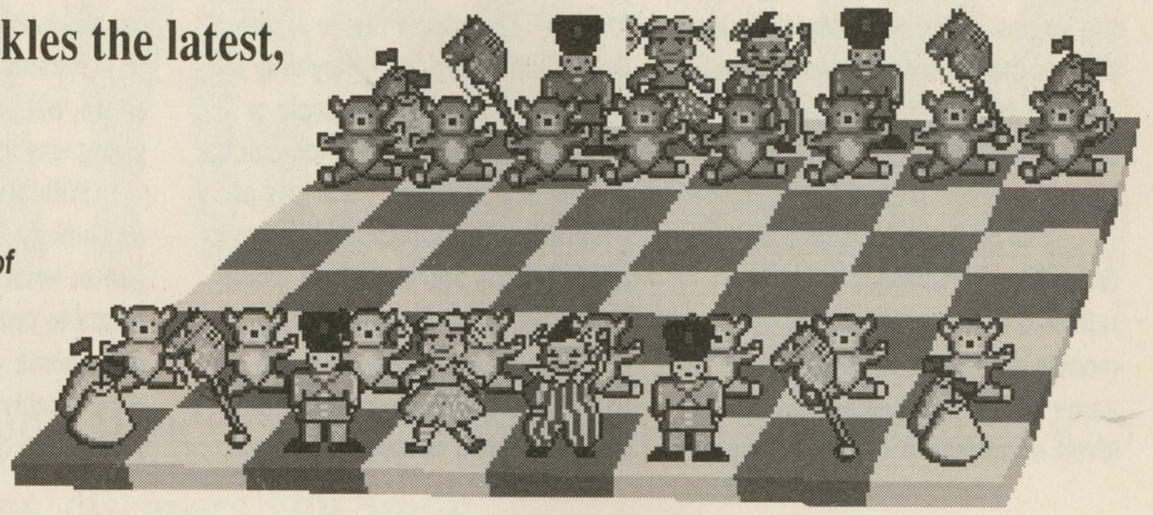
In all of his incarnations, our Laz is a vile creature. Rumours of a film release featuring the scuzz-bag's antics are almost as rife as the rumours that, on completing *Leisure Suit Larry in the Land of the Lounge Lizards*, you would unleash a virus (untrue). Great graphics and a plot line par excellence.

Most of these games are pretty traditional text or text-and-graphics games. Some more recent releases, particularly from the French software labels, have a much more graphical approach and often blur the edge between true adventures and more *Gauntlet*-style arcade bashes. Unfortunately most of these more modern games are restricted to the ST and Amiga.

CHESS
REVIEW

A HARD DAY'S KNIGHT

Chess programs get better and better. Tim Smith tackles the latest, Chess Champion 2175...



• An unconventional view of the chess board with a colourful set of characters

More cliches than a Jimmy Hill commentary have been drivelled about chess over the years. Just to set the record straight, local bars world-wide have chess boards, peasants in France, Afghanistan and Acton play the revered game. Great chess players have emerged from England, Ireland, the US, France and China. Finally, a Persian sultan used to play chess after vanquishing opponents in battle, but for variety he would play with live human 'pieces'.

Chess has been with the computer for a number of years now. Turk, which ran in the 18th Century, was close to the first – the only problem being that it was a fake, a mechanical figure seemed to play the game until it was discovered that a real guy was hidden in the machine.

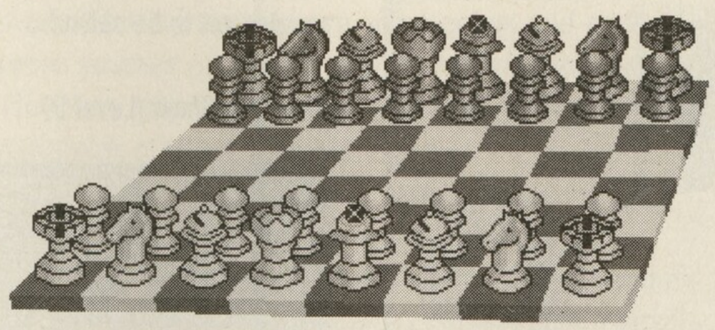
The true early versions required huge, dedicated machines and human operators to manipulate the pieces. Later versions for the home micro came with no graphics, they couldn't castle queenside and could be hoodwinked with a Knight-Queen check every time.

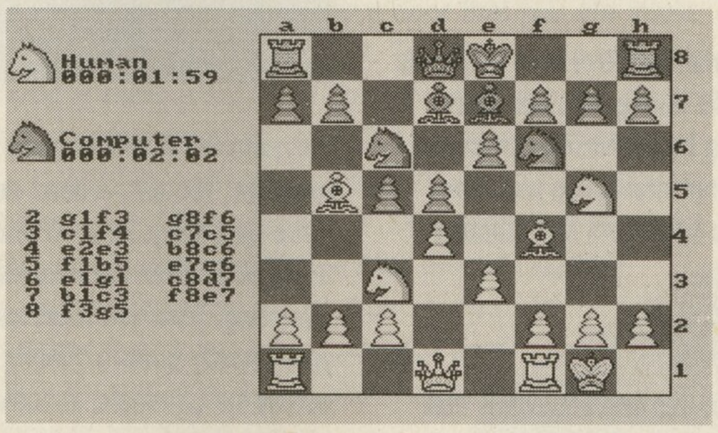
USED KARPOV LOT

Chess Champion 2175 is piece of software from the third generation; full graphics which can be rotated, seen in 3D or 2D and re-coloured. A 300K library of openings contains such wonders as the Nimzo'-Indian Defence as well as good old standards like the much underrated English or the much overrated Sicilian. You can also create your own opening book.

Its predecessor, *2150,* came with a speech option which has been dropped for the new version. This might sound like a loss, but far from it. The additional memory freed by this omission allows for a larger and more 'intelligent' chess engine. Anyway who needs some berk with a poor American accent telling about the move which either you knew it was going to make, or which is just about to check you in an embarrassing fashion.

The engine is basically the software containing the algorithm. *Chess Champion 2175* makes use of the Type-B search method (as opposed to Type-A, also known as the Brute Force method). Type-B uses the 'plausible move generator' which cuts down on the number of possible moves to be made in any one situation. It creates the half-moves which give the illusion that the computer is actually playing strategically.





• Three-dimensional (top) and conventional views of the chessboard in **Chess Master.**

Computers can't play with strategy – they are reactive for the most part.

Before playing the machine you also get to test your grade against the ELO Scale. This is a right ego bashing for most mortals, but the longer you play the better your grade should become. By the way, the publisher estimates that *Chess Champion 2175* rates at around 2,000. To give you some perspective on this, Kasparov rates at 2,750 and an absolute beginner would come in at around 1,000.

QUEEN FOR A DAY

Once into the game you can set the *Chess Champ*'s strength. Playing it as a weak opponent gives you the option of playing through levels as diverse as Orangutan (random moves) and Gorilla (plays best move without looking ahead). Playing a strong opponent – it's the only way – makes full use of the B search and can be played in four modes; Tournament (the strongest), Average, (keeps to a set move time), Matching (thinks about its moves for as long as you think about yours), Infinite (thinks until you tell it to move).

All the basics are included as well. You can set time, set the game to play for draw, do problem setting and of course there's the cheatingly vile take-back option. Along with these there are options to alter the way you move pieces – an interesting 'intuitive' mode means that you click on a square or opponent and the computer moves the most obvious piece.

The ability to alter the orientation of the board, giving you views from each side and back-to-front verges on the cheating, after all in a real game you wouldn't be able to walk round to your opponent's side of the table for a quick peek. But you know what they say, if you don't like the option, you don't have to use it.

Frankly, to fully explore the strong gameplay and myriad options offered to the player in *Chess Champion 2175* would take an age. Its gameplay is, without doubt, some of the best I have encountered from a machine. It even appears to make use of sneaky play, a complete impossibility of course.

So, with excellent play, reasonable graphics – they do appear a little ragged at times – *Chess Champion 2175* would suit most people. If you're well into the game then you could do a great deal worse and if you're just getting hooked into it then it would be difficult to find a better, non-human teacher. ■

Chess Champion 2175 *is published by Software Business at £29.95. Versions are out for PC, ST, Amiga.*

TIPS TO TEST THE MACHINE

In an attempt to return chess to humans, here are a few tricks to test your computer:

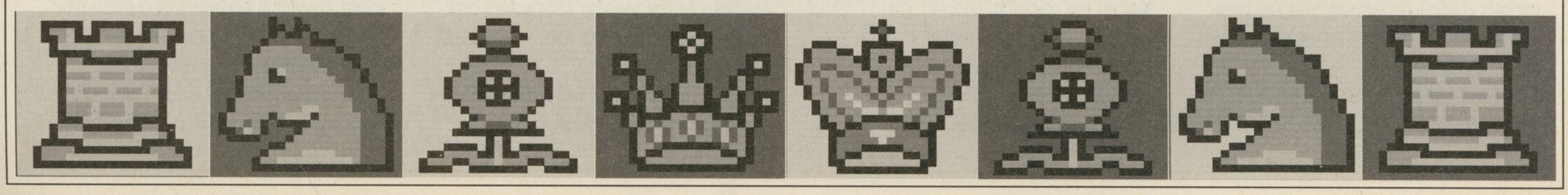
• Try castling queenside. Some programs don't recognise this, if that's the case with yours then other, hidden, weaknesess probably lurk within it. If the option is recognised, you've probably wrong-sided the machine for at least two moves.

• Play queen for queen as soon as you can. It might sound suicidal but few programmers are prepared for this. You can always exchange a pawn for a queen later.

• Remember the *En Passant* rule and use it.

• A kking can be an attacking piece. The immensely weird – but scintillatingly brilliant – Tal, made good use of violent king strikes and won world championships. This is, of course, a last resort.

• Get a solid knight on King-5 (e5) as early as you can. That confuses them every time.



Power BASIC for your ST or Amiga

Just the Word

£530 worth of prizes this week. More software than a suede jacket sale, more potential power than Paul Gascoigne.

STs and Amigas are more than damned fine games machines. Instead of letting other people design the software for your machine, why not have a crack at it yourself? You never know, there might even be some money in it for you. Nuff said?

So now we'll cut the waffle and list the loot. For the ST owner who wants to make the machine work hard we are offering the GFA suite. This contains the following:

BASIC Interpreter, BASIC compiler, *Raytrace,* advanced programming book, software developer, *Draft Plus*, a GEM utility pack, *Mission Control* and a GFA shell.

This lot alone comes to a serious sub-total of £370. On top of this we are also giving away the following for the Amiga user who has almost everything: Two BASIC interpreters worth £50 each and two BASIC compilers worth £60 apiece.

The key to these prizes lies in your very hands at the moment... if you've not yet bought the copy of this issue of *Express* which you're reading then do so, 58p for half a grand's worth of software seems like a good deal even to us. And all you have to do is find one simple word.

Somewhere in this issue of *Express* – either in the editorial or in an advertisement – is the word AVOCADO. Find the word, then fill in the number of the page it appears on in the space provided on the answer form.

Fill in you name and address and send you entry to GFA Competition, *New Computer Express*, 30 Monmouth Street, Bath BA1 2AP, to arrive not later than Monday July 16.

The first correct entries out of the hat will each win the package to suit their machine – please don't forget to state which one you've got. The editor's decision is final.

WINNERS!

Secretary Birds go to: Brian Garner, Rochdale; G J Curtis, Cadoxtan, Barry; R J Avery, Plymstock, Plymouth; A Gordon, Chingford, Essex; Matthew Harman, St.Johns, Worcester; K Crabbe, Bath, Avon; C Toulson, Aston; C W Carr, Rhyl, Clwyd; E L P Sharp, East Dereham; S Dutton, Croxteth, Liverpool; R Nicholls, Horsham; Robin Peters, Ipswich, Suffolk

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TECH TIPS

Does your PC keep packing up? Is your Amiga less than friendly? Would your ST try the patience of a saint? Write to Tech Tips and we'll soon see you right. Send your sorry stories to Tech Tips, Beauford Place, 30 Monmouth Street, Bath BA1 2AP. Sorry, but we can only reply in print.

Decisions, decisions

I have been reading your excellent column and read all the letters on the "which computer should I buy" theme. Unfortunately for you, I have the same request.

Boot licking over, now the spec. I can afford a computer for about £450. I would like good sound and graphics and plenty of games and serious software. I am also interested in comms and so I would need a computer that would be able to run as well as log on to a bulletin board.

One of my friends has an Amiga A500 and he says that it is a brilliant machine, but being interested in serious programming, I am not sure if a PC is more suitable. Please could you help?

Also I have a query, if I run a bulletin board would I be able to have more than one person on the line simultaneously? If so, how?

PS I'm only 13 years old.

Martin (I.M. Puzzled) Archbold, Alnwick, Northumberland

An Amiga will do all that you require in the budget that you specify. To get a PC to produce the same sort of graphics and sound, you would need a VGA display and a synthesiser card fitted. This would take you well into four figures and not all games and programs support the synth card.

If you set up a bulletin board the only thing that limits the number of callers at any one time is the number of phone lines you can afford, as long as the software supports multiple callers.

Loan ranger

I'm a student at Plymouth Polytechnic and decided to buy an Atari STE with the SM124 monitor.

There are facilities at our students' union to enable students to buy computer systems with loans. The larger part of the loan is repaid after graduation. So far, so good.

After a number of mistakes with my order, the manager of the SU finally arranged a loan for me to purchase an STFM. That's right, a fine machine but not exactly what I want.

After further discussions with him it appears that his suppliers can no longer deliver STEs because Atari have decided to discontinue them – at least to him. His suppliers cannot supply the SM124 either, due to shortages.

I now detect a familiar smell in the air.

OK, so here's the crux.What exactly is the truth about all this? The manager would not divulge the names of his suppliers and at this point being the cynical type, I made for the door before ending up with a system I didn't particularly want.

If you could answer my letter I would be eternally grateful as I am now going to try to set up a personal loan with my bank.

Graham Browne, Plymouth, Devon

There doesn't seem to be a problem with Atari. Its PR chief, Peter Walker, confirmed that the STE was doing fine and that Atari was now targeting the 1040STE as a business computer and had recently relaunched it.

If your supplier can't help, vote with your wallet and buy elsewhere. A phone call to Atari will locate your nearest stockist. Tell them about your SU's reluctance to sell you the greatly enhanced STE version.

C64 pictures

I have recently gotten hold of a project for C64 which is supposed to be an inexpensive way to digitise a photograph using the computer and printer, where the printer is used just to advance the photograph. There is a piece of hardware which is needed to be wired up to one of the joystick ports and the software will do the rest. The problem is the hardware bit, and in the project it says that the hardware is a light sensor which is called cadmium sulphide photocell. It suggested that it could be obtained from Radio Shack (the electrical people).

Well, need I say that I have tried every Radio Shack and anywhere Radio Shack related; I have also tried many component suppliers through electronic magazines (still waiting for my phone bill!). As soon as I mention cadmium sulphide photocell there is a five second silence and then I am bombarded with technical questions and jargon.

As you have probably gathered, I know as much about electronics as taking over the running of the country from Maggie Thatcher, so I am on my hands and knees as I write this letter begging you for help about where I can get one of these thingies.

M. Watson, Warwick

We rang Tandy in Bath and, after a two second silence, were told that it does stock them, so do all its other branches and they cost £1.59.

To make sure that you were well catered for, we rang the Leamington branch of Tandy (only five miles or so from you) and which confirmed that the item was in stock. Its phone number is 0926 831297, the address is 83 Warwick Street and the item you require is catalogue number 276116.

Speccy emulation

Can you please send me a name and address for the *Emulator.*

I have over 100 tapes for my Spectrum and over 20 utilities and I am thinking of buying an Atari.

A SAE is enclosed.

Please don't send a phone number as I am completely deaf so it would be no use to me.

A.J. Harding, Hucclecote, Glos.

We don't reply in writing – there simply aren't enough hours in the day – so it's pointless anyone enclosing SAEs.

Colleagues in our sister magazine *ST Format* think that there may be more than one Spectrum emulator for the ST and that they are available in the public domain.

For details of suitable public domain libraries, keep a watchful eye on Adam Waring's PD Column in Shopping Express each week in *Express*.

Bad timing for a Mega buyer

Express does it again; just as my shiny new Mega 1 ST arrived, so too did my copy of _Express_.

Imagine my chagrin on being told in your reply to the very first letter that the Mega 1 is not happy with certain add ons, especially as I could have purchased a Mega 4 (I decided on a Megafile 60 instead of the extra memory). I am now saving for the memory upgrade.

To get to the point of this letter, can you advise me whether:

1. A hand held scanner will work with this machine?

2. A digitiser will also function OK?

3. And is there a PD or indeed a commercial package available which will provide the ability to copy the contents of floppies to a hard disk at a reasonable speed? (GEM took one hour and three minutes to transfer one disk; mind you the partition was almost full, and there were 262 files and 17 folders on that disk.)

Finally, just what makes the Mega 4 worth £600 more than the Mega 1? (Three megs of memory costs less than £400 fitted at Third Coast.)

PS I'm not really complaining. The Mega 1 looks much more stylish than my old STFM, but as my prime motive in upgrading was the better expansion properties of the Mega, I would be eternally grateful if you could answer my queries.

PPS I think the Mega's keyboard _is_ better (much less tiring).

John T. Jones, Blackburn, Lancs.

To answer your questions in order: 1. It will
2. It will
3. Yes Try any of the PD libraries that advertise in *Express* or sister magazine *ST Format*.
4. Ermmm, the great advances of its internal architecture

Two or three people have gently grabbed me by the throat and agreed with your comments about the Mega keyboard, but despite having taken the long trek (10 yards) to *ST Format* to try both out again I remain unconvinced.

Board meeting

I read your last two articles on modems with great interest and I am thinking of setting up my own bulletin board. Please could you answer the following queries I have.

1. Please can you tell me where I can get some host software from. It has to include user IDs, password and restricted areas for sysops only. And it must be PD as I only have a limited budget to buy it with.

2. Are there any books you could recommend which cover the subject of comms?

3. Are you going to do any articles on the different types of modems available on the market and the specifications they have?

4. Is there anywhere I can get a list of all the available bulletin boards like the telephone directory?

Dylan Foulkes, Colwyn Bay, North Wales

1. We might be able to tell you where to get the software if you'd share the secret of which machine you use with us. 2. The current version of *The Hacker's Handbook* by Hugo Cornwall (revised by Steve Gold) is an informative and interesting read. 3. Yes, at some point in the future. 4. Most bulletin boards carry some sort of directory or list.

Hole in my disk

An article in *Express* last week implied that the only difference between 3.25-inch 720K and 1.44Mb PC floppies was an extra hole in one corner. Is this right? Why can I format 720K disks to 1.44Mb on the PS/2 at work, even without the extra hole? Is it really necessary to spend money on 'proper' 1.44Mb disks?

Mark McKergow, Bristol

The circular bit that goes round inside the plastic case is the same in a normal or high density disk, but these are tested and only the high density ones are *guaranteed* to store 1.44Mb.

Put simply, while the cheaper 720K disks may format up to 1.44Mb, I don't think I'd want to risk valuable data.

Moon dance

After purchasing *Stop Press* for the C64 many moons ago, I bought an AMX Mouse to go with it. A brilliant three-button mouse that has lasted miles. Only lately, when in mouse mode the "move" (middle button) function is activated every time I move the little squeeker, and it keeps on activating every second or so, as long as I move it. The button is not pressed down so what could it be? Even better – how can I fix it?

Bryn Stevenson, Chesterfield, Derbyshire

If it's less than 365 moons ago take it back. Otherwise Doctor Rodent will need to apply his stethoscope. It sounds as if something is rumbling in your mouse's tummy.

If something has come loose inside, the best place to take it is to your local computer shop and let them do the job. The fact that you've written in about it suggests that you aren't an 'I wonder how it works' merchant. We disemboweled the office squeeker and while it's not a difficult or technically intensive job, it shouldn't be taken on unless you are confident of your practical abilities.

Calling Amiga tech heads

I own an Amiga A500 1.2 and program 68000 in *Devpac II* 2.08, and have a few problems that I hope you can help me with!

1. I can create my own gurus using the LVO call, but I can't for the life of me work out how to make gurus with more than one line of text on them. I can set the size of the guru to the full screen, but if I insert a carriage return it comes out as a null character, and if the text wraps, it appears on the left-hand side, only one pixel down! I know this is possible to do this, as I have seen many programs that do it (including the internal software failure guru!)

2. If I want to locate a section of code at an address, say $70000. How do I do it? I can crunch the whole program there, but I don't want to do that. The ORG command in *Devpac* assembles, but doesn't locate the code there, and usually crashes too! If I write a program to copy the code there, like in the box, this does copy the code to $70000, but at the point Start: does the Move.l command point to the Var: at $70000, or the original Var: where the program was originally located, and copied from? Isn't code supposed to be totally relocatable in Amiga-Land?

```
        LEA.L     Start(pc),a0      Start Of Code To Be Copied
        LEA.L     $70000,a1         Destination Address
        MOVE.L    #End-Start,d0     Length Of Code
Lp      MOVE.B    (a0)+,(a1)+       Copy It Over
        DBF       d0,Lp
        JMP       $70000            Jump To Copied Code Start
Start   MOVE.L    #Var,a0           Load Var At $70000? Or Other?
        RTS
Var     DC.L      0
End
```

• The errant code moving program.

3. This point is less important, but if you have time, could you explain why, when I use the LVO print text on bitmap, any text over the length of 20 characters crashes the system?

I have set up my rastport, bitmap, etc., and my text works anywhere on the screen so long as it isn't over 20 characters long! Any suggestions where I might be going wrong?

Thanks a billion, I'll send you a game preview if you print this!

BTM, The North West

We've printed your letter and I'm going to leave this one open for the programming fraternity who will no doubt offer more constructive solace than the Tech Tips steam driven soldering iron can. We'll print any comprehensible replies.

More Megas

We read with interest your reply to one K P Taylor (*Express* 83) regarding his upgrade from an Atari 520STFM to a Mega ST and hope that your good advice served him well. However, your advice to him has unfortunately confused us in our choice for possible upgrade from our present system (520STFM with 400K drive, Atari mono monitor and Star LC-24 printer), to a system capable of supporting a *small* DTP business.

We had originally envisaged buying an Atari Mega 1 for the following reasons:

1. The machine has a memory size reasonable for someone just setting out in DTP and can be expanded at a later date .

2. The machine looks the part of a business machine rather than a jumped up games machine.

3. The keyboard was, until your article, claimed by everyone to be a vast improvement over the standard ST.

4. The machine had a blitter fitted as standard which we felt would help with graphic intensive DTP packages.

5. At a quoted price of around £489 it was the best option we can afford.

Then we saw in your excellent magazine that we could purchase a 520STE upgraded to 2Mb for around £50 less than the cost of the Mega 1. We were very tempted to choose this option because of the larger memory, but were worried about software compatibility with *1st Word Plus*, Degas *Elite* and *Timeworks* which we already own and intend to use for our business. Although the STE has upgraded sound and display colours we feel these are largely irrelevant to us as a business user with a mono display and mono printer. So the main attraction of this machine would be the blitter and the increased memory.

Now your article seems to have cast a shadow over the Mega 1 regarding its keyboard quality, compatibility with peripherals, and the cost of an upgrade. We are more torn between the two than ever now and ask you to please help!

Which would you chose, the STE or the Mega 1, and why? We cannot afford to go to a Mega 2 or 4 yet and would not give desk space to an Amiga or PC.

Hope you can help us.

D.J. and J.E. Godderidge, Nuneaton, Warwicks.

Forget the STE, you need a Mega. While a Mega 1 might do at a pinch, you'd be better off saving up for the Mega 4. DTP is very memory intensive and the more memory you have on hand the better. If it's a business venture then it will pay you to be kitted out with the right tools for the job.

If you want to go the full way with software, you could try *Calamus* from Signa. This full featured £455 DTP package from Germany is reckoned to be the the bee's knees when it comes to DTP. As well as producing PostScript files and colour separations, Signa has a Linotron bureau for producing print ready pages from your files. Ring Signa on 0252 3416000.

More memory

I have an Amstrad PC1512 and I wish to uprate it to 640K. Having hunted through the pages of *Express* and other quite inferior magazines, it seems that the price asked for the chips is quite beyond my means, being a lowly student. Could you please, in your wisdom, let me know what chips are required for the upgrade. I have a very good electronics supplier practically on my doorstep and he assures me that if I can find out what chips are needed, he will get them for me.

There are only six needed, this I do know, and if you could possibly do me this service I will, in return, sell off my children and house and send you half of the proceeds.

Keep up the excellent work and, again, thanks for the effort you put into your pages every week, definitely the best computer peripheral on the market.

Thomas A. O'Connor, Port Glasgow

Please allow us to point you toward The Chip Shop who will knowledgeably supply you with any RAM chips with a minimum of fuss and cash. Give Chris at the Chip Shop a ring on 061-456 0078. She will help you to identify the internals of your particular model and organise the chips for you.There are three different configurations for Amstrad upgrade (two use six chips and one uses eight) so it's best to be sure that you get the right chips for the job. ■



EXPRESS MAiL

Britain's liveliest computing forum – packed with comment, controversy and conflict. Write and tell us what you think! Reach us at: *Express Mail, 30 Monmouth St., Bath BA1 2AP* Sorry, no personal replies, even with an SAE. This week's replies written by Keith Pomfret.

Copyright concern

I own an Amiga and a PC, and I would like to set up a system to store documents.

The idea is to photocopy articles from the magazines into the computer, labelling each one and storing it on disk.

A scanner I think would be too slow. Would a video camera, computer, or optical disk do the trick? Would the resolution be good enough? And how expensive would it be? In a year probably 1,000 to 3,000 still frame images would need to be stored.

Dr S. Mohindra, Alderley

The video camera would probably be unsuitable for the job in hand. An optical disk is the medium that stores the images, and an optical disk drive for your personal archive would be prohibitively expensive.

A hand scanner would probably do the job that you require. The time it takes to scan an image is as long as it takes to pass the scanning head across the paper. The resultant image can be saved as a file and imported into a DTP package for labelling and formatting.

If you intend to archive material in this way you **MUST** obtain permission from the magazines or you will be in breach of copyright. Should the magazines in question find out that copyright has been breached, they will probably arange for you to stand in front of a chap who likes to be known as 'Your Honour'.

My two sons

I am at my wits end. Our two boys wanted to learn about computing so we purchased an Atari ST and some serious software (word processor, DTP, spreadsheet, database, BASIC, assember, etc.) in order that they could learn about computing and take their place in the ever-expanding technological age.

Some of their friends at school have parents who allow all sorts of trivial things to happen on their computers, and recently Alan and Ross (our lads) have started coming home with illegal copies of commercial leisure software.

We didn't forego a holiday and spend several hundred pounds so that our sons could become scofflaws. What can be done to stop this blatant law breaking before our children end up in the hands of the law?

Alex Simkin, Hartlepool, Teesside

All work and no play makes Jack (or Alan and Ross) a dull boy – or so the old saying goes. Perhaps the purchase of a couple of 'legal' games to use with the more serious software, and a regime that includes both might make for a little mutual flexibility.

The illegally copied games can be turned into perfectly useful data disks by the simple expedient of reformatting them.

Strong words to the boys, their teachers and to the parents of any one offering pirated software will probably not stop playground pirating, but such effort will at least slow down the ingress of such disks into your home.

Some games are educational. Quick moving games improve hand-eye co-ordination, many puzzle-type games develop reasoning skills, and simulations can be a safe introduction to various concepts. Don't judge software to be rubbish because it doesn't come in a box with a mortar board on it.

John boy on SAM

I'd like to put it on record that I totally agree with the views put forward in Comment, *Express* 85, concerning the demise of MGT.

This company's machine has the potential to beat the rest of the 8-bits into a cocked hat. It doesn't deserve to die such an ungainly death. A possible reason for the failure was the amount of advertising. OK, you'll say, one has to advertise. But full page adverts in every magazine, and the cost of promoting the 'Roadshow', must have drained the coffers no small amount.

As an owner of a Coupé (and a couple of Speccys) I would hope and pray that a buyer could be found, a buyer➤

Pirates, pirates everywhere

Dear Jazzy People opening letters in boring brown envelopes,

I have a friend with whom I do not share an opinion on an issue that is splitting the computer software scene – piracy. He told me a couple of days ago that he had got *Hard Drivin'*, *Rainbow Islands* and *Chase HQ* for his Spectrum.

When I said that must have cost him a great deal of money to aquire these games, he replied that it cost him 90 pence for a blank cassette. I asked him why he pirated the games – and he responded that he would rather pay £30 than 90 pence.

I used to think that pirating games was a good idea, but now after witnessing its effect on the industry, I have radically changed my ideas about pirating. It is something that should stop. But how can an organisation such as FAST deal with playground pirates? I would like to ask pirates a question: do you play your pirated versions of games more than you play games that you bought at full price (if you have any that is)?

I am sure that most pirated games are by playground pirates who record them by tape to tape. If I am correct, then the industry is starting to kill playground pirates with the arrival of consoles.

Only a true pro with the correct hardware could pirate a cartridge onto another blank cartridge. With more consoles entering the scene maybe by the end of the century pirating will be an old memory. Let's hope so. Until we cross on the same vorticular planes of the horizontal thorax seas or the purple igloos of the southern biosphere, may your bass keep thumping, your race keep lovin', and peace be with you.

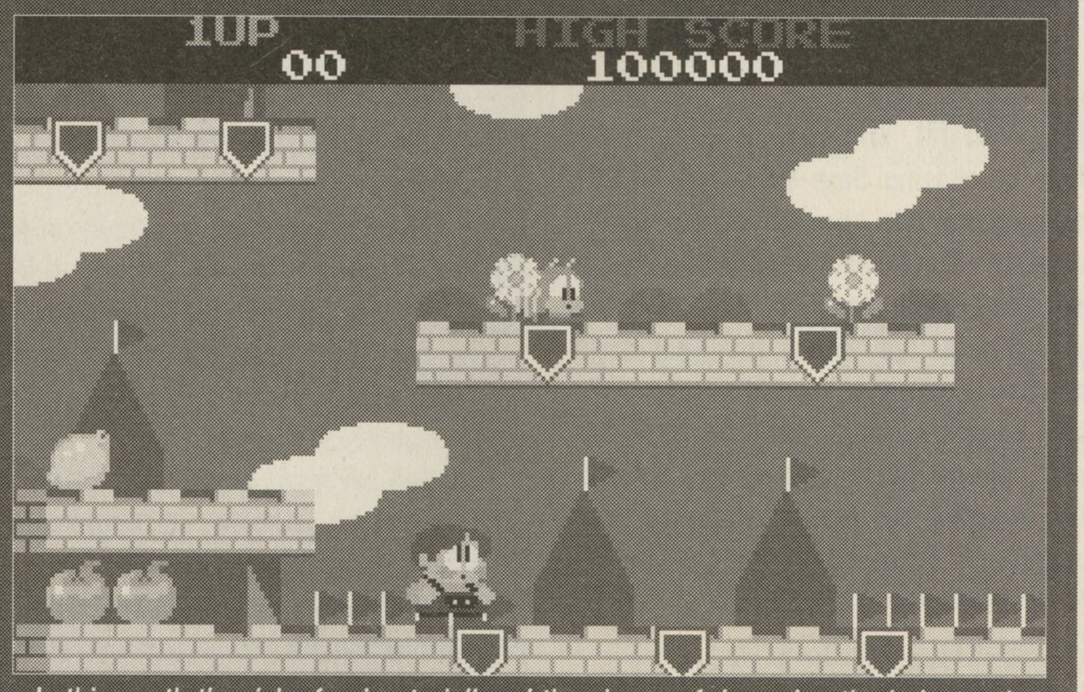
AZA (and you pronounce that as R-ZAR or R-ZOR as in pLAZA), Huntingdon

As long as there are things of value that aren't welded to the ground there will be pirates. We applaud your stand, but we also fear that even the strongest medicine won't stop people taking opportunity by the scruff of the wallet and stealing from the software authors who's games they worship. Funny old world, isn't it?

There is something that you can do, though. FAST's recent advertising campaign offers cash enticements to people such as yourself, people who recognise other people's wrongdoings and lead them to the magistrate via FAST.

FAST currently offers up to £1,000 for information leading to the conviction of friends/teachers/colleagues/traders who are pirating software.

The scenario could be a little different. You could be visiting your mate in jail, wave 30 brand new £30 games in his face and say: 'Would you rather earn £1,000 or pay 30 days'?



• Is this worth the risk of going to jail and the shame of damaging the industry that provides the product in the first place?

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THE PC IN YOUR POCKET

The new Portfolio from Atari is the world's first pocket-sized electronic organiser that is also a powerful PC compatible computer, with a full QWERTY keyboard and scrolling 80×25 character display.

Portfolio includes everything you would expect from an electronic organiser - an address and telephone book, time manager, diary and sophisticated calculator.

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And, because Atari's Portfolio is PC compatible, it can communicate with your desktop PC at home, or in the office. You can transfer files from one to the other, to enable you to update your reports and figures with the Portfolio while you are on the move.

FOR ONLY £249 INC VAT

SPECIFICATION

- ★ ***Processor:*** Intel 80C88 at 4.9152Mhz.
- ★ ***Operating System:*** Compatible with MS-DOS 2.11.
- ★ ***Internal ROM:*** 256K containing BIOS, operating system and applications suite.
- ★ ***RAM:*** 128K with an internal RAM disk, configurable from 8K. Externally expandable to 640K RAM.
- ★ ***Keyboard:*** 63 keys, QWERTY, IBM PC BIOS compatible. Buried numeric pad and function keys. Optional key click.
- ★ ***Character Set:*** Extended IBM ASCII (255 characters).
- ★ ***Mass storage:*** credit card sized memory cards (32K or 64K or 128K RAM).
- ★ ***Display:*** Graphics LCD, supertwist technology, MDA compatible, 40 columns x 8 lines, 240 x 64 pixels (with the option to window a full 80 x 25 character display). Keyboard controlled contrast.
- ★ ***Peripherals:*** 60 pin expansion BUS to take serial and parallel ports and memory expansion units.
- ★ ***Size:*** 8″ x 4″ x 1″ (200mm x 105mm x 29mm).
- ★ ***Weight:*** 495 grammes (with batteries).
- ★ ***Applications:*** calendar and diary, address and phone book, Lotus 1-2-3 compatible spreadsheet, text processor, communications software.

COMING SOON!

In addition to the excellent software built-in to the Portfolio Free of Charge (see right), other software and peripheral products, such as the sophisticated Pocket Finance package and serial/centronics interfaces are available. And it doesn't stop there. Many manufacturers have recognised the potential of the Portfolio and have already started to design new peripherals and software. Products currently under development include: Serial interface with built in mini modem, Apple Macintosh interface, business, utility and programming software plus a range of adventure and battle strategy games. For further free details on the Portfolio range, fill in the coupon below and return it to Silica Systems now.

5 BUILT-IN APPLICATIONS TO GET YOU ORGANISED!

To get you started, Portfolio comes with a suite of five useful functions built-in, all accessible from a simple menu display.

TIME MANAGER

More than just an electronic diary, the Portfolio Time Manager enables you to plan your appointments via a comprehensive calendar and diary. It can even be programmed to sound an audible alarm at specific times to remind you of important appointments.

CALCULATOR

Your Portfolio will be invaluable in the office or at home as a powerful pocket calculator. It has a full range of functions, including factorial, power and root calculations, all with multi display formats and memories.

ADDRESS BOOK & DIALLER

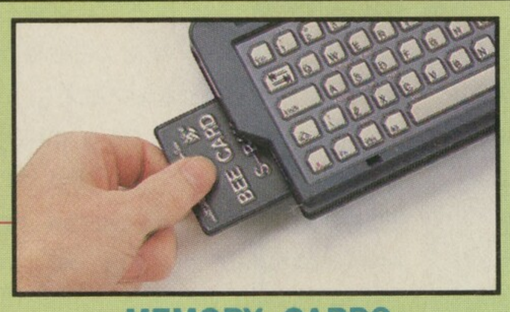
Portfolio has a complete address book facility that allows you to store hundreds of addresses and phone numbers. And, at the touch of a button, you can retrieve any one of them, or search for a specific grouping, such as "all Italian restaurants". And, when you are ready to book your table, hold your Portfolio to your telephone mouthpiece and use its special built-in tone dialler to dial the number for you.

TEXT PROCESSOR

The Portfolio's built-in text processor program includes word wrap, line and column count, string search, in fact most of the functions you would find in a word processor. It handles printer and word processor control codes and allows easy transfer of files between Portfolio and your desktop PC.

SPREADSHEET

For real calculating power, Portfolio has a Lotus 1-2-3 compatible spreadsheet built-in. It has 127 columns x 225 rows and reads/writes Lotus V1.0 and V2.01 files, so you can transfer data to and from Lotus 1-2-3 on your desktop PC. The Portfolio's 256K ROM includes MS-DOS and PC BIOS compatible systems software.



MEMORY CARDS

Portfolio can store and retrieve data and programs from its own RAM, or from small credit card size memory cards, that slot into its built-in card drive. The cards are available in three sizes, 32K, 64K and 128K, so you can carry a library of data in your pocket. The card drive also accepts ROM cards, which can contain commercial or custom software.



POWER SUPPLY

Portfolio is powered by three AA batteries which will run for up to six weeks with normal use, or from the mains using an adaptor. All the peripherals take their power from the Portfolio, so no extra batteries or adaptors are required. A 'battery-low' warning and memory back-up ensure that information is not lost when the batteries are changed.



INTERFACES & PERIPHERALS

Portfolio can communicate with other computers and supports a growing range of peripherals via a built-in 60 pin bus connector. Peripherals available include serial and parallel interfaces and memory expanders (to 640K). You can also add a card drive to your desktop PC, to enable it to read/write to Portfolio's cards.

SILICA SYSTEMS OFFER YOU

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Before you decide when to buy your new Atari Portfolio, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Portfolio, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new Portfolio products? At Silica Systems, we ensure that you will have nothing to worry about. Silica Systems is a new division of Silica Shop, the UK's leading Atari specialists. This new division has been established to provide a service to the more serious home user, as well as to business and education purchasers. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now, for our latest Free literature and begin to experience the "Silica Systems Service".

SILICA SYSTEMS

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Company Name: .....

Which computer(s), if any, do you own? .....

E&OE - Advertised prices and specifications may change - please return the coupon for the latest information.

who would care and show some sort of interest, both in after sales and the development of the machine.

This formula immediately discounts Amstrad, as that company has a 'flog the goods, sod the service' type of attitude. Althouth, as I've said, I have a couple of Speccys, correspondence with the Brentwood boys about the sound chip, RGB output, printer interfacing, etc draws a blank. Would Amstrad offer a free ROM/DOS upgrade? Yes, but it would cost £15 for post and packing.

Companies are still supporting the Coupé with software. LERM, Betterbytes and GA Bobker, all produce Coupé-specific titles.

The release that everyone is waiting for, however, is the DTP pack from PCG. This is an uncertain commodity at the moment, pending the release of the updated ROM/DOS.

It would be in every Coupé owner's interest to inundate PCG with pleas to proceed with the DTP software. Furthermore, get in touch with Tasman and other companies – show the good people that Coupé owners are very keen to have software.

If companies are prepared to invest thousands of pounds to produce software costing £200 each for that fancy Neo-Geo thing and its clones (which will only sell a couple of copies anyhow), why can't they convert existing software for the Coupé ? I think the userbase would be greater for the Coupé than any of these.

There – I've had my say, and I feel happier for it.
B Walton, Tyne and Wear

And as B Walton sits himself back in his comfortable chair, a much, much happier person for having spoken to the all of us, we move on to the next letter without too much further ado.

Let me say this, however, if the value of the stamps from all the letters in the *Express* Mail postbag supporting MGT and the Coupé was put into a big pot, the money poured out at the end of it wouldn't save MGT, but it would buy Alan Miles and Bruce Gordon a hearty meal. Bon Appetit.

In the red corner...

My Amiga is better than any ST. I don't know why you take the middle ground in this futile debate. The Amiga has better sound, graphics, expansion and emulation capabilities.

When Tramiel tried to 'enhance' his flimsy toy, we were offered the STE, a complete load of old manure that wouldn't run a lot of games. I still haven't figured out whether the function keys on an ST were a design exercise that went wrong or if Atari really think people have diagonal fingers. Hah! Atari STs. I ** 'em.**
Billy MacWardle, Cumbernauld

And in the blue...

I am writing to remind you how bad the Commodore Amiga really is. I have a far superior STFM but several of my friends cocked a snoot at me and bought the superior(?) Amiga.
The score so far (since October) is:
5 faulty Amiga disk drives
37 viral attacks
3 failed power supplies
1 dead sound processor
1 completely dead A500
countless visits from the guru, and hundreds of other assorted problems.

That's not too good a score for six machines is it? During the last few months I have become fed up of Amiga owners coming crying to me about their latest problem and hoping for a go on my ST – which hasn't even needed a fuse.
Guy Rifkind, Belper

And in the middle...

All your readers with STs and Amigas could stop bleating and make a sensible decision. Get rid of their sub-standard non-standard crap and buy a proper computer. The logical choice is a PC.

VGA graphics and soundcards make the PC a true contender for the UK games market and the vast amounts of business and application software available for a PC mean that it's a true investment.

When the urge to play *Killer Daffodils* goes away, the astute PC owner will pull down an application and earn enough cash with the PC to buy the next game

Come on Amiga and ST owners. Change to the true standard – IBM.
Rupert Partington, Macclesfield, Cheshire

And there we have it: Three more readers convinced that his computer is the best in the world. No doubt the printing of these letters will cause unsettled stirrings in the ZX81, Dragon, Memotech and Apple camps. We eagerly await a convincing letter from someone who thinks his ICL mainframe is the bees knees.

Space monkeys

There aren't very many two player games around that use two joysticks and allow players to 'shoot' at each other, so we were pleased to see the game *Space Monkeys* that allows just this in a TV advert recently.

The advert was for beer (I think) and had Kirk Douglas in it. The shot showed the game being played on a projector TV, but we couldn't see what computer was being used (although a friend said it might be an Amiga).

Is *Space Monkeys* available for the C64 or CPC? And if it is, where can we get it from?
James Moralee, Walsingham, Norfolk

The advert was for lager (known by the name of Fosters); the 'star' was none other than Burt Lancaster, and as far as we know *Space Monkeys* was just part of the advertising scenario (unless anyone out there knows differently.)

Even as you read this, some enterprising individual is probably writing *Space Monkeys* knowing that the advertising hype will sell a few thousand copies to people who believe what they watch on the idiot's lantern.

Should anyone be planning to send a copy of *Space Monkeys* to *Express* editorial to review, please note, we'd rather have the lager! ■

NEXT WEEK

IT'S NOT THE SIZE...
Express's definitive roundup of notebook PCs

TUNE IN, TURN ON
Win yourself an American mind machine

FORE, PLAY
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THE ATARI ABC

Now, there's a PC-AT compatible that not only solves problems like other AT compatibles, it also solves the one problem that its predecessors have created ... affordability.

Silica Systems are pleased to present the new Atari ABC. The ABC is a 286 AT compatible that runs at over 5 times the performance of the IBM XT. This is achieved by combining the power and speed of a 16-bit 286 processor, with Atari Corp's development experience and engineering capabilities, which use the very latest in design technology. However, the Atari ABC's are available at 'XT prices' and many XT owners will wonder why they paid more, but got less!

The ABC is a reliable, high performance computer, built to exceptionally rigorous standards. It is well designed, to a state of the art specification, maintaining maximum expansion capability for the future. This includes up to 4Mb of RAM and 3 AT expansion slots. Plus, unusually for a PC at this price, the ABC has the ability to install two or three extra drives, with the cabling already inside the CPU.

The ABC has a host of impressive features, all built-in as standard, encouraging simple installation and ease of use. In addition, the ABC's small footprint and quiet operating, mean that you will notice it less on your desk than other PC's. Except, of course, when you begin to take advantage of its AT power.

At its remarkably low price point, the ABC is ideally suited for home, office and educational use and will take full advantage of the vast range of PC compatible software. And, with 12 months FREE on-site maintenance (8 hour response), you can rest assured that your ABC will be fully supported.

The ABC is the latest addition to a comprehensive range of both 286 (8Mhz or 12Mhz) and 386 (16Mhz and 20Mhz) PC's, from the Business Systems Division of Atari Corp. Atari's PC range offers an unsurpassed combination of reliability, compatibility and expandability, with unique features like Atari's 44Mb removable hard disk on their PC4. Return the coupon NOW for further details of the complete range of PC products from Atari's Business Systems Division.

ABC TURBO
AVAILABLE: JUNE 90

To put the ABC even further ahead of the competition, we have introduced a special 'Turbo' version, which includes a super fast RLL hard disk controller to increase the data transfer rate from 150KBytes/s to 800KBytes/s, with a performance index of 4.801. Plus! to provide exceptional graphics with an outstanding colour resolution of up to 1024×768, we have included a Super VGA graphics adaptor and a 14" VGA colour monitor (which also supports 1024×768 resolution), all for an additional price of only £300. Check the ABC Turbo against the competition, at only £1299 (+VAT) with 30Mb hard disk, Super VGA colour graphics capabilities, plus 12 months on-site maintenance, it offers unbeatable value.

286 AT

WITH 30Mb HARD DISK & EGA MONITOR - £899

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LOW PRICE - HIGH SPEC!

CPU+MOTHERBOARD	• 8Mhz 80286 16-bit CPU • Landmark Speed = 10.3Mhz, Norton SI Test = 9.0 • Latest NEAT (New Enhanced AT) technology chip set • Has user selectable bus, DMA speeds & wait states • Programmable to operate at 0 or 1 wait states • 640K RAM base memory (expandable) • Motherboard expandable to 4Mb RAM memory • Real time clock with battery back-up • Full 16-bit data line capability • Socket for 80287-8 numeric Co-Processor • 3 16-bit AT expansion slots (max)
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I/O	• Parallel port built-in (25-pin Centronics) • Serial port built-in (9-pin RS-232) • Mouse controller port built-in (9-pin serial)
GRAPHICS	• Super VGA video graphics controller - *512K - Turbo vers* • Super VGA: 256 colours in 800×600 res - *Turbo vers* • EGA video graphics controller built-in • EGA: 16 colours available from a palette of 64 • EGA: 256K of dedicated Video RAM built-in • MDA, CGA and Hercules graphics controller built-in
PHYSICAL	• Low noise operation • Ergonomic small footprint (38cm×41cm×15cm) • Keyboard - 102 key enhanced AT (12 function keys) • Keyboard - has 2 position height adjusters
PLUS!	• Fully OS/2 compatible (requires 4Mb RAM) • Supports Industry Standard Networks • MS-DOS 3.3 with GW BASIC 3.22 • 12 Months FREE on-site maintenance included

ATARI

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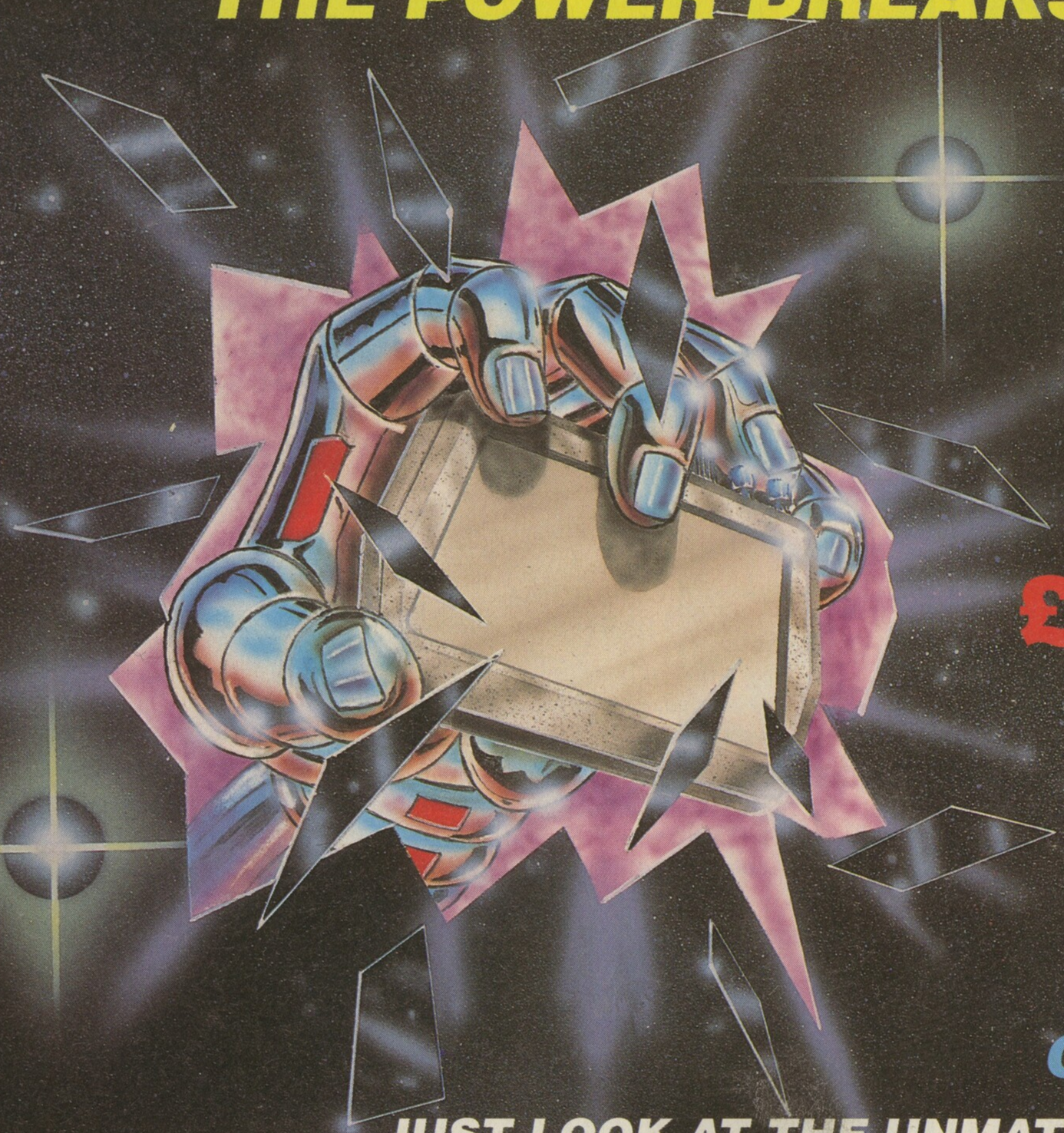
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