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First news, first reviews – every week

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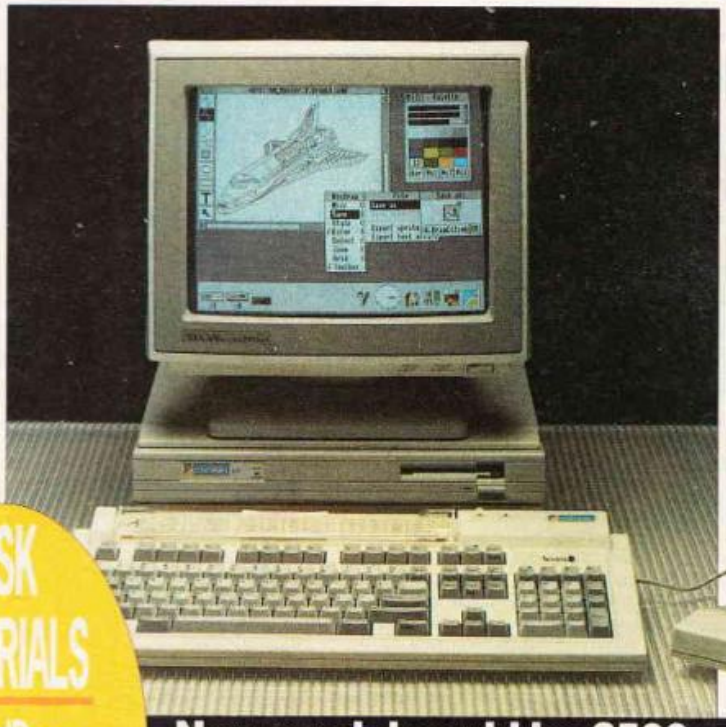
Which package for your micro? Express reveals the best value for money



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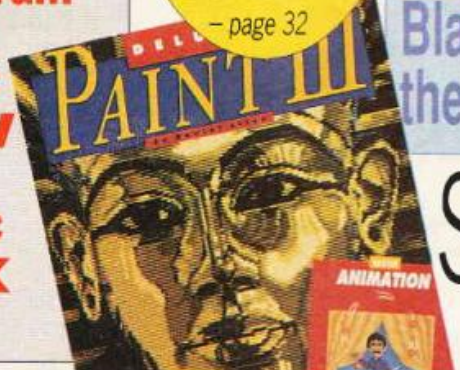

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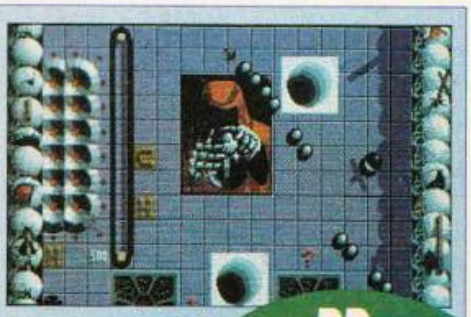

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• Confounding its Archie-enemies: Affordable Archimedes to appear this summer

STRIPPED DOWN ARCHIE TO BURST THROUGH

A stripped down low cost Archimedes will be launched by Acorn in the summer, *Express* can reveal.

It is thought likely that the nameless machine will be priced in the £500 to £600 bracket. Some are suggesting that it could weigh in at £499. Acorn will unveil the low cost Archimedes at the BBC Acorn Show in July.

According to one insider, the new machine will include an internal disk drive and will be similar in appearance to the BBC Master 128. There is a possibility that it will offer 2 Mb of RAM. Like the more luxurious Archimedes, it will run under the impressive and super fast RISC environment and will incorporate 32-bit technology.

Acorn is hoping to keep prices down by selling the machine as a complete micro rather than offering the keyboard and disk drive in separate boxes.

The machine will be aimed squarely at those BBC owners who want to upgrade but have found the Archimedes 305 too expensive (basic model £699 without monitor). The 310 model starts at £835.

Many Beeb users are reluctant to transfer their loyalties to the ST, Amiga or even PC. Neither Commodore nor Atari will be pleased to hear of this new development, both of which have been making efforts to squeeze into the educational marketplace which Acorn dominates.

The most important customers will be primary schools looking for better graphics and more memory than the trusty old Beeb. Educational specialists believe that kids especially will find the Archimedes' graphics and icon driven environment stimulating.

Acorn itself is introducing the new machine as a way of filling in the gap between the BBC Master and Archimedes without cutting prices of its flagship machine. However, the firm is refusing point blank to comment on the matter.

"People are at liberty to speculate and we are at liberty not to respond," said communications director Michael Page. This line was repeated three times when he was pressed. Page would not confirm nor deny the existence of any new machine.

Acorn is said to be "hopping mad" that this news has leaked out. Major software developers have been warned to keep tight-lipped about the machine.

Although the new micro is not being pitched as a games machine it is said to be considerably better than both the ST and Amiga in terms of graphics and speed. One observer told *Express* that if Acorn does manage to get the machine out at the right price it will be "an absolutely enormous success".

Braille micro brings PC computing to the blind

The first fully PC-compatible micro designed for the visually handicapped has been launched.

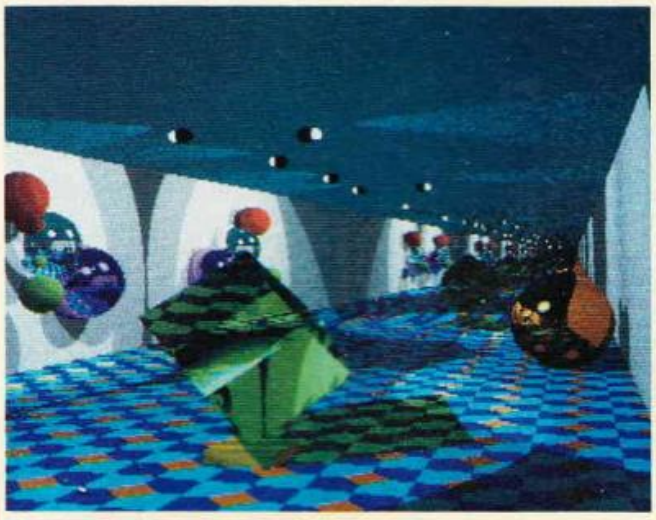
The machine differs from standard computers for the blind in that it incorporates a braille read-out rather than speech synthesis. Libra (RW), the firm behind the £6,500 computer, says it will mean blind people can work alongside the sighted without problems.

The Libra has, in place of a monitor, a tactile braille display which allows the user to read text. The keyboard also features the six braille keys and a further two for the cursor position and upper case.

Libra's boss Reg White told Express: "This can replace speech facilities, which are stressful to the visually handicapped. They don't like having the machine chatting at them all the time.

"Now employers will be able to incorporate the Libra into their networks because the machine can easily be linked up and is fully compatible with PC software such as Lotus 1-2-3 and WordStar."

• Restoring the balance: Libra's breakthrough for the blind



• Rays of sunshine: Render Bender's optical precision

Graphic descriptions

The Archimedes, graphically impressive by itself, has gained a 3D ray tracing animation package courtesy of Clares Micro Supplies.

Render Bender enables users to construct animated scenes on their machines and even add music. Ray tracing allows artists to create scenes in which each individual pixel takes into account all relevant reflections and light sources.

Clares says this makes for an absolutely correct animation according to the laws of physics and optics. It costs £79.95. More on 0606 48511.

Nintendo crackles and pops

Such is the extraordinary popularity of the Nintendo games console in the US that a new breakfast cereal is to be launched onto a nation of unsuspecting kids called delectably The Nintendo Breakfast System.

The fruit flavoured wheat puffs are shaped like characters from Nintendo games including the *Super Mario Brothers*. Nintendo is launching the cereal along with brekkie giant Ralston Purina next April. "I think its really aimed at the kids, but knowing adults they'll be tucking in as well," quipped a Nintendo US spokeswoman.

Networking it out

Networking your PC can be a hazardous business, even with simple low cost solutions from the likes of Amstrad. With this in mind a new book has been published called *Communications and Networks* by Phil Croucher. It's published by Sigma, claims to explain the problem to beginners, and costs £11.95.

BEEB PLANS "RELEVANT" MICRO TV SHOW

It's been pointed out many times that TV shows dealing with computers are pretty dreadful affairs – but that could be changing.

The BBC is screening a two and a half hour show in early April showing how computers can help ordinary people. *The Software Show* will cover low cost software as well as familiar micros such as the Amiga, PC, ST, PCW and BBC.

The first Software Show will feature:

- A comparison of DTP packages such as *Timeworks* and *Pagemaker* on four different machines.
- A consumers test of word-processing options.
- Former Mastermind and famous cab driver Fred Housego testing *AutoRoute* on a PC portable.
- One-time newsreader and Genealogist Gordon Honeycombe showing how computers could have helped him trace his extraordinary family tree.
- The ST running a variety of music packages
- Schoolchildren logging their bird-watching discoveries onto computers.

If the show proves to be a success then a follow-up will be made. The production team hopes to touch on subjects such as adventure games and comms in future editions.

"We'll just have to see how people respond to it," said production team member John Allen. He agreed that computer shows in the past have been less than entertaining or relevant. "We want to cover machines that aren't really expensive and that are relevant to the reader," he said.

The Software Show will be screened on Sunday April 2nd between 10.00 am and 12.05 with a further half hour on from 11.00 pm.

• Kids involved in real-life tests on The Software Show

WHAT IN THE WORLD...

How many dentists are there in Bolivia? What's the GNP of Bulgaria? And what's the literacy rate in Bangladesh?

All these puzzlers can be answered on your PC with a new package from the US called PC Globe. Costing £70, the program contains maps and salient information concerning 177 countries around the world. As well as population, age structures and so on, PC Globe contains details of political groups and leaders as well as international alliances such as NATO. It also has an automatic currency converter and point to point distances. More on 0983 864674.

• The White House: Will George Bush's data disks go into the public domain?

White House guards its computer secrets

An important court case kicked off last week which will establish how much right the public has to see US Governmental secrets held on computers.

The National Security Archive wants future historians to be able to peek into the thinking of Governments by having access to computer data banks. In the past they have been able to access government deliberations by seeing documentation kept on paper.

The White House, though, wants to be able to keep its computer records to itself. The case was sparked off by the Irangate row in which secret liaisons held on computer banks were tracked down, thereby establishing that guns were indeed being sent to Iran.

"The case is about bringing the historian into the computer age," said historical historian and publisher Andre Deutsch. "In the future, more and more data will be stored and researched through computers. It will make the historians job so much easier because the computer will be able to scan every document for the key word under enquiry."

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NEW COMPUTER EXPRESS

COMMENT

Eureka?

The verdict on the Archimedes when it came out was unanimous: nice machine, shame about the price. With the entry level model twice the price of an ST or an Amiga, the home market was not going to go for it.

The high price was due to two reasons. First, the enormous cost of Acorn's research and development (many say that Olivetti was twisting its arm). Second, Acorn had cold feet about going into the mass market – possibly the effect of having had its fingers burnt with the BBC. It was content to go for the specialist and academic computer buyer – areas like desktop publishing, research and education – where the market is rather easier to control and easier to predict.

And, by all accounts, it's hardly failed. Large amounts of university research grants are going towards Archies and the machine is adored in high-powered academic and research circles for its speed and awesome power.

But from the home user's point of view this is all such a waste. Many programmers are itching to write home leisure and serious software for the Archie and use all that lovely 32-bit RISC power. Home users too will like it; as well as the sexy graphics, music, games and business stuff that they would be able to buy, they could write themselves fast arcade games in BASIC, complete with hosts of home-grown animated colour sprites; such is the power of the processor that the excellent Archimedes 32-bit BASIC is faster than 8-bit machine code.

Now, at last, it may happen. A basic entry-level machine at £500 is still just a mite pricey for most of us, but if it takes off – and that means taking large slices of the Amiga and ST market – then the software houses will start producing stuff for it, and we'll see home leisure and serious software once more moving up a stage. And Acorn will grab back a large section of the lucrative home market from Commodore and Atari.

The main question is: will Acorn price it right for the home user? Until the machine is unveiled in the summer – possibly even this time next year – we shan't know. But five hundred would be the absolute maximum; anything over and there'll be yet more mutterings that they've blown it again.

EDITOR.....Rob Ainsley
CONTRIBUTING EDITOR .....Peter Worlock
NEWS EDITOR .....Colin Campbell
REVIEWS EDITOR:.....Andy Storer
TECHNICAL EDITOR .....Jerry Glenwright
STAFF WRITER .....Rik Haynes
ART EDITOR .....Julia O'Shea
ART ASSISTANT .....Harriet Athay
PRODUCTION EDITOR .....Rod Lawton
ADVERTISEMENT MANAGER ....Mark Salmon
AD EXECUTIVES: .....Jennie Evans,
.....Andy Smith, Sarah King
AD TYPESETTING .....Terry Turner
PUBLISHER.....Greg Ingham

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AMIGA EDGES AHEAD IN 16-BIT WAR

More games software is being bought for the Amiga than the ST, according to market research firm Gallup.

This is the first time Commodore's machine has edged ahead in the furious 16-bit battle. During the week ending February 25th Amiga games software made up 4.8 per cent of all games bought – a mere 0.1 per cent ahead of the ST. Three months ago the ST held 7.7 per cent of the market with the Amiga trailing at 2.9 per cent.

Although the lead is minimal, it is nonetheless surprising. The ST has always been stronger in the games market and is believed to have a wider user base. However, Amiga software releases have been increasing of late.

Gallup, though, is convinced that the leap is nothing more than a blip.

• Taking the ST out of first: Is the Amiga taking over?

A spokesman told *Express*: "I really don't know why it's gone ahead. It's showed strong over the past few weeks but I really don't think it will stay there."

Inspect your budget

For those PC owners amongst you hoping to see exactly how much Nigel Lawson's recent budget has affected your income, Digita has launched an updated version of its Personal Tax Planner.

The £39.95 program incorporates all the little changettes our chancellor has bestowed upon us. Existing users of the program can get an update by sending a disk and £12.95 to Digita.

Personal Tax Planner is also available on the PCW at £24.95 with the upgrade also costing £12.50. Also from Digita comes Cashbook Controller *(£49.95),* Final Accounts *(£29.95) and an integrated accounts program called* Combo Pack *(£69.95).*

Brit chip hope sold to Franco/Italians

As widely expected, Britain's one and only hope in chip technology has been sold off to the French/Italian combine SGS Thomson.

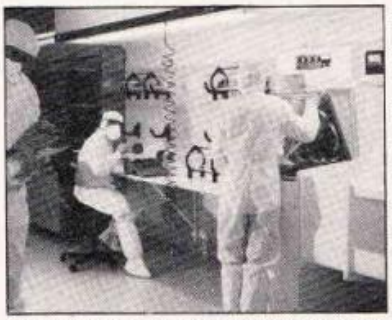
Inmos, the firm which developed the first "microcomputer on a chip" Transputer, was sold off by the British-backed corporation Thorn EMI. That firm in return receives a ten per cent stake in the European company.

Ironically, Inmos was set up by the British Government to gain a foothold in the crucial chip market. SGS Thomson is backed by the two European Governments which say they recognise the need to be involved in high tech computing developments. The Government sold Inmos to Thorn EMI after a few years, despite remarkable breakthroughs. Thorn EMI has long admitted that chips are not on its menu.

Whilst many have mour-ned Britain's loss, Inmos itself says the sale will do much to speed up future technologies. "It's going to have an effect on the Transputer because the Europeans want to put money into new developments," said Inmos's Francesca Pick. "They see the need for investment. It's obvious that we need to keep up with the Motorolas and Intels of this world. We're looking at new designs for the next five or ten years."

She added: "I think Thorn EMI had had enough of pumping money into Inmos. We didn't really fit in." As many as 162 companies had been approached with a view to a sale – many of them British. However, the huge investments needed in such hi-tech work are astronomical.

Many have pointed out, though, that Britain will need more than ever to turn to other nations for leading edge chip supplies. When supplies are short, British companies will not be seen as priority customers by Japanese, American or even European manufacturers.



• Inmos scientists developed the "miracle" Transputer

"Killer" computer shock

A computer has been ordered to stand trial in the Soviet Union – for murder.

According to much-loved tabloid *The Sport*, the computer is accused of deliberately killing chess champion Nikolai Gudkov. If found guilty, the M2-11 super computer will be de-programmed and dismantled.

Apparently, the machine became "angry" after being beaten by Gudkov three times on the trot. The Russians are alleged to be "convinced" that the computer deliberately electrocuted Gudkov when he touched the metal board.

Gudkov is reported to have died in front of a 500-strong audience during a six day chess marathon.

We'll cross that Bridge..

Business computing giant Epson, a firm which has cultivated something of a highbrow image, is to sponsor the Worldwide Bridge Contest.

The competition attracted 80,000 players last year and takes place simultaneously in cities all over the world. Sporty Epson also sponsors the golf Grand Prix, the Formula 1 Lotus team and co-sponsors the African Safari Rally.

Gremlin sore after Newsfield "outrage"

A bitter row has broken out between software house Gremlin and magazine publisher Newsfield concerning big name game Federation of Free Traders.

Gremlin is furious at the "ridicule" FOFT has come under in an advertisement for Newsfield's The Games Machine. *The ad – which appeared in* TGM*'s sister paper* Zzap *– featured the FOFT logo with 'NO' stamped on it. Underneath appear the words 'Why is Gremlin's space "epic" FOFT a load of old rubbish?'*

Gremlin says that the fact that The Games Machine *has given the game an uncomplimentary review is irrelevant. However, it takes offence at the FOFT logo being used in an advertisement.*

As a result Gremlin has called in its lawyers to look at the situation and has launched an astonishing attack on the magazines' publisher.

"I cannot think of one example where a publisher has sought to discredit a product in this manner before," said Gremlin's Richard Barclay. "Just criticism by way of a reviewer's personal opinion is acceptable, but for a publisher to announce a corporate view in this way is quite outrageous."

Barclay went on to accuse Newsfield of "blatant sensationalism" in order to pump up "an alarming deterioration in (magazine) sales".

Newsfield though was unrepentant. "It's nothing to do with sensationalism," said the firm's Roger Kean. "The game is rubbish. We played it in detail and felt that it was overpriced and tedious."

• FOFT in the head: Gremlin fury at advert for Games Machine

CLEAN UP YOUR ACT

Networkers warned to cut porn

British users of the worldwide computer network Fidonet have been warned to stop releasing smut and pornographic material.

Users of the net in the UK have recently logged onto the network and found material described as "strictly adult-orientated". But the British co-ordinator of the popular network Nick Middleton has warned users that anyone found dabbling in salacious material will be banned.

Already one influential London based "host" has been blackballed for allegedly releasing "smut" into the network. Such is the extent of the computerised and graphic pornography that the national press has highlighted the problem.

Middleton told Express: "Basically, if I discover any of this on the network the culprits will immediately be removed. We are well aware of the bad publicity that this sort of thing can generate."

He added: "Anyone caught doing this will be banned for life. It is completely unacceptable and won't be tolerated." Fidonet is open to hundreds of users in the UK alone and has members in Australia, Europe and North America.

Watch this space

For those of you who are into "added value purchases" and other delightful marketing ploys MicroProse has put together a small freebie offer. Anyone who purchases a copy of its forthcoming commando game Navy Seal will receive (absolutely free) an "exclusive Navy Seal watch".

For everyone of these MT905 laser printers bought the manufacturer Mannesman Tally will give away £5 to training up a cute puppy into a fully fledged guide dog for the blind.

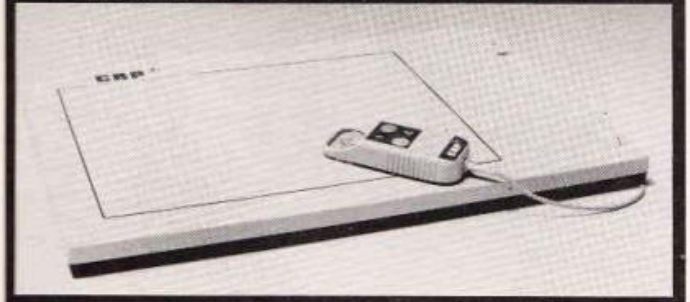
A fiver may not sound a great deal (especially when you consider that the printer costs £1,395) but if Mannesman sells as many printers as it hopes that means £50,000 to the Guide dogs for the Blind Association.

Draw your own conclusions

A graphics tablet for the Amiga has been launched by Burocare Graphics.

Developed in Germany, the CRP Tablet comes in two sizes – A3 and A4. It's compatible with all Amigas and with leading CAD and paint packages.

The A4 model costs £395 whilst the A3 costs £595. More on 01 907 0027.



• Taking the tablets: CRP tablet to come out on Amiga

Hacker denied PC access

A hacker who was caught breaking into University files has been denied access to his PC.

Bow Street magistrates court have banned unemployed Nicholas Whitely from using his computer. He is accused of causing criminal damage to files stored at the Queen Mary College in London. The hapless hacker is also charged with dishonestly obtaining a licence to transmit computer messages.

It is thought likely that more charges will be brought against him. He was granted bail until April 24th. Meanwhile, though, the courts though have slapped a strict ban on any hacking activities.

TOP 20 *Full Price* GAMES

1	Robocop DIGITAL	Spectrum, C64, CPC
2	Dragon Ninja OCEAN	Spectrum, C64, CPC
3	WEC Le Mans IMAGINE	Spectrum, C64, CPC, ST, Amiga
4	Emlyn Hughes HEDGEHOG	Spectrum, C64
5	In Crowd OCEAN	Spec, C64, CPC
6	Operation Wolf OCEAN	Spectrum, C64, CPC, ST, Amiga
7	Fun School 2 DATABASE/MANDARIN	Spectrum, C64, CPC, BBC
8	Falcon MIRRORSOFT	ST, Amiga, PC
9	Pacland GRANDSLAM	Spectrum, C64, CPC, ST, Amiga
10	Batman OCEAN	Spectrum, C64, CPC, ST, Amiga
11	Afterburner ACTIVISION	Spectrum, C64, CPC, ST, Amiga
12	Denaris US GOLD	C64, Amiga
13	Thunder Blade US GOLD	Spectrum, C64, CPC, ST, Amiga
14	Double Dragon MELBOURNE HOUSE	Spectrum, C64, ST, Amiga, PC
15	Giants US GOLD	Spec, C64, CPC
16	Middle Earth MELBOURNE HOUSE	Spec, C64, CPC
17	Barbarian 2 PALACE	Spectrum, C64, ST
18	Last Ninja 2 SYSTEM 3	Spectrum, C64, CPC
19	Ballistix PSYGNOSIS	ST, Amiga, PC
20	TV Sports Football MIRRORSOFT	Amiga

TOP TEN *Budget* GAMES

1	SAS Combat CODE MASTERS	Spectrum, CPC
2	Treasure Island CODE MASTERS	Spec, CPC
3	World Games KIXX	Spectrum, C64, CPC, MSX
4	Bomb Jack ENCORE	Spectrum, C64, CPC, ST, C16
5	Joe Blade 2 PLAYERS	Spectrum, C64, CPC, BBC, C16, Electron
6	Gauntlet KIXX	Spectrum, C64, CPC, Atari 8-bit, MSX
7	Pinball Simulator CODE MASTERS	Spectrum, CPC
8	Werewolf MASTERTRONIC	Spectrum, C64, CPC
9	Ghostbusters MASTERTRONIC	Spectrum, C64, CPC, Atari 8-bit
10	ACE 2 CASCADE	Spectrum, C64, CPC

RE re-entry • NE new entry • Last week's positions ↓
Compiled by Gallup

The charts shown are based on the Open Market, that is retailers who stock a broad range of products. All charts shown are copyright of Gallup.

WHICH COMPUTER FOR THE SCHOOLKIDS?

According to the *Times Educational Supplement* "real world" computers such as the Amstrad PC, Atari ST and Mac are gaining ground in Britain's schools.

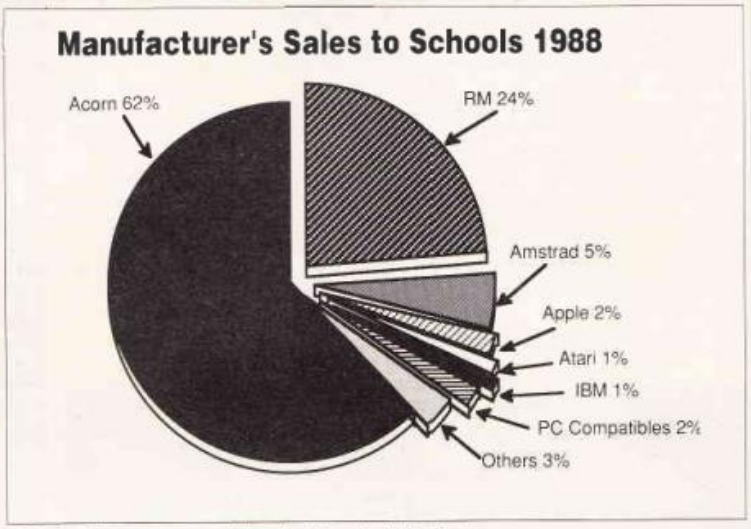
In a survey published in last week's *TES*, Acorn and Research Machines showed a total of 71 per cent of the market – last year it was 74 per cent. Much of the loss appears to have been taken by Acorn, with RM's Nimbus gaining slightly.

However, Acorn still commands an impressive lead in UK schools, holding a total of 62 per cent of the market. Much of this is still taken up by the BBC B, with the Master 128 increasing in popularity. The Master Compact, though, has not done so well.

Acorn's Archimedes is beginning to make its mark although many schools feel its price is too high. Its presence in primary schools is minimal.

Teachers are keen to buy the Amstrad PC for its price and word processing capabilities, although their local authorities are not so excited about the range.

Atari's share is minimal, despite the fact that there are seven times more STs in schools this year as last year. The Amiga doesn't register, which must be disappointing for Commodore, since the company has pushed the Amiga hard, stressing its graphics capabilities.



• "Real world" computers are gaining – but Acorn is still dominant

Speccie and CPC going great guns

Amstrad is currently developing a light gun for the Spectrum and CPC machines which could cost as little as £30.

Called Magnum, the gun will be available within the next two months and will be bundled with six games utilising the gadget including *Ground Zero*, *Robot Attack* and *Rookie*. The deal to make the gun has been struck between Amstrad and Virgin/Mastertronic, which will be selling the Magnum.

It is understood that a similar machine could be made for the C64 by Commodore.

Apple wins first round in crucial copycat case

Apple has won the first round of what is being labelled as the most crucial court case in the history of the computer industry.

The case is against Hewlett-Packard and Microsoft. Apple claims that some of these firm's PC programs give IBM compatibles an Apple Mac "look and feel".

Last Friday Microsoft was forced to retreat after its first line of legal defence was broken down. The firm claimed that a 1985 licensing agreement with Apple gave it the right to use Windows. However, a judge ruled that agreement only applied to the first version of Windows and not to current versions.

If Apple goes on to win the whole case it will have far-reaching implications for the rest of the industry, since a legal precedent will be set for the "look and feel" and plagiarism of software.

Virgin scoops Shinobi

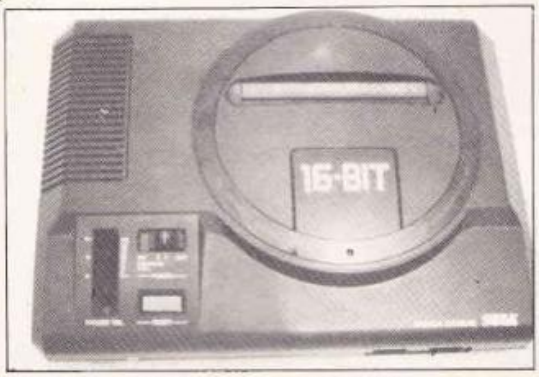
As predicted in Express (Issue 10) red hot coin-op Shinobi has been scooped up by Virgin/Mastertronic.

The Sega beat-'em-up should be available later this year on all major formats. Its future had been in some doubt after the demise of French publisher FIL which originally held the licence. Virgin/Mastertronic itself is concentrating more and more on arcade licences following its Christmas success with Double Dragon.

Megadrive hits town

Sega's 16-bit console the Megadrive has already arrived in the UK – months before the official launch.

Tottenham Court Road store Shekhana is showing the remarkable machine off. However, it will cost £250 for anyone hoping to jump the gun. Even Shekhana admits "that's a bit expensive".



• First of the many: Sega's megadrive already in London

The Megadrive was reviewed exclusively in *Express* (Issue 4) and is well worth a look.

• Complete Trash: Newell's new adventure

New MUG is Trash

A new multi user game is being touted around bulletin board circles and it could be accessible within the next few months.

The game — called Trash – is apparently something of a departure from standard "Dungeons and Dragons" fare. It is set in a futuristic scenario and attempts to incorporate humour.

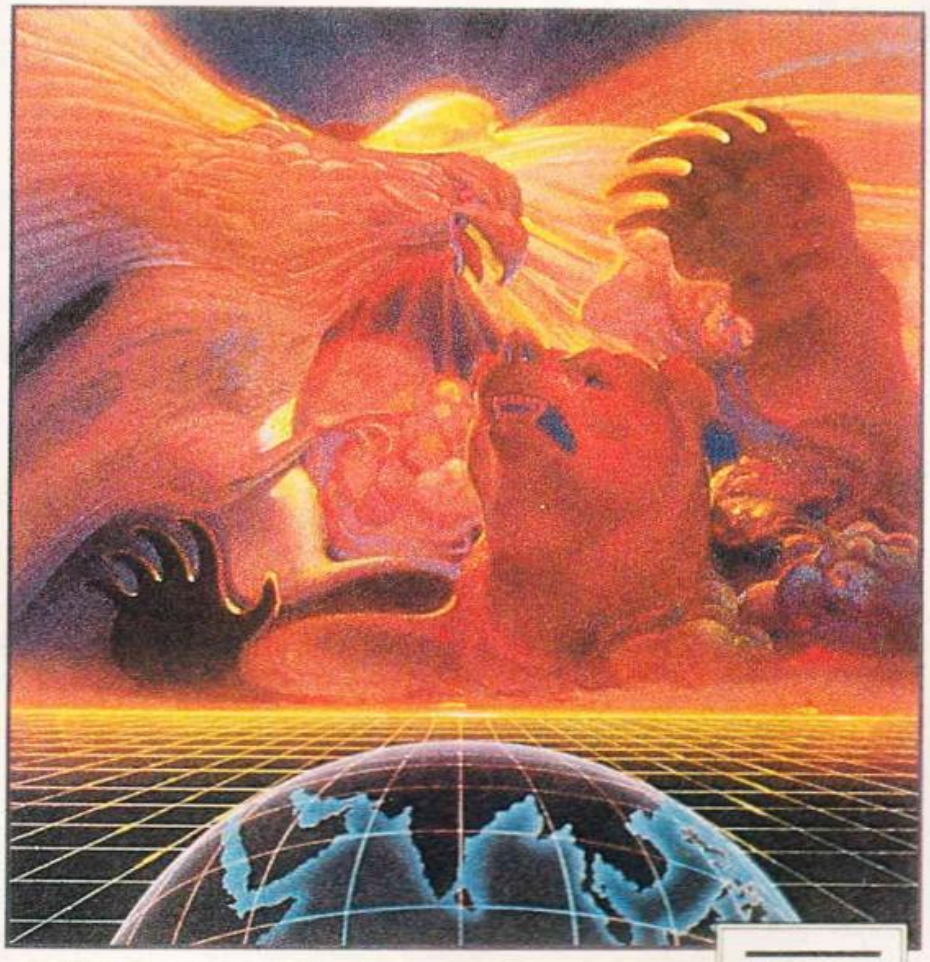
The text only adventure was written by Neil Newell, who also wrote Micronet's successful adventure, Shades. The company behind Trash, Third Millenium, is talking to a number of bulletin boards with a view to a publishing deal.

ABOUT TIME!
WAIT TILL YOU EXPERIENCE...

BALANCE OF POWER

THE 1990 EDITION

BALANCE OF POWER
THE 1990 EDITION



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MEDIAWARE

SO THERE I WAS, PLAYING SOME NAFF OL' GAME ON ME COMMIE 64, WHEN THE BLOKE NEXT DOOR CAME ROUND TO TELL ME ABOUT SOME MEGA DEMOS HE'D GOT ON HIS AMIGA. "DEMOS, WOT'S 'AT?", I SAID. SO HE SHOWED ME AN' ME EYE'S POPPED OUTTA ME SKULL. "YOU CAN GET 'EM ON YOUR COMPUTER AN' ALL. YEAR'S MEMBERSHIP INCLUDES CATALOGUES AN' A DISK FER £3. MORE AMIGA DISKS FER £3, C64 FOR £2" SO HE GAVE ME THIS ADDRESS:

WICKED P.D.
33 NOBLE SQ. BASILDON, ESSEX, SS13 1LT. TEL: 0268 590571
GIVE 'EM A BUZZ FER MORE INFO!
OH YEAH! THEY SAID TO MAKE YER CHEQUES OR POSTAL ORDERS PAYABLE TO 'REPTILIA DESIGN'.

EXPRESS MAIL

Dear Reader

More pages packed with another selection from our postbag and Rob Ainsley's replies. Have you got something to say? Make your voice heard in computing's liveliest letters page! Send your contributions to:

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

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

TWO'S COMPANY, TREE'S A FAMILY

I recall reading in a past edition of your great tome that when looking for a computer to purchase it is a wise move to check the availability of software for any particular needs.

The Amiga looks a good machine, but I need to know (before ruining a perfectly good savings account), if there is a Genealogy program for this machine.

My present machine is a 48k Speccy, but I find it rather limiting when printing out family trees. They tend to look like family bushes instead due to the lack of 80 columns!

As you can see I am using an old fashioned typewriter, so a word processor is also on my shopping list, but there are plenty of those about.

Thank you for a fine magazine. It is so refreshing to see a computer magazine that can survive by means other than resorting to endless program listings or games reviews 'ad nauseam'. Keep up the good work!

T J Breeze, Port Talbot, West Glamorgan

● ***We don't know of any commercial programs, though there may well be some programs in the public domain. Mormons are great fans of Genealogy and an Amiga owning one in Utah has no doubt written one and put it in the PD. Try George Thompson Associates on 077 082 234.***

SUNNY SPELL

The article "The Mega PCW" in (Express 17) could mislead PCW8256 owners into believing that they can't use LocoScript 2. It's not true – they can! The 256K memory of the PCW8256 is adequate for LocoScript 2, LocoMail or LocoFile; we just don't recommend it for use with LocoSpell.

Howard Fisher, Locomotive Software, Dorking, Surrey

• The PCW: More than enough memory

EDUCATING ARCHIE

While I enjoy reading the magazine I find that there is a very strong bias towards the Atari ST and the Amiga. I realise that these are two very popular computers but there are others out there including the Archimedes which is getting a bigger following all the time.

I followed, with interest, the continuing debate over which is better, Atari or Amiga, and enjoyed the comment one reader made, saying that each computer had its good points and in the same breath said that instead of buying an Atari why not save up and buy the Amiga which was obviously a better computer (his words!). If you follow that to its ultimate conclusion we should all save our money and buy a Cray supercomputer!

Being slightly biased I would like to add my views to this argument and suggest they consider the Archimedes. It is more expensive but has a much faster 32 bit processor (It can calculate the 65,000 pixels of a Mandelbrot set in 28 seconds. The Atari takes 4 minutes.). The picture resolution on a standard monitor is 256 colours from a palette of 4096 displayed at 640 x 256 pixels. With the right monitor it's possible to display up to 1152 x 896 pixels. The sound is also up to a very high standard rivalling the Amiga and, with the addition of EMR's sound packages, is making an inroad into MIDI. There is already a very easy to use 24 track digital recorder and a professional scorewriter and many more packages to come. Add to this a large range of good business software, a lot of educational software and the ability to emulate a PC very well, therefore having available a vast range of software including Public Domain and you have yourself a very good computer. I hope this will spur the Powers That Be at least to borrow an Archimedes and have a go. Especially as in the Tech Tips column the writer professed to never having used an Archimedes!

Alan Highet, Nottingham, Notts

● ***It's certainly a nice machine, but I can't help feeling it's still too expensive. Now, if only the rumours of an Archie price cut were to come to anything, we might be talking...***

BACK ISSUES TO THE FUTURE

I have bought New Computer Express from its first issue, initially because it had a section dealing with MSX computers. (I have a Toshiba MSX10). Unfortunately issue no. 14 was accidentally thrown away with old newspapers and no. 15 got lost in the distribution system on its way to me. Can you help please to obtain copies of issues 14 and 15 for me?

Peter B Ayling, Telford, Shropshire

● ***Back copies are available from Express Back Issues, The Old Barn, Somerton, Somerset, TA11 7PY, for 75p each (that includes post and packing). But please, everyone, don't blame us if we haven't got the issue you want – they tend to sell out rather fast.***

HUSH EVERYONE

With regard to your article (Express 13) labelled "Toshiba carries out portable printer plan", should this article have been labelled "Too much, too late"?

The reason: the Hush 80 printer, which is made in Ireland and sold all over Europe. I am a Toshiba 3200 user and waited for a long time for a printer from Toshiba. When Ferrotec released the Hush at only IR£135 (retails in UK at about £120), I rapidly made tracks to my local dealer.

GAME POINTS

Around Christmas time you ran an articles of great interest, "Games that changed your life". I was hoping it would start some debating about what makes a good game, but this never happened. In an attempt to rectify this, here are a few thoughts.

To provide the sort of lasting appeal that makes a game 'Life changing' a consistent attempt, reality and variety would be the two main criteria.

I have often wondered why people rave about Elite. The game might have impressive graphics and the 'Alternate Universe' bit is there but it lacks variety. In short the game is boring.

Far better is Sundog. Obviously the game would win no prizes for graphics but there is more than enough variety to give it lasting appeal. The only criticism is that the game ends when the contract is fulfilled. But it's still good enough that I start from scratch time and again.

As for RPGs: Bard's Tale has got it right. I would also include Roadwar Europa in my list. The beauty of this game is that you can keep going after the mission is complete – why not try to make all of Europe join your empire.

Probably my two favourite games ever (on any computer) are The Sentinel (not much variety – but mentally stimulating and Loadsa Atmosphere) and the Armageddon Man. If ever there was an unsung classic then this is it. Its arrival on the ST was unannounced and as far as I know, never reviewed in any mag. Yet here is a game that offers a totally original scenario. Again plenty of atmosphere and is concerned with preventing war to boot! Shame about the sexist title!

MYSTERY PRIZE WINNER

And there's the acid test. Both of these games were my favourites on the Spectrum and they're still tops on the ST. Maybe that's the real judge of a game: if you changed you micro, which games would you really miss playing on the new one?

Gary Brainfott, Nottingham, Notts

● ***As games get more and more sophisticated it becomes increasingly difficult to be objective about them. Just like a lot of rock music, a boring and clumsy idea can be produced so well and use so much dazzling technology that it ends up being superficially impressive.***

The criterion you suggest – that a Good Game is one you'd buy again when you change machines, or would get your old machine out of the cupboard to play – is a very good one, being hardware-independent, and surely applies to all sorts of games, not just adventures. By this token, Tetris is the only game I've played across machines (PCW/ PC/ ST/ Amiga/ Mac) so that must say something!

Anyway, we're sending you a jolly good game for your ST that you'll miss when you upgrade as this week's Mystery Prize.

PRESTIDIGITISATION

In response to your plea (Express 17) I'm writing to tell you about a video digitiser available for the Archimedes from Watford Electronics (0923 37774).

An image can be grabbed in 'realtime' even while another program is running, such as an art package. The image may be scaled, rotated or flipped and I've seen a demo, included with the package, showing a 'realtime' image being manipulated in a similar fashion to television effects. The picture can be displayed to a resolution of 512 x 512 pixels on a standard monitor and up to 64 shades of grey on a monochrome monitor. Finally, the grabbed images may be displayed at a rate of 25 frames per second for a quarter screen image and 12.5 frames per second for a full size screen. It is also possible to add a colour converter from Lingenuity giving you the ability to capture full colour images and, with pixel dithering, display the picture using an effective palette of 256,000 colours.

The digitiser costs £249 + VAT and the colour converter costs £169.95 + VAT.
Alan Highet, Nottingham, Notts

I can suggest a reasonably priced digitiser for the BBC, B+, and Master series computers. It is available from **Watford Electronics, Jessa House, 250 Lower High Street, Watford WD1 2AN**. It costs £131.10, inc. VAT and carriage. With the digitiser unit is software on ROM and a manual. Modes 0, 1 or 2 are available for use with this digitiser. It prints in eight levels of grey in mode 2. It can scan a picture in 1.6 seconds and connects up to the user port. Control of the digitiser is accessed by entering simple '*' commands.
Ross J Taylor, Clwyd, North Wales

The Hush is very light and portable and prints at 80 CPS, can fit in a briefcase, has a battery life of approximately 90 minutes, and recharges when run from a wall socket.

All in all I'll take my Hush over the Expresswriter that costs over £200 more.
John Keogh, Dublin, Ireland

● ***The Hush, like the Toshiba, is a thermal printer that uses no ribbons or cartridges but needs special paper to work on. Portable thermals like this have been around for something like five years now and don't give nearly as good quality as dot matrix printers, but then there aren't really any portable dot matrix or daisywheel printers. The price difference you mention may well be down to the difference in quality between the Hush and the Toshiba, though not having seen outputs from either it's impossible to say.***

THE COMMON CODE

I always cringe when I read or hear arguments about the virtues of one computer against another. Pointless, because when the money's been spent we are all left, usually on our own, with our technological marvels and a keyboard interface. What a person is able to do with the computer is more relevant.

To program in a low-level language like machine code is a labour of love and, depending on the architecture of a given computers' operating system, will pose many problems for even the professional programmer to overcome. He or she will succeed to a more or less proficient degree; after all we spend a lot of our hard-earned for their skill. However to make say, a ZX81 do something special graphically takes a lot more than, for instance, calling a ROM routine on an Atari (or other sophisticated machine. I'm not biased!).

Does anyone remember the high-resolution games which started to appear towards the end of most peoples' interest in the little machine? There were quite a number which popped up merely as a dump of hexadecimal code in magazines, with a few brief instructions. Surely the technical excellence of programming this type of facility on a machine which doesn't have a ROM full of useful routines to help, is healthy proof of a skill learned, nurtured and exploited gainfully. OK, so the machine's capacity is limited but the point was made. It's how you implement what's there that counts, not merely a list of the specifications.

I am no machine code programmer but use good old built-in BASIC as, I suspect, do the majority of users (except when running commercial software of course). I still enjoy tapping away on an old Oric Atmos and finding new answers to problems. And I don't complain about a limited software base because we should enjoy and appreciate the power of even the more humble machines we have.

Well that's enough preaching, but let's not lose sight of what a technical achievement every computer is. For those who want to buy a computer just as a status symbol, fine, but isn't that doing yourself an injustice instead of the machine?

I will now go hang my head in shame for my views, but let's use our machines instead of trying to better one another.
N K Alefounder, Lincoln, Lincs

● ***Quite. Photography enthusiasts never bicker about whether their Canon is better than their mate's Nikon, though of course they are interested in comparing technical details. But they're much more concerned with the results their cameras produce, i.e. the photos themselves. Maybe photography enthusiasts can teach us computer owners a thing or two. But, looking at their appallingly sexist magazines in which you can't take a photo of a combine harvester without a semi-naked women leaning over it, maybe not.***

MAIL CHAUVANIST

With reference to your Tech Tip written by Greg Hewitt-Long (Express 12).

Would your readers please note that he no longer resides at this address. This letter is a warning to your readers who have struck up a rapport with Greg, and who bombard my home with mail for him (he is only a student temporarily residing at the given address), that any mail received after 17th March 1989 shall be promptly put back into the post marked 'Return to Sender'.

I shall not be held responsible for any disks that are consequently lost as a result of this course of action.

YOU HAVE BEEN WARNED
M Boerenbeker, Stafford, Staffs

● ***You see what she said, all you Amiga owners. Don't trifle with anyone who uses underlined capitals and quotes Elvis Presley songs.***

MANUAL WORK

This is just a quick note to let you know how much I enjoyed 'Manual Labour' (PSsst! Express 16).

As an enforced user guide writer (i.e. student on a BTEC OND in Computer Studies), I was naturally interested in your six samples. If I had to make tea in a teapot, I would choose example 1 (by Ichiro Ushikuso) because it actually follows the job from beginning to end. Failing that, I'd choose example 5 (by Darren Crapp [16]) since it eventually settles down and tells you how to make tea.

Neither of these examples skate completely around the issue (like Eric Fudge's version or Norm Szczkanski's version), nor do they involve purchasing lots of unwanted software and extra manuals (as does Dennis Hacker's version).

I've missed out Frank Stodger's example. This is because, once he has revised it to include step 16. (Put money in slot) and step 3. (Take filled cup out of machine); this is the user guide which I would spend my money on.

PS I also enjoyed the rest of the magazine.
Kathleen McHale, Normanton, West Yorkshire

• The clearest example of how best to make tea, says Kathleen McHale

● ***Thank you. And if anyone is wondering what Ushikuso means in Japanese – well, if you dry it out, you can use it as fuel.***

SOUND VIEWS

I like the way the "Express" is shaping up and thank you for answering my enquiry about GFA Basic 3.0. Most magazines have remained strangely silent about this new Amiga version.

I wonder how many Amiga owners really know how good the sound chip is? I didn't until today when I fixed up a simple twin phono plug lead from the back of the A500 to my hi-fi system and loaded up the stunning Killer demo with its video quality animation sequences and digital sound. The quality through a pair of Wharfedale speakers was the best I have ever heard from a micro.

The Amstrad CPC can also be connected, in stereo, with just a small co-ax phono plug from the left hand end and into the amp with two phonos. Not a bad sound either, but the Amiga is just quite outstanding. *Silent Service* came through in mono but *Interceptor*, with the volume turned up, almost literally, took off!

It is so easy to connect these two popular computers to a hi-fi, and it can be thoroughly recommended for a pleasant surprise.
John Gray, Eastbourne, Sussex

● ***Hmm. I tried it with a PCW and I can assure you that the beep sounds much worse even through KEF speakers.***

THERE'S NO 'F' IN PRIZE

I am fed up! No, I am downright angry! I happened to be one of those lucky hundred to win a prize in your Christmas Competition. I won prize no 12, War In Middle Earth (although you missed out "f" of my first name). But still, six weeks later, I have not received anything. Please sort this out, Express!

I hope US Gold's price cuts for 16-bit games also include PC software. Many people forget that the average PC is a 16-bit machine and even the more expensive ones (386s) are even more powerful with 32-bit processing power. But still when advertisers talk of 16-bit software, they usually mean software for the ST and Amiga. It would also be great to see other software houses follow Gold's example.

Lastly, you said, back in issue 6, that Orions Belt was an "Express exclusive", right? Ace readers go back to issue 15 and guess what you see on page 8...
Kashif Quraishi, Hayes, Middlesex

● ***You haven't received your version of 'War in Middle Earth' because it won't be out on the PC for a week or two yet. Don't worry, you'll be sent a copy as soon as it's available!***

As for the Orion's Belt, Ocean assured us that we were seeing the game exclusively. We weren't to know that ACE also had seen it and our exclusive was only to that particular version (the sprite at the top right of the page was definitely an exclusive).

PCWS GOING BEEP

In Express issue 18, Neill Hodgkinson of Reading stated in his letter that he had seen PCW9512s priced at just over £300.

I should be grateful if you could tell me

who supplies PCWs at this price.
A J Gill, Pudsey, West Yorkshire

● ***Well, the cheapest new PCW9512s I've seen are for £439 from RSC (0923 243301) and Morgan's on Tottenham Court Road occasionally have ex-demo computers which sell for maybe 60%-80% of their normal new price. I assume though that Neill was referring to a second-hand one (£300 sounds about right for a year-old model). Used PCWs are notoriously difficult to get hold of though you can pick them up in the classified ads of the mag 8000 Plus.***

EIRE WAVES

I recently purchased my first computer, a Commodore 128 (The 16-bit boom hasn't caught on here yet). I have since tried to get to grips with some BASIC programming but am finding it quite difficult. Could you please tell me if there are any good books or software packages for the 64/128 to help a beginner learn BASIC. Secondly, how does the C128 compare with other micros in programming terms?
Damian Byrne, Wicklow, Ireland

● ***There are plenty of BASIC guides around, but ones specific to the C64 or C128 will probably be out of print by now. Try Computer Manuals on 021 706 6000.***

BASIC on the 128 is better than that on the 64, but doesn't compare with the high-level BASICs found on your STs and Amigas. The machine itself is very powerful, but only machine code programmers can really get the best out of it.

PLEASE EXPLAIN THE TLA

Super mag – really is! Just one comment: to date I know little or nothing about computers, so your beginners articles are a real boon, but please print (say) a back page dictionary of your 1,001 abbreviations and acronyms. The few you give are really not enough to encourage sales to beginners but I'll keep trying to grasp their meaning.
W Huskisson, Rochford, Essex

● ***As everyone knows, the most important combination to remember is TLA. The TLA is the most vital part of any machine's specification and is the first thing you should check when buying. It stands for Three Letter Abbreviation.***

Anyway, as for the dictionary idea, it's in hand: watch this space.

FAMILY FAVOURITES

My family consists of five people. I am a professional but non computer user. My wife is a school governor, currently without employment but with a wide range of home-based interests. My elder son now aged 18 is away at Art college during term time and had a Sinclair Spectrum during his early teen years. My second son aged 15 is mainly sports minded and studying for GCSE and my daughter nearly 10 has enjoyed playing computer games on her friends' machines and at school.

With that background and the current popularity of home PCs with printers I decided to invest in a magazine which I hoped would guide me through the maze of alternative equipment. Your magazine seemed to provide the more sophisticated user/buyer with many choices of equipment.

Much of the terminology I regret to say left me stranded with considerable doubt as to my proposed investment for my family's present and future needs.

My requirements would be summarised as follows:-
Personal computer, Word Processor, Printer and Monitor.

Such a grouping of equipment would need to encapsulate the following activities:-
1 Game playing to suit 9-16 year olds.
2 Programming for design and educational purposes.
3 Business (family) correspondence e.g. like a well presented letter of this type!
4 Report compilation and typing skill tuition.
5 Possible short story writing.
6 Domestic budgeting/finance
7 Spread sheet production.
8 Averaging eg cricket club batting and bowling averages.

I should be most grateful for any suitable recommendations you are able to make together with the name of a reputable local supplier.

My budget is about £600 max. I do have a colour TV set which could be pressed into action as a monitor if that would significantly improve the range of hardware my budget permits.
M J L Miller, Seaford, East Sussex

● ***Well, briefly, some options in your local Comet/ Currys/ Dixons etc. are:***

a) Atari ST 520FM (£299) plus cheap printer (say Citizen 120D, £130, or Star LC-10, £195). This is a nice modern sophisticated computer, great for all the points you want, loads of software available of increasingly sophisticated quality, but games tend to be expensive (£20 or so). Problem: you have to use your TV as a monitor which doesn't really give you enough definition for word processing. Magazine for further info: **ST/Amiga Format.**

b) Amstrad CPC6128 (£299 with mono monitor, £399 with colour monitor) plus cheap printer. Great for all the points you want, plenty of software available, games cheap (£3-£10 say). Older than the ST and less sophisticated but a nice machine still. Magazine: **Amstrad Action.**

c) Amstrad PCW (£399, £50 more with daisywheel printer). Includes monitor, word processing software, and printer. Few if any games for 9-15 year olds and limited graphics, but by far the best machine for word processing and writing, and plenty of 'serious' games and software available for the other points you mention. Magazine: **8000 Plus.**

The salesmen will tell you to buy an ST, you'd probably prefer a PCW for your own purposes, but the CPC might be the best compromise.

SNIPPETS

FORTY LOVE

Congratulations, Express! Give that man £40 a week more. I've wanted to know what Hypertext is for some time, and Peter Worlock's explanation is the first I've seen that is fit for human, as opposed to computer expert's, consumption...
John Smart, Hitchin, Herts

● ***What, and put him up to £60 a week?***

LET'S SEE YOU DO A STRIP

I think that you should start a regular cartoon strip. Why not ask that 'Sarkar' person who does the strips in AA and ST/Amiga Format to decorate, say, the back page?
David Carter, Woking, Surrey

● ***We're working on it, though a funny strip about computers every week is a tall order for a cartoonist.***

BOUQUET SHOP

I would like to commend Epson (UK) Ltd for the excellent Customer Support they provide. These days it is very unusual to find a company that offers a good customer support and I will not hesitate to recommend Epson to anyone...
K Sheldon, Birmingham, West Midlands

● ***Nice to see a company being congratulated for a change!***

HAVE YOU EVER HAD DEJA VU BEFORE?

Is there any prize for recognising that your review of Federation of Free Traders appeared in another monthly mag, almost word for word, five months earlier?...
Gary Brainfott, Nottingham, Notts

● ***Well, just proves our reviewer was right the first time, doesn't it?***

F OFT

Never, or almost never, in seven years as a computer enthusiast, have I seen such an over-hyped piece of rubbish as Federation of Free Traders on the Atari ST...
P Kowabnik, Manchester, Midlands

● ***Ah, yes you have, five months ago...***

BUGS BUNNY

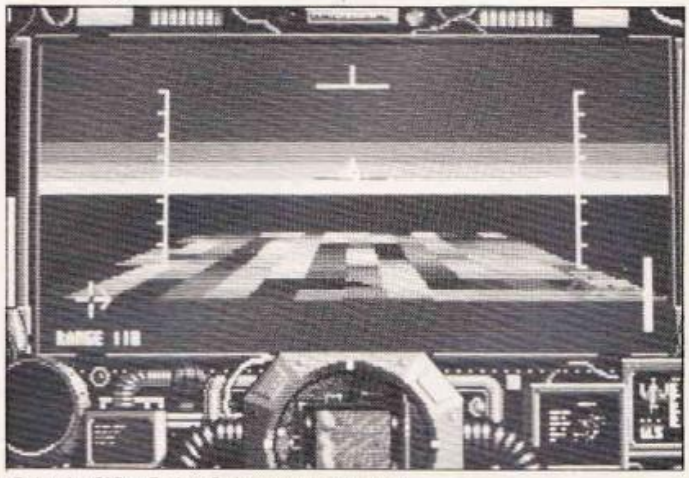
I am now writing to let you know of more bugs in Federation of Free Traders.

1. During the game itself the computer will give you a first mission which you cannot complete in one jump, ie. your minimum jump to start is 78 but your mission will require a jump of 90. This does not help beginners get into the game.
2. The screen shots on the box show and front and rear display with said working displayed; there is no mention of this in the manual and try as I might could not get this display.
3. The radar in the centre of the display will not show a 3D image of the ship approaching you.
4. On the damage control it will not allow you to select missile to repair.
5. The docking computer would not work.
6. When attempting to fuel, the display will only occasionally allow you to do this after pressing buttons 1 and 3 numerous times.
7. All this as well as no save facility makes me wonder if the game was actually tested by anyone before it went on sale at £29.95 a game. I should hope Gremlin Graphics gets its act together.

C S, Surrey

● ***Gremlin's technical department told us:***

1. This is an intentional part of the game and is covered in the manual; 2. There is no such feature in the game. The box shot is inconsistent with the game and the manual, having been taken several months before, but the manual and game are consistent with each other. 3, Again, no bug here – the display isn't meant to show a 3D picture, only distance and height (as in **Elite**) ***4. OK, this is bug, but has been fixed in the latest version 5. The computer only works near a space station, so maybe you're not close enough; they've had no complaints about this 6. Again, they've had no complaints, and think you maybe aren't doing it quite right 7. The save facility was lacking on early versions but has been put on latest versions. As usual, you can return your game to the manufacturers for the upgrade.***



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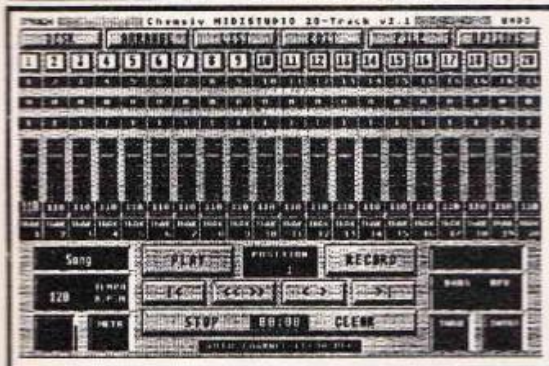

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Midistudio is a 20 track Midi Music Studio. This Midi software package is a realistically priced introduction to Midi music processing and includes the following features.
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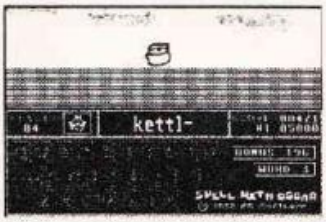

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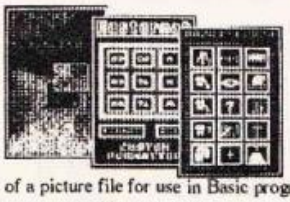
Picstrip is a utility that captures all or part of a picture file for use in Basic programs, supports GFA, FAST, HISOFT and ST Basics and is Degas, Neochrome and AB Animator compatible.



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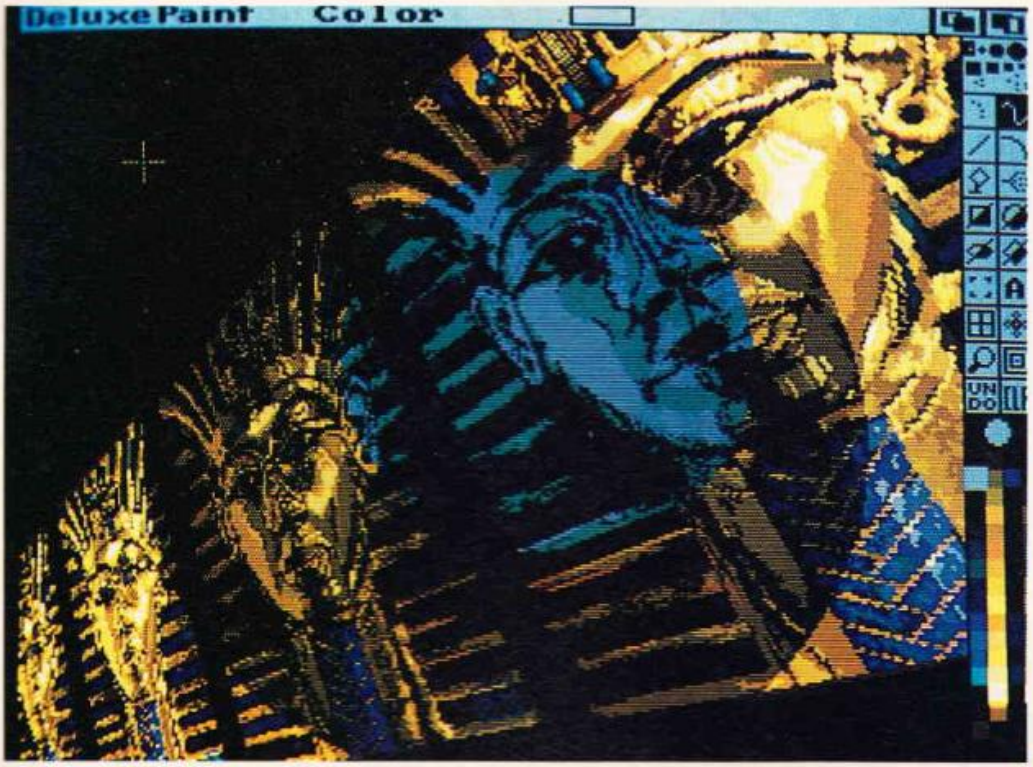


There are literally hundreds of Art applications available for home micros, ranging from simple doodlers to complex suites offering solid 3D animation; the choice is bewildering. So what features should you look out for when buying one for your machine? Andy Storer paints a picture of the perfect pixel package...

Art for Art's sake

• Top left: King Tut gets another airing – the original pic was picked up as brush, rotated in 3D, pasted down 4 times, swapped to tint mode and overlaid with two circles. Simple eh? On Deluxe Paint III maybe...
• Above : A 512 colour extravaganza on the ST's Spectrum 512. But shouldn't you only be able to see 16 colours at once ?

HOW MANY COLOURS IN THE SPECTRUM?

Whether you're paying £3 or £300, most art programs provide a system of pull-down menus and icons for moving between the screen painting area and palette and painting tool control. This is absolutely essential, since you'll want to be able to move quickly through the range of colours on hand and the painting 'surface' before you.

A good program will allow you to flick back to a full screen painting area after changing tools, operations or colours from an overlaid control panel. The more advanced packages will offer you the choice to scroll through a much larger area of work than can be displayed on screen at any one time or, alternatively, have a number of screens in memory that you can flick between.

Although you can buy packages for mono systems, most on offer are designed for colour. Obvious really. Painting's all about colour isn't it? Well, up to a point. The point being that you don't need thousands of colours to produce effective artwork. The number of colours available to you will initially depend on the the resolution your machine's able to support and the degree to which the software allows mixing of the standard colours and combining them to form composite hues and shades.

But more sophisticated software can actually address the hardware to change the screen-scanning to display a new palette of colours on every line. Thus, for instance, *Quantum Paint* on the ST can offer 4,096 on-screen colours despite the ST offering only a choice of 16 from a palette of 512.

For general purposes, however, 256 colours is the most you'll ever need – beyond that it becomes difficult to distinguish them. The best packages will offer you a full screen palette which displays all available colours, rather than a simple palette bordering it, thus allowing you to select the one you wish to use simply by clicking on it.

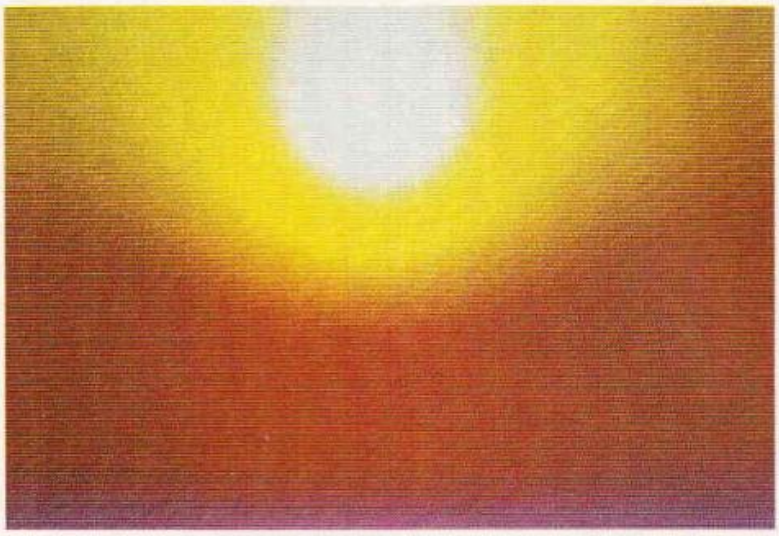
PIXEL PICASSOS

The beauty of electronic painting is the ability to continually modify your work without having to start all over again. Whilst a package will offer you the obvious option of a variable-sized eraser, alterations are often likely to involve finer tuning than rubbing out whole areas.

So, for instance, once you've chosen a colour and done some drawing you will be able to change it simply by selecting a shade from the palette you wish to replace it with. Ideally, you should be able to click on any individual pixel of colour you've painted and be given its exact RGB code so that subtle alterations can be made.

In addition, it's useful to have a 'cycle draw' option where you may select a range of adjacent colours to be painted in sequence as a brush line is drawn. In this way you can subtly blend colour to produce graded hues. In this respect it's also useful if you can individually alter the hue and luminance of any particular pixel or area by simply clicking on a relevant icon.

The 'front end' control panel will allow you to choose between the range of painting tools on hand. A good package should offer you not only different pens, brushes, sprays and fills but a range of shapes, transformations, preset effects and texts. For freehand drawing, mouse control is infinitely preferable to the joystick or keyboard, assuming you don't have a graphics tablet, and the range of pens and brushes should allow you a



• Another shot from Spectrum 512 on the ST, showing off smooth toned gradation across a range of colour

Graphically superior

Rik Haynes checks out the best buys in graphics software for your machine...

Amiga

With its huge potential as a graphics workstation, and thanks to its superlative custom-designed graphics chips, the Amiga has perhaps the largest and most impressive selection of excellent graphics software and hardware. This includes a wide variety of paint and animation software, video digitisers, genlocks, etc. But this power unfortunately comes at a price – namely extra RAM and disk drives are not only recommended but absolutely essential in some cases.

DeluxePaint III ● Paint and Animation Software ● £79.99 ● Published by Electronic Arts

DeluxePaint III (reviewed on page 35) is the latest version of the most popular Amiga paint package around. Requiring 1Mb of RAM, *DeluxePaint III* includes an impressive paint-animation capability, extra-halfbrite 64-colour and overscan mode support, new wrap and tint brushes, font handling enhancements and substantial speed increases in all modes of operation. Electronic Arts is offering an upgrade service for owners of *DeluxePaint* (£50 + £5 carriage) and *DeluxePaint II* (£30 + £5 carriage). Further details from EA on 0753 46465.

Photon Paint 2.0 ● Paint Software ● £85.99 ● Published by Microillusions, USA ● Distributed in UK by Activision

Photon Paint 2.0 is a 4,096 colour HAM-compatible paint package with sophisticated brush operations, surface and contour mapping, shadowing with adjustable size and offset, and luminance with definable source location and intensity. Although Activision has yet to confirm plans to run an upgrade offer for owners of *Photon Paint 1.0* in the UK, there is a service available in the US. Further details from Activision on 0734 310003.

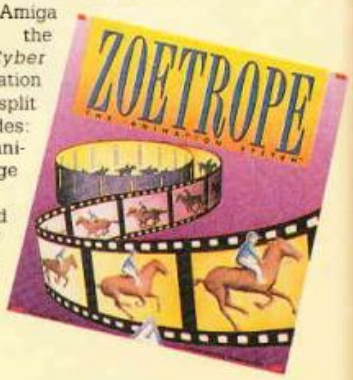
Sculpt 3-D ● Animation Software ● £85 inc VAT l Published by Byte by Byte, USA ● Distributed in UK by Amiga Centre Scotland on 031 5574242

Sculpt 3-D allows you to design and animate 3-dimensional scenes and incorporates an interactive object editor and power tools for constructing arbitrary solid shapes with symmetry, reflection, surfaces of revolution, extrusion, and cross section reconstruction. *Sculpt 3-D* also includes anti-aliasing, variable object colours and texture, unlimited (number, colour and placement) of light sources, arbitrary observer (placement, angle and direction) of view, phong shading, flat polygonal shading, full ray traced imaging with shadows and highlights, supports all the Amiga's graphics modes including overscan and 4,096 colour HAM, and is IFF-compatible.

Sculpt 4-D ● Animation Software ● £320 ex VAT ● Published by Byte by Byte, USA ● Distributed in UK by Amiga Centre Scotland on 031 5574242

Sculpt 4-D is a state-of-the-art professional animation program which requires 1Mb of RAM and two disk drives. It includes substantial enhancements and additions to *Sculpt-3D*, though at this price, *Sculpt 4-D* is strictly for Amiga-owning animation enthusiasts with loadsadosh.

Zoetrope ● Paint and Animation Software ● £99.95 inc VAT ● Published by Antic, USA ● Distributed in UK by ISM on 0983 864674



Zoetrope is the Amiga version of the popular ST *Cyber* paint and animation series, and is split into five modes: painting, cel animation, image processing, video titling and "flip book" pencil testing. *Zoetrope* requires 1Mb of RAM.

Atari ST

Despite being overshadowed by the Amiga in the visual department, the ST has still managed to attract a wide variety of good quality graphics software which can produce some very impressive results.

Flare Paint ● Paint Software ● £34.99 ● Published by AMS/Logitech ● Distributed in UK by Database Software on 0625 878888

Flair Paint is the current flavour-of-the-month paint package for ST artists, allowing you to draw images in low-res and high-res – but not medium-res – screen resolution modes.

Degas Elite ● Paint Software ● £24.99 ● Published by Electronic Arts

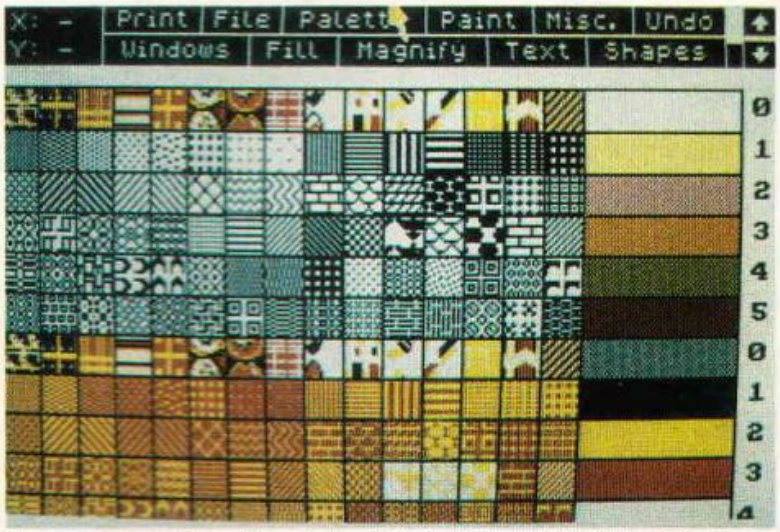
Degas Elite was one of the first paint packages released for the ST, and it still remains one of easiest and most versatile paint programs around for that machine, allowing you to draw images in

choice of line thickness, tip size and style.

Ideally, rather than preset sizes and shapes, you should be able to step up or down through a range. Likewise, sprays should also offer variable density and offer a choice of pattern, flow and nozzle type. The option to fill enclosed areas of artwork with a range of preset patterns is also essential, as is the ability to design your own fills.

Such design may require a fair degree of detail, so a facility allowing a graded zoom magnification of any area is also essential.

Ideally you should be able to grab any part of a screen and use it as fill for another and also merge, or 'dither', two adjacent fills so that a perfect gradation is apparent.



• Even on the Amstrad CPC, a machine supporting only 4 colours, the range of fills is impressive – here it's Advanced Art Studio from Rainbird.

GETTING INTO SHAPE

Another feature worth looking out for in art packages is the ease with which it is possible to call up perfect circles and ellipses of varying size and thickness for exact positioning in the work area. Advanced packages will also allow you to smooth the curvature of a circle or ellipse to remove its jagged edges.

Of course, you'll want to be able to construct other shapes, not all of them regular, and in this case you should look for a package that allows you to form multi-sided polygons. Creating the exact shape you desire is likely to be a process of hit and miss, so it also essential to have an 'Undo' function.

low-res, medium-res and hi-res screen resolution modes.

Spectrum 512 ● Paint Software ● £59.95 ● Published by Antic, USA ● Distributed in UK by Electric Distribution on 0480 496666.

Using scan-line palette changing software techniques, *Spectrum 512* allows you to draw images on a low-res screen with 512 on-screen colours.

Advanced Art Studio ● Paint Software ● £22.95 ● Published by Rainbird ● Distributed in UK by EEC on 0753 888866

Cyber Studio ● CAD-3D 2.0 and Cybermate Software ● £79.95 ● Published by Antic, USA ● Distributed in UK by Electric Distribution on 0480 496666

Cyber Studio requires 1Mb of RAM and combines a 3-D design program *Stereo CAD-3D 2.0* and powerful animation control language *Cybermate*. *CAD-3D* allows you to create 3D objects and includes camera view with variable zoom and perspective control, three independent user-positioned light sources plus ambient lighting (all with variable intensity) and wireframe, hidden line, solid, or solid outline modes. *Cybermate* uses Forth-type commands to create animation sequences, incorporates delta compression techniques, special effects and lap dissolves and allows you to splice in animations from multiple sources.

Cyber Paint 2.0 ● 2D Paint and Animation Software ● £69.95 ● Published by Antic, USA ● Distributed in UK by Electric Distribution on 0480 496666

Cyber Paint 2.0 allows to paint and animate 2D images and can be used to add the final touches to a *Cyber Studio 3-D* animated sequence. It includes automatic image registration to create cel animation arrangements, real-time zoom mode, multiple static or animated overlaid images and special animation effects with automatic intermediate view generation (tweening) on any area of the screen. *Cyber Paint 2.0* requires 1Mb of RAM.

Cyber Sculpt ● 3D Sculpting Software ● £79.95 ● Published by Antic, USA ● Distributed in UK by Electric Distribution on 0480 496666

Cyber Sculpt is a professional 3D off-station solid-modeler used to port 3D object files to high-end rendering systems – and includes variable magnification, spline path extrude and spin, face bevelling, and cross-sectional model creation. *Cyber Sculpt* requires 1Mb of RAM and *Cyber Studio* (CAD-3D 2.0).

PC

DeluxePaint II ● Paint Software ● £99.99 ● Published by Electronic Arts

DeluxePaint II is the PC version of the popular Amiga paint program, and allows you to draw images in CGA, EGA, VGA, MCGA, Hercules and Tandy graphics modes.

Spectrum

Art Studio ● Paint Software ● £12.95 (Spectrum 48K compatible) ● Published by Rainbird ● Distributed in UK by EEC on 0753 888866

Advanced Art Studio ● Paint Software ● £22.95 (Spectrum 128K Only) ● Published by Rainbird ● Distributed in UK by EEC on 0753 888866

C64

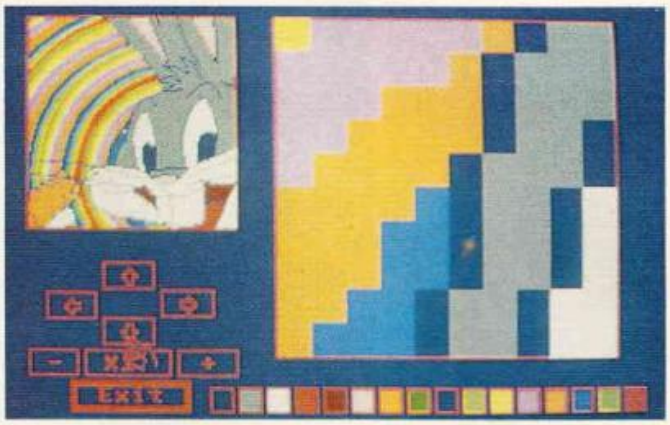
Art Studio ● Paint Software ● £12.95cs, £15.95dk ● Published by Rainbird ● Distributed in UK by EEC on 0753 888866

Advanced Art Studio ● Paint Software ● £22.95 (Disk Only) ● Published by Rainbird ● Distributed in UK by EEC on 0753 888866

CPC

Art Studio ● Paint Software ● £17.95dk ● Published by Rainbird ● Distributed in UK by EEC on 0753 888866

Advanced Art Studio ● Paint Software ● £22.95dk ● Published by Rainbird ● Distributed in UK by EEC on 0753 888866\



• Any art package worth its salt should allow you to zoom into an area of the screen for detailed work. Even an average package will offer a zoom of 16x magnification

What can I get out of it though?

Unless you wish to incorporate your artwork into a program or game, then you'll be wanting to produce hard copies of your masterpieces. The simplest way of achieving this is by photographing the screen. For this you'll need a 35mm camera with a variable shutter speed which will allow you to shoot slow enough to avoid screen refresh lines in mid-scan. It's best to shoot in a darkened room with the aperture wide open at a speed of 1/8 or 1/4sec.

Colour printers aren't much cop unless you're prepared to fork out the readies, so the only other recommended way of displaying your work is by transferring it to videotape. A composite video lead between your micro and the video's input should do the trick quite easily.

There's always more...

This overview has concentrated on the options offered by paint packages and takes no account of related features, often incorporated, such as sprite construction, animation and 3D modelling. *Express* will be covering these areas in the near future.

The most sophisticated features available to the pixel painter are block manipulations. Standard packages offer the facility to define sub-screen areas and move or copy them to other parts of the display. Middle range products will allow you stretch, skew, rotate and distort such defined blocks, whilst the more advanced will not only provide the tools to mirror, flip and invert the image-block but also make it opaque or transparent. It should also be possible to smear a specified area so that it appears to have been dragged. In addition, a more comprehensive package will allow you to outline and frame specified areas with a range of borders and define shadow depth and direction effects.

WRITE THEN, LET'S GO

The inclusion of a text facility is also essential so that you may annotate diagrams or drawings. Here, you should look out for those programs which offer a range of text and font sizes and also include options to vary density and add outline, underlining and skew.

Finally, you should be able to save whole or part-screen files in a compressed form to save on disk space, and also be able to save and load palette and paint tool selections as new default values. ●

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What is this software? Why is it free and where can you get hold of it? What we're talking about here is public domain software. The author of the program has placed the copyright in the 'public domain' and said in essence, that anyone who wants a copy can have one. The recipients can also make copies of the program themselves, and distribute it freely – although there is usually a condition stating that the program must be distributed in its original form, including all associated text files. This is to stop other programmers from making slight amendments to the program, and calling it theirs.

Public domain software started – not surprisingly – in the USA (why are the Americans so much more enthusiastic than ourselves?) during the mid '70's, when the first microcomputers were becoming widespread. The consolidating factor in the emergence of public domain software, was the availability of an operating system which became a standard across many of the 8-bit micros using the Z80 processor. That operating system wasCP/M, and for the first time, programs could be transferred and used between machines from different manufacturers.

The original CP/M public domain library was started by a group of computing enthusiasts living in New York at the end of the 1970s. They decided that it would be a good idea to swap and share the programs they had written with others, and from there the idea escalated. Programs were gathered from many other user-groups, until eventually the swelling collection was made available as a library. For the price of a disk and a nominal fee for copying, computer buffs had access to a large selection of very useful software. The programs themselves tended towards utilities rather than commercial applications, reflecting the 'techie' nature of the authors. The collection stopped at 92 disks, when the group responsible for the library disbanded.

Fortunately, the concept of public domain software had become widely accepted – all programs written within American universities are automatically deemed to be public domain, and some of the best known utilities (especially comms, such as Kermit) have surfaced in this way. With the popularity of the new 16-bit IBM PC and its compatibles – and consequently PC/MS-DOS, the future of public domain was guaranteed.

Nowadays you can buy public domain software for almost any machine – both 8 and 16 bit. And because authors have no commercial considerations to make, a very diverse range of software awaits you. Not only are all the popular applications available – word-processors, spreadsheets, databases, and comms – but some very unusual programs indeed! How about the entire New Testament of the Bible on disk? Cookery, electronics, gardening, languages (Human and computer), horoscopes, bio-rhythms, (pause for breath), mathematics, statistics... the list goes on...

• Would you like to see the menu sir? Shareware utilities are, strictly, free, but a small registration fee will secure you printed documentation or extra features

A program shared...

Once established, public domain programs were distributed in great quantities throughout the United States. Software for all possible uses in all available formats. After a time, authors started to receive spontaneous donations for their work from satisfied users of the programs. This prompted several programmers to include their names and addresses in the title pages of the programs, asking users to send a small donation if they enjoyed the program, or found it useful. Thus, the concept of 'shareware' was born. Shareware differs from public domain software in that the author of the program retains the copyright. Programs can still be copied and distributed freely, but if the recipient of the program finds that they like it and will use it frequently, then they are required to make a donation to the programmer. This donation is usually $5 to $15 for utilities, and anything up to $50 or more for a full-blown office type package, such as a spreadsheet, word-processor or database.

There are several methods to encourage payment. Often the software will be a 'cut-down' version, and the user will receive the full-blown or

Programs like this could be yours

IBM PC

Utilities: *Selected utilities* (Seltec disk: M2005). Lots of useful utilities gathered together on one disk. Includes: Directory printer, file finder a ramdisk and lots more.

Games: *Invaders, Dig-Dug, Hopper, Pacman* and many others. Available from any PD library.

Office managment: Powerful word processing (Seltec disk: M3012+). Macros, split-screen, windows etc.

Amiga

Utilities: *VirusX*. The best virus exterminator around on Fish disk 137.

Games: *Amoeboids*. Excellent interpretation of the old space invaders shoot-'em-up. Fish disk 120.

Graphics: *mCAD*. Drafting package that is structured, and allows easy movement of shapes. Fish disk 59

ST

Utilities: *Diskmech*. An excellent disk and memory editor allowing the technically minded to completely ruin all their disks. Available from most good libraries.

Comms: *Uniterm*. The BEST comms package around for the ST, bar none. Has passed through several versions, so make sure you get the latest one. Supplied with very good docs. on disk. Available as above.

Languages: Take your pick: Pascal, C, Forth, Prolog, Logo and many more. Again, available from any good library.

Where to go, Who to try, What to do

OK. You're convinced that PD is the thing for you (or more likely you spent so much on that new machine that the only software you can afford is PD). Either way, you're wondering where you can get your hands on the goodies for your machine, right? Wonder no more. Just examine our list, and pick a supplier for your machine.

ST

With the mountain of incredible programs imported from Germany and all the good home-written stuff, the ST is well supported in the PD field. Try **ST UK, 1 Bartholomew Road, Bishops Stortford, Hertfordshire CM23 3TP**; **Star UK, 50 Bridge Street, Aberdeen, Scotland**. Tel: 0224 593024.

Amiga

A growing army of suppliers cover the Amiga. Try **George Thompson Associates, Dippen, Brodick, Arran, Scotland KA27 8RN**. Tel: 077082 234; **Amiga PD Unlimited, 55 Highfield Avenue, Waterlooville, Hampshire PO7 7PY**. Tel: 0705 266509

IBM PC

There is more public domain and shareware available for this machine any of the others put together. Anything and everything covering all tastes. Try **Public Domain Software Library, Winscombe House, Beacon Road, Crowborough, Sussex TN6 1UL**. Tel: 08926 63298. One of the first PD libraries and one of the best.

For shareware try **Seltec Computer Products LTD, Northumberland House, Staines Business Centre, Gresham Road, Staines, Middlesex TW18 2AP**. The company stocks a large quantity of cheap (£2/disk) shareware.

8-bit

For the 8-bit machines, the best places to look are the user groups.

Commodore 64: Wicked PD, Tel: 0268 590571. To make use of the PD library, you are required to join a club. Membership charges are £3 per annum and for that you will receive a quarterly catalogue and newsletter and access to the C64 PD library. Disks are a very reasonable £2 each.

Atari 800 series: Page 6 is the best Atari 8-bit library in the universe! These guys know and love the little micro and support it to the full. You can contact them at: **PO Box 54, Stafford ST16 1DR**. Tel: 0785 213928. A large selection of ST stuff too.

CPC/ PCW: You may have problems with PD software running on your particular machine, especially ones that use graphics. Try: **CP/M User Group: 72 Mill Rd, Hawley, Dartford, Kent, DA2 7RZ; PD Software, Winscombe House, Beacon Road, Crowborough, West Sussex TN6 1UL** (08926 63298); **PD-SIG, 90 Braybourne Close, Uxbridge, Middlesex UB8 1UJ; WACCI 01 890 1090); Advantage, 56 Bath Rd, Cheltenham, GL53 7HJ** (0242 224340/ 224848)

latest copy only after making his/her contribution. Sometimes, there will be only rudimentary documentation provided with a program (usually in the form of a read.me file on the disk), and conscientious users paying the required fee, will receive a printed manual. Occasionally, there will be an 'add-on' module, such as a spell-checker for word-processors, or 'phone-book for a comms package to encourage prompt payment.

Several programs, such as the well-known ARC.EXE require a mandatory contribution only if the program will be used within a commercial environment – such as an office, otherwise it's up to the conscience of the individual. ARC.EXE contains the warning: "If you fail to abide by the terms of the license, then your conscience will haunt you for the rest of your life..."

Would you credit it

In the United States, this approach seems to work well. The shareware method of distributing programs is ideal for authors working on a shoestring, who can't afford exorbitant prices for advertising etc., and users forward their contributions diligently. Unfortunately, here in the UK, things are not quite as rosy. How many times have you exchanged your little gold coins for dollars and mailed them to an obscure address in deepest California? Unfortunately, many American shareware authors will not mail updates, documentation etc., outside the United States and so even the most conscientious software user may be tempted not to bother. If you decide that your life will become unbearable with a strained conscience, then there are alternatives to sending hard cash through the post. How about an International Money Order? These are available from branches of Barclay's Bank and will be accepted by most outlets in the States. If you don't want to do business with Barclay's (Big Brother) bank then you could use your credit cards. A simple exchange of numbers and details can effect the transaction.

OK. You live in the UK. You don't like money orders and you ain't got any credit cards. What's available for you? The answer is simple: practically everything! There are plenty of libraries here in the UK, who regularly import all the latest public domain and shareware from the states, and who will be quite happy to exchange it for your blue-and-folding.

This is the modem world

If you have a modem then it's even easier. Dial up one of your local bulletin boards – or, if money is to you but a mere trifle, take out a subscription to Telecom Gold, Microlink, or one of the many commercial services – and an enormous quantity of software awaits you.

In the United States, the bulletin board network is a generation ahead of the UK equivalent, due mainly to the liberated attitude of Ma Bell. In-state telephone calls are entirely free, gratis and for nothing (visas available from the US Embassy in London), and almost every household contains a telephone. The open policies of the 'phone company encourage the use of modems which are cheap and plentiful, owing to limited restrictions in the validation of hardware. Consequently, everybody's doing it!

To sell a legally-validated modem in the UK requires the manufacturer to jump through technological hoops, in order to receive the coveted Telecom 'green triangle'. Modem manufacturers spend a lot of money, time and effort in developing and having their products validated. These guys are in business to make money and the resources invested in R&D is reflected in the price of even the most basic modem.

Thankfully, it's not all doom and gloom. Bulletin boards are appearing all over the country, and there will almost certainly be one within a local charge-band rate near you. This means that armed with your micro and modem, you can download a lot of good public domain and shareware software, just for the price of the telephone call. Don't be fooled into thinking that your getting it for free though. This can prove to be the most expensive method of obtaining the software. You've all read the 'phone bill horror stories in the press lately, about users new to comms running up enormous sums with their modem!

So what's left? Well, as mentioned earlier, you can make use of the growing base of public domain libraries springing up around the country.

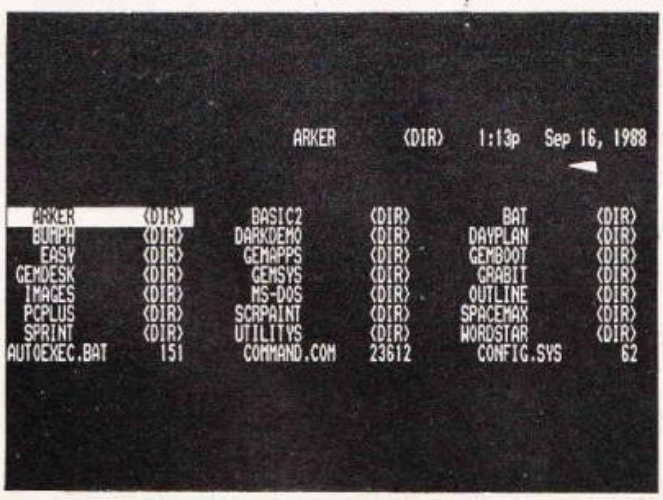
Leafing through any of the computer magazines will produce a healthy list of dealers. Occasionally, you will be required to join a club, but usually, you simply send a pound or two for the latest catalogue (which sometimes includes a sample disk of goodies), and then make your selections. Prices vary across the many machines and formats, but you can expect to pay in the region of £2 to £2.50 for PC utilities, games and serious software on 5 1/4" disk, with the 3 1/2" format costing a little more. Obviously, shareware prices are dictated by the author of the software, but expect a bargain compared with the prices of equivalent commercial offerings. In many instances the shareware will be infinitely better!

Big Fish in a Big Pond

For Atari ST and Amiga there is an abundance of very good software available. In America the Amiga is the more prominent machine of the two and a large proportion of the stuff in the public domain emanates from there. The most famous of the collections has to be the 'Fish disks'. This a collection of games, utilities, demos etc., gathered together by Fred Fish of California, USA. All the best demos are contained within this collection, such as the famous 'juggling balls', displayed in a thousand computer shop windows. The Fish disks are available from a number of suppliers here.

In Europe, the Atari is (probably) the more widespread of the two, and a lot of the accessible public domain software is generated here in the UK and Germany, the latter producing some excellent programs. There are no recognised collections of ST PD as there is with the Amiga, but there are a LOT of disks out there, covering every possible aspect of computing. Of course everyone who bought the ST, received five disks of PD software with the machine and these included an excellent CP/M emulator (from Germany), games, sound and graphics demos, etc.

Whatever machine you're using and whatever your interests, there will be something out there in PD land for you. ●



• PC-Boss: A friendly front end for your PC for just a few pounds

PUBLIC DOMAIN NEWS ISSUE 2

Librarians Note for March: This month we advertise for the first time in the U.K a selection of PD disks form the "Sacramento Amiga Computer Club". Obtained during our "Intensive PDForay" at the recent New York AmiExpo. What makes SACC disks different from the others? Not only are they perfect for Amiga Users new to PD - disks autoboot and nearly all programs run at the click of an icon - but they are beautifully presented with original icons and music. Many progrrams are new to the U.K and helpful documentation is included. If you have not yet tried PD for the Amiga or would like something a little different, this library is for you. We classify its library as one of the best we've seen. Although there are at present twenty eight disks in the collection we only have space here for the highlights of the latest releases. V1.6 our "Double PD Library Pack" scheduled for release in approximately 3 weeks will include details of the complete library. This costs £4.99 and includes a FREE update service and £5.00 Voucher that may be used against the purchase of 10 or more disks at £3.00 each. For every 10 purchasd one may be chosen free of charge. Enjoy.

S.A.C.C #13
GAMES
* Clue: Who killed Mr Body? Was it Miss Scarlet in the Ballroom with the candle stick?
* Puzzle: Small W/B number puzzle
UTILITIES
* UNITS: Convert units the EASY way. These include Length, Speed, Temperature and many more. Recommended
SLIDESHOW
* Excellent "SSAC-o-lantern" cover with digitized music.
* ESSENCE: From an original art work by Soyka.
* ALF: Digitised from August 15th TV Guide.
* TIREDFT: NIKE advertisement
FUN
* NUPOINTERS: Allows you to change your pointer. Seven are provided for you on this disk.
* HOLIDAY: Trick or Treat? Clever W/B Screen Hack.
TELECOM
* ACCESS : Super Terminal Program

S.A.C.C.#15
FUN
* WELCOME: Very original cartoon style screen hack
* CAROLBELL: A Little Christmas Music.
* JAZZ: Eye-dazzler!
UTILITIES
* DIRMASTER: Get your disks organized with this catalog program
* DB-WIZ: A simple (but nice!), data organizer for addresses, This one prints mailing labels.
* HP-10C: Hewlett-Packard calculator comes ot the Amiga!
* PALETTA: Edit palettes of IFF pictures without loading DPaint.
* CLIHELP: Handy help for the Beginner in CLI.
SLIDESHOW
* SACC Cover plus two slides.
GEMS
* AMOEBA: This game looks very familiar, it is GORF or Space Invaders?
* TTT: Play Tic Tac Toe on four level board.

S.A.C.C #16
FUN
* CLEANUP: Just the thing for a cluttered desktop!
* MOVIES: Remember Norma Jean?
* WAVE: Simulates 12 hours of computing!
GAMES
* REVERSI: An old favourite..
MUSIC
* MANIAC.SMUS: Created with Sonix
* INTRO: SMUS song Zarathustra
TELECOM
* MICROHOST: A small mini-BBs. You'll never have to miss another modem call!
TOPDRAWER
* TURBO: Excellent, FAST copy program.
* CHANGEFONT: Use to change fonts before running control.
* CONTROL: Puts you in control of your printer.

S.A.C.C #17
UTILITIES
* DU-VI : Nice 'invoke CLI commands at the touch of a mouse button' program.
* QDC: Quick Disck Copy for 2 drives.
* HOUR MONEY: Excellent home banking program
GAMES
* YABOING II: Stack your numbers for hight score.
* WHEEL OF FORTUNE: spin, buy a vowel or solve puzzle!
* HESTERFUN: must see! No description could do justice.
MUSIC
* [illegible]: A sonix tune which uses Sonix Player.
FUN
* MUNCHO: Digitized sound are heard every time a disk is inserted or removed.

S.A.C.C # 18
UTILITIES
* BROWSER: A bridge between Workbench and CLI.
* VIEWPOINT: Examine your disks and memory for the Virus.
* MRUN: Provides an alternative to using Workbench
GAMES
* DHAMBURGER: Hold the ketchup and shoot the invading hamburgers!
* JIGSAW: Scramble & colour IFF files.
HOMEHELP
* GROCERY: Handy utility for shoppers
PICS
* Selection of Sci-Fi pictures and a superb intro screen.

S.A.C.C # 19
(The TV Show Edition)
CBM
* DFC: Formats and copies, supports 4 drives!!!
* PYRO: Screen saver with fireworks.
* NAG: Reminds you of upcoming events.
PBS
* WEATHERMAN: Forcast it yourself.
* COMPU-CALC: Calculator, supports HEX, OCTAL, DEC, BIN, FOX
* HEARTS: The classic card game
* POINTERS: 27 New Mouse Pointers!
MTV
* Two amazing SONIX Music Files

S.A.C.C # 20
UTILITIES
* ARCHA: Now you can DE-ARC files with ease.
* FORMULA: Plots functions.
* SCALC: Spreadsheet.
* FLAMKEY: Locks your Amiga
GAME
* Luscher: Luscher colour test-personality.
GRAPHIC
* MASTER WEAVE: Create woven designs

S.A.C.C # 21
UTILITIES
* JOURNAL: Keep track of important accounts.
* PUBCAT: Disk cataloguer
* HELP: Handy reference window for ASCII, Basic, Ed and more..
GAMES
* GALLACTICWORM: Grow segments as you eat strawberries, but don't get tied in a knot!
ART
* KIDCOLOUR: Teaches colours and shapes as children draw.
* CHAOS: Generates graphic orbits. If you like what you see, this program lets you save IFF.

S.A.C.C # 22
UTILITIES
* MACKIE: New screen blanking utility lets you know it's working!
* QLENS: Quicker lens, magnifies windows.
* VID-LIB: catalogue your videotapes.
GAMES
* SLIPPERS: Remember the sequence in this challenging game.
* TILES: Remove matching tiles (Shangai style).
GRAPHIC
* MULTIVIEW: View and Save to MANY different picture file formats.
* LOGO: A masterpeice.
* CLI USERS: check out the C directory of SlideShow Contruction Set and Icona.

S.A.C.C # 23
UTILITIES
* CARDFILE: Compiles BASIC for simple filing needs.
* HERMIT: Grab screens and save in IFF format.
* ULTIMAST: The ultimate disk utility!
* MORSE: Convert text to morse code.
GAMES
* BLUEMOON: Addictive solitaire card game.
* TRIX: Cover the screen in the QIX-like game.
* WORDSEARCH: Generate wordsearch puzzles. Move this to another to use the print options.
GRAPHICS
* HAMKALEIDOSCOPE: Soothing treat for the eyes.
* XWINDOWS: Exploding windows. Check this out!
* TOING: More Amiga Balls.
* POINTERS: Animated pointers!

S.A.C.C # 24
UTILITIES
* ELCC 3.3: Electronic Card Cabinet for simple filing needs.
* ICONLAB: Marvellous utility for creating icons.
* LISTMASTER V5: Nice tool for making lists.
* HED: Good text editor. Replace ED.
GAMES
* EGYPT: Egyptian Run.
* BILLIARDS: Very good billiards game with sound.
* BUBBLES: Screen Hack
ART
* DOC-DEMO: Super sound & graphics.

S.A.C.C # 25
UTILITIES
* CLERK: Excellent PD Accounting program!
* MAKENIFTY: Create text files with colour. Full screen editor.
GAMES
* DAD: Want a challenge? The solution is on the disk. Somewhere!
* BACKGAMMON: Match skills with the computer.
MUSIC
* 4 SONIX TUNES: Runaway, Stand by Me, Your Wildest Dreams & The Wild Horseman.

S.A.C.C. # 26
UTILITIES
* CR: Text reader with many nice new features.
* AMIGADEX: Personal Rolodex file. Easy to use!
GAMES
* COBRA: Colourful picture slide puzzle.
* SORRY! From the board game by Parker Brothers.
CAROLS
* 22 SONIX CAROLS: All time favourites including verses.
EDUCATION
* CAPITALS: Created with the Director. Test your knowledge!

S.A.C.C # 27
UTILITIES
* VIRUSX: Version 3.10. Looks for 9 different strains.
* AMIGANNTT: Project task organizer.
GAMES
* TETRIS: Position the falling blocks.
* CAT & MOUSE: Use the joystick to avoid cats.
GRAPHICS
* ZOEPLAY: Use this to view SACC.rif animations in 3D.
* ULTRAPAINT: Very nice drawing package.

S.A.C.C # 28
UTILITIES
* DISKSTIK: Catalogue on a label!
* POPDIR: Directories appear like magic.
* OXSOUND 1.01: IFF sound editor.
GAMES
* KING: A new way to play Solitaire.
* RUSHOUR: Race around the maze and gobble dots.
* DIPLOMACY: A mixture of strategy and adventure.
GRAPHICS
* SCENERY: Fast fractal generator.

WARNING! THIS LIBRARY IS FOR AMIGA USERS WHO ENJOY USING THEIR COMPUTER AND HAVE A SENSE OF HUMOUR.

The above disks are available from George Thompson Services, Dippen, Brodick, Arran, Scotland KA27 8RN. Tel: (077082) 234.
They cost £3.00 each or £19.99 for a pack of any eight including VAT & P&P.
There are no membership charges and orders are despatched the same day they are received.
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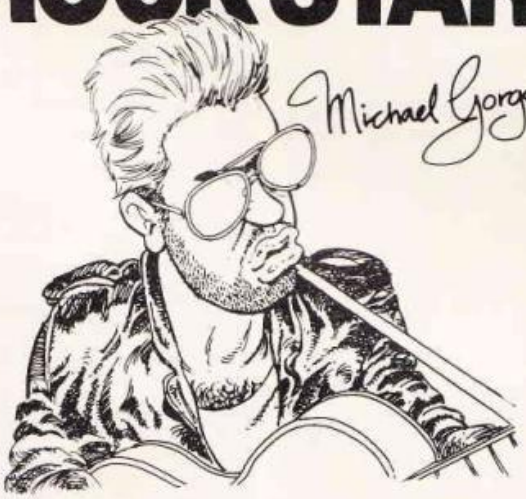

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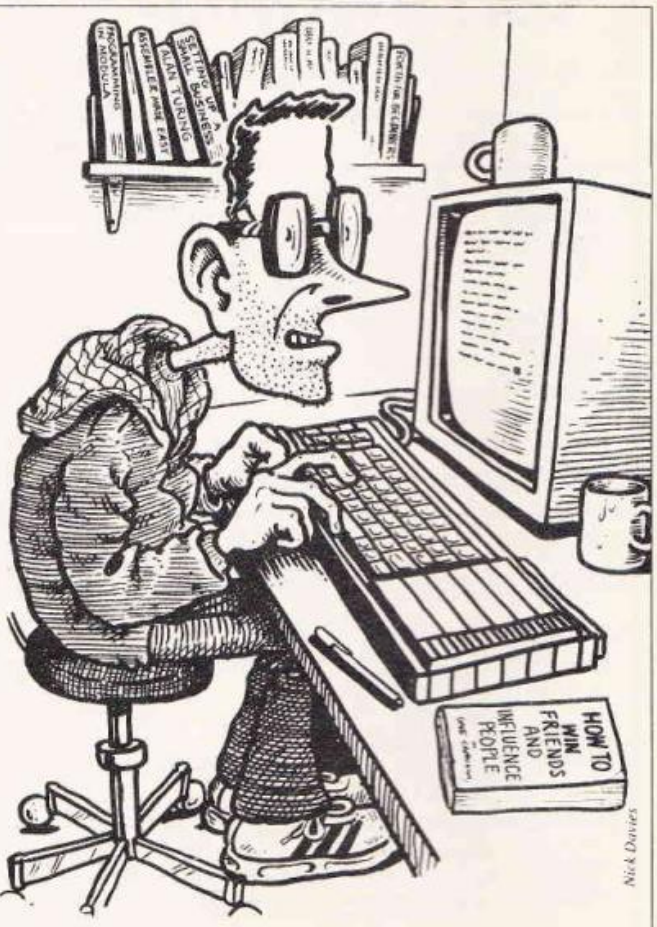

The high flyer that never took off: John Torofex tells the Sinclair QL story...

The QL was launched in January 1984 and received a rapturous welcome from journalists and customers alike. For £399 you got what was advertised as a machine with 32-bit architecture, 128K RAM, two built-in Microdrives, networking, colour display using monitor or TV etc. Bundled with the hardware was an integrated business software package comprising a word processor (*Quill*), spreadsheet (*Abacus*), database (*Archive*) and graphics (*Easel*), all on Microdrive cartridges. Impressed by expensive advertising in all the colour supplements and a very favourable "review" in a computer weekly, hordes of punters sent off their cheques or phoned in their credit card numbers, and waited for the machine that was going to give them a "quantum leap" in processing power.

What had not been revealed to the journalists attending the launch was that the machine they saw running some very impressive demonstrations was nowhere near ready for production. Rather late in the design cycle, the original operating system commissioned from a Cambridge software house was scrapped (although it met the specification, it could probably be described as "user hostile"), and an operating system developed by Tony Tebby, one of the machine's designers, was adopted instead.

As originally conceived, the machine was not intended to have a built-in BASIC – it was just going to be supplied with the business packages (produced by Psion, which subsequently developed the very successful Organiser). Rather late in the day, the decision was made to supply a BASIC interpreter in ROM, and an excellent dialect of BASIC called SuperBASIC was commissioned from Jan Jones (one of those rare individuals, a lady programmer).

With all these last-minute changes, it is hardly surprising that it was about two months before the first customers received their machines. Since Sinclair had announced a deadline by which the first machines would be delivered, and it knew that most of these machines had been ordered by journalists and software houses, it ensured that it met the deadline by delivering systems in the London area by hand, using one of the Sinclair limousines.

Two ROMs don't make it right

In stark contrast to the glowing reviews I had read, I found the system quite unusable – the word processor was incredibly slow and kept crashing, and the SuperBASIC interpreter, whilst acceptably fast, seemed full of bugs. Moreover, the machine appeared to have acquired a strange lump projecting from the cartridge port: the infamous "dongle". BASIC was too big to fit into the ROMs (in fact they were using EPROMs – getting ROMs manufactured would have taken too long), so the additional code was put into an EPROM cartridge.

QL users were urged to join an organisation called QLUB (QL Users Bureau) organised by Sinclair itself. In return for a subscription, members received a somewhat irregular newsletter, special offers on hardware and software, and a hot line for telephone assistance. An independent user group was also formed, called IQLUG, subsequently renamed Quanta (few members, especially foreigners, could pronounce IQLUG). The editor of Quanta, the group's newsletter, had severe problems with the first issues, as no-one had a machine to write about. Most of the newsletter therefore consisted of letters from disgruntled customers complaining about Sinclair Research.

Within about six months, Sinclair started to get its act together. A new version of the firmware (AH) was produced, and dongle-less machines were shipped. The earlier machines were recalled and upgraded. By now, the machines were quite usable, and software started to become available – starting with an editor/assembler package from MetaComCo, which was widely used. Other languages followed, such as C, Pascal and LISP. A few hardware add-ons started to appear, such as a 256K memory expansion and a disk interface. Strathclyde University took delivery of a large number of machines, intending eventually to give a QL to every student.

Unfortunately, by now the QL had acquired a rather poor reputation, from which it has never really recovered. The Atari ST and Commodore Amiga were perceived as much better machines – for use in the home, at any rate – and the QL remained largely in the hands of enthusiasts.

After about two years, the price of the QL was dropped to £199, and Sinclair Research attempted what amounted to a relaunch. The TV commercials were especially memorable – the avuncular Sir Clive in running kit (he does take part in the occasional marathon) was depicted taking a running jump at a long line of assorted competitors' machines (PCs and the like). However, Sinclair was about to embark on a fiasco that would make the QL debacle look like a marketing triumph – the C5 electric car. The relaunch was not particularly successful, and about three years ago Sir Clive sold Sinclair Research to Alan Sugar. Amstrad has shown no interest whatsoever in the QL, and although attempts have been made to get QL-compatible systems such as the CST Thor into production, it is now very doubtful that such attempts are viable.

Somewhere in excess of 100,000 QLs were sold, and many of these are still in use, so it can't really be described as a flop. If it had been released six months later with a built-in disk drive, I feel that it would have been extremely successful – it still has many unique features (such as multi-tasking) that are lacking in other, more popular, systems. ●

The QL spec

The CPU used in the QL is the Motorola MC68008. This is an 8-bit bus version of the MC68000 used in the Atari ST and the Commodore Amiga, and bears the same relationship to the full 16-bit MC68000 as the Intel 8088 (used in the original IBM PC) does to the 8086 (as used in most of the Amstrad range of PCs). An Intel 8059 single-chip processor relieves the main CPU of some of the more mundane tasks such as scanning the keyboard, RS232 interfacing and sound generation.

The standard machine has 128K of RAM, 32K of which is devoted to the bit-mapped colour display. The operating system takes up some more RAM, leaving about 90K for the user.

The colour display has two modes, one giving 512x256 pixels in four colours, another 256x256 pixels, intended for TV use via the built-in modulator.

The multi-tasking operating system, QDOS, is contained in ROM, together with an excellent BASIC interpreter – SuperBASIC. The command language is SuperBASIC, and QDOS is about the only extensible operating system available. Commands may be added to or replaced relatively easily.

The QL has two 100K Microdrives for mass storage, using little tape cartridges which are less reliable than disks but an improvement on cassette storage. They are quite fast, and allow random access, like disk.

An unusual feature is the built-in networking, allowing up to 128 machines to be connected together. The machine has lots of sockets at the back: network in and out, RGB and UHF connectors, two serial ports, two joystick ports and a ROM cartridge connector. At the left of the machine is a 64-way expansion connector, carrying most of the 68008 bus signals, for memory expansion (up to 512K), disk controller etc. Additional Microdrives can be plugged into a socket on the right of the machine.

It is a nice-looking machine, very compact and quite portable.

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The long and winding road...

Based on Ordnance Survey's digital map data, Autoroute is probably indispensable if you burn more than 10,000 miles of rubber a year. Andy Storer climbs in the driver's seat and puts it through its paces

Autoroute ● ST £149.50 ● Next Base (0784 460077) ● Also out on PC ● An expanded version – *Autoroute Plus* – is also available for the PC

Autoroute is a complete electronic map which you can use to plan a journey between any two points in Britain and get a print out of the shortest, quickest and most economic possible routes. Supplied on three disks, the program is simplicity itself to use, running under GEM's pull-down menus.

From the Options menu you may select the type of vehicle and conditions which most closely approximates to your own – 2CV, normal, rush hour, GTi and HGV – and the kind of route information you'd like. You may then declare your likes and dislikes for motorways, A roads, B roads and how often you like changing between them, by means of moving sliding scale pointers. You're also able to edit your own preferred driving speeds for each road type before entering the projected journey you're planning. You can specify your start and destination points and then up to four places you'd like to visit with optional stop-over times, or places you'd like to avoid like the plague on the way. The last item of data required is your planned start time or required arrival time.

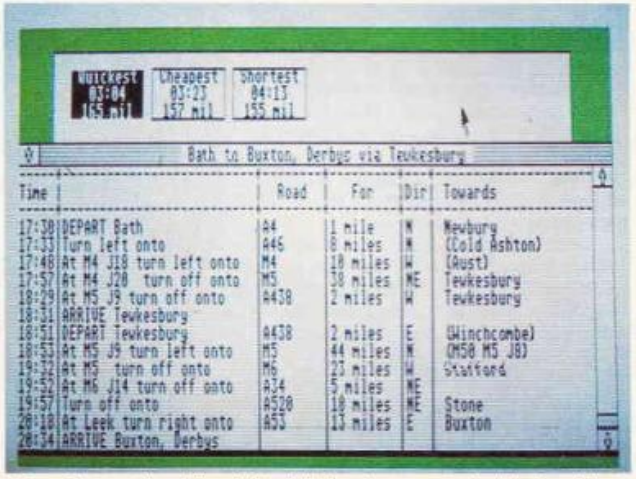
To set the program searching, you **simply pull** down the Actions window and click on Calculate from the menu. At this point a few disk swaps are needed if you're running on a 520, but in any case there's a short wait whilst the program sorts through the vast network of pathways that make up the U.K's road system. The Route Text option displays a list of directions which you can also print, whilst Route Map will display a scaled, scrollable on-screen map with the route marked on it.

So how good is *Autoroute*? There's no doubt it's tremendous fun playing around with all the possibilities. Like how long would it take to get to work if you had a 184 mph Aston Martin? But for the most part, and at this price, it'll be everyday calculations that justify its purchase. Cross-country routes that don't rely on Motorway travel come up with some incredible combinations that defy belief and yet are true. An *Autoroute* supplied journey from Bath to Gatwick Airport in February transformed the usual M4/M25 monotony into a faster, shorter, cheaper route with infinitely better scenery.

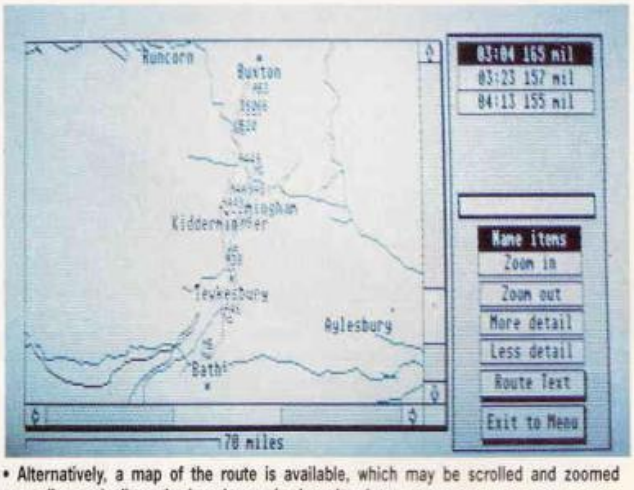
If you can afford it, and cover enough miles in a year, *Autoroute* will eventually pay for itself. Let's just hope Next Base bring out a *Good Pub Guide* to go with it.

✪✪✪✪

• After inputing your average driving speed and road preferences, the Journey Details screen is the final stage before the program selects your choice of routes



• The quickest route is quickly calculated, displayed on-screen and availabe for printing. When the ST laptop comes out, co-drivers will never be the same again



• Alternatively, a map of the route is available, which may be scrolled and zoomed according to deail required, and may also be printed out

Turbo boost

Besides being already available for the PC there's a new version planned coming in at £299+ VAT. *Autoroute Plus* features 67,000 miles of road network, 33,000 place names and all 8,700 postcodes. You may also add your details to the map – ideal if you wish to enter all your office branches or warehouses say. In addition, you will now be able to choose the best route between two to 25 places in the UK. It's also designed to work with existing software including spreadsheets, databases and DTP packages. But you'll need a hard disk. There are also plans afoot to release gazetteer add-ons – English National Heritage Sites, Good Pubs, National Trust areas and Hotel chains are some of the guides being talked about.

• The impressive-looking Autoroute Plus will offer the user add-on guides and the ability to expand on map information

All Wight now

The current release of *Autoroute* is Version 1.3. As we noted in Express 18, there's a bug in earlier versions relating to ferry crossings to the Isle of Wight – you get the result of 323 miles. This has now been corrected. Existing owners can upgrade by simply returning their registration cards.

Learning your

The process of learning your way through a computer program is never easy, however 'user-friendly' it is supposed to be. Manuals are all too often incomprehensible and specialist training can cost more per hour than the software itself. But now Intouch reckons it's got a cheap and effective solution. Jerry Glenwright investigates...

If you think educational software is all about castles and little figures popping up on screen attempting to teach four-year olds basic mathematics, then think again. Computer education has just entered the second generation.

Intouch Tutorials, under the wing of the Infolink group, has just released a program to teach you or your employees all the popular office packages – *WordStar 4*, *Ventura*, *Lotus 1-2-3* etc. – as well as an introduction to PC/MS-DOS.

But just what makes these teaching programs so special? The idea behind each program is that you use the actual package that you're attempting to learn, *WordStar* say, in conjunction with the tutorial program. A series of windows pop-up on to the screen telling you to do this and that with the program you're running, instructing you in a chatty and congenial way what to do with the monster before you. By working your way hands-on through the tutorials, the theory goes, you learn how to use the program itself.

This approach of concurrent windowing is known (not surprisingly) as "On-screen Learning". A simple idea, but one which in practice proves to be very successful. Intouch decided that the writing of teaching programs should be carried out by 'communicators' and teachers, rather than the 'techies' responsible for writing the program itself. A candidate program for an Intouch tutorial is studied assiduously before anything is actually written. Once the writer has completely assimilated all aspects of the application then the tutorial is written – being checked at every stage.

Intouch promises to give you a working understanding of the package of your choice within one hour, and complete understanding after just eight forty-five minute lessons. Does this claim stack up?

The shibboleth

WordStar, which has been almost the industry standard word processor, is notoriously difficult even for experienced computer users to learn. It works by a collection of arcane and fiendishly unemorable keystrokes – CONTROL then K then S to save a block of text, for example, or CONTROL A and CONTROL F to move to the previous word and next word respectively... For the novice it can be a nightmare; it seemed an ideal test for Intouch's tutorial.

After loading the tutorial, but not *WordStar* yet, a large coloured introductory window appears on-screen, with a smaller window below it inviting you to press any key. This is the style of the tutorial throughout. Once past the opening screen, you are presented with a menu of available lessons. These range from word processing basics, menus and on-screen formatting to tabs, word searches and spelling checkers. Suppose you select lesson one – Word Processing Basics.

After some guff about *WordStar* being the computer workhorse of a generation, you are taken into what Intouch describes (apparently with quite a straight face) as the "exciting world of word processors"; still, it's all part of the friendly approach of the narrative.

The lesson begins with an overview of what you can expect to see on the screen, and what you will be expected to press. So just what do you see on-screen? Well, overlaying whatever package you are running, there will be several coloured boxes. A large blue box – the 'Teaching box', which contains the new commands and concepts necessary to your understanding of the application. A smaller red box – the 'Do-it' box, containing instructions on how to proceed with the tutorial, and also any commands that you need to issue to the application, and a light blue box – the 'comment box', containing a joke or general piece of information about the application. Of course, if you are using a mono screen, then you will see three dreary grey boxes! The PageDown key is used to proceed through the lesson, although occasionally – after issuing a command to the application for instance – it will proceed automatically. This works well, but sometimes the next lot of boxes are a little slow appearing on the screen, and there is a temptation to press a key to hurry the process along.

The ALT magic's still there

Filters are provided to catch any rogue key presses that you may inadvertently make. There is also the ability to switch off the tutorial using a combination of the ALT and DEL keys. This allows you to run some other application or DOS function, returning to the tutorial whenever you wish. It will start at the exact place that you left off. By pressing the ALT key twice, you can bring on to the screen a range of very helpful options covering anything that may have happened whilst using your lesson.

After being asked whether you will be running *WordStar* from hard disk or floppy, you are told to load the program by typing WS in the correct directory. Once *WordStar* has been invoked, and the opening menu is on screen, the first of the lesson boxes appears. You get a cheery 'Good!' and a pointer to the words 'Opening Menu' on the initial *WordStar* screen.

PageDown takes you to the next box with a brief explanation of *WordStar*'s seven menu system, and then it's into editing, with a pointer to the 'D' command to open a document file. *WordStar* prompts for a document name, the tutorial anticipates this and takes you into a thorough explanation of file naming conventions. Once you've given the file name you wish to use, *Wordstar* informs you that it can't find a document of that name (if you've used a new file name), again the tutorial anticipates this, and tells you to instruct *WordStar* to create a new document. It is here that problems can arise.

Whilst using the lesson a second time, if you give the file name JG1.DOC (as per instructions from the tutorial), even though this file had been created the first time the tutorial had been run, it results in *WordStar* going straight into its edit menu. However, the tutorial assumes *WordStar* will tell you that it can't find the document you're trying to open, and would you like to create a new one? Horrors! The lesson and application are now out of step.

OK, this results from a non-

It takes all sorts

There is a large range of tutorial packages in the series to cover all the major commercial applications. Among the programs covered are:

- PC/MS-DOS
- *Lotus1-2-3*
- *dBase III*
- *Turbo Pascal*
- *Ventura Publisher*
- *WordStar 3* and *4*
- *Multimate* and *Multimate Advantage II*
- *WordPerfect*

All disk-based tutorials priced £49 + VAT except *Ventura Publisher*, priced £99 + VAT

With audio tapes, the tutorials are a little more expensive. Prices start at £59 + VAT for the PC/MS-DOS tutorial, to £79 + VAT for *Lotus 1-2-3* and *dBase III Plus*.

lesson

prescribed sequence of operation, but perhaps Intouch could trap the odd little problem such as this, by asking whether you're using the tutorial for the first time and then reminding you to use different program names. Back to the lesson. You're now at the Edit screen, with the edit menu at the top, and a blank screen below. The tutorial overlays a box at the bottom of the screen, with a pointer to the edit menu, detailing several things you should be aware of: text scrolling, cursor movement and the way to other menus. You are then introduced to the status line at the top of the screen. Everything explained in easy to understand, friendly prose. It's amazing just how effective this method of teaching is. Boxes with soothing messages on-screen, and pointers to just the place you were wondering about.

After changing the screen width, you are told to type your first line of text. A box appears asking whether you have used computer word processors previously; answering "no" to this takes you into a series of windows detailing the advantages of word processors over typewriters – the ability to print the document several times, easy correction of mistakes etc.

All the basics are well covered in the first lesson – cursor movement, file saving, basic editing and so on – without assuming any prior knowledge.

Back on the opening menu, there is a question to determine whether you have managed to save the file correctly, and that's it. Lesson one is over, and even the complete beginner should find they've mastered the *WordStar* basics.

Each lesson is followed with a short quiz based around what you've learnt and a series of suggested exercises, so that you can consolidate the knowledge gleaned from the tutorial. Complete these and you're ready for lesson number two, and so it goes on. Each lesson builds upon your knowledge from the last lesson, until finally, you have a complete understanding of the application. No manuals, no jargonising, just a simple and effective method of learning.

Please Sir, me

Sir

Who will use the Intouch tutorials? Well at these prices (£49 + VAT or £59-79 + VAT for disks and audio cass-ettes), everyone!

If you run a small com-pany, and were about to send some of your employees on a word processing, database, spreadsheet or what-ever course, then use the Intouch package. With just one disk – registered in your company name – all your employees can be taught for a fraction of the cost of half-day courses.

Home users should find it useful too, and the only real equation to balance up is whether you would prefer to spend a few evenings hacking through the program yourself or spend money on the tutorial program.

For the absolute beginners it's ideal – it'll get you running programs you've never touched before straight away, and will no doubt prove popular with harrassed office managers and home users alike. ●

The alternatives

What are the alternatives to disk-based courses? What if you really need one-to-one contact with a teacher, or if you actually enjoy reading manuals? Here's what's available for you:

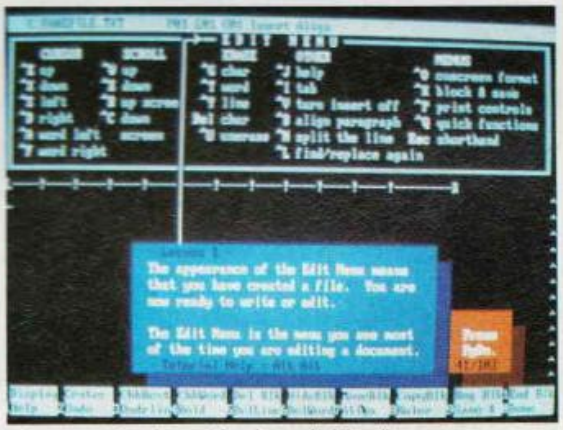
● **Training Courses:**
Widely available but very expensive. Course lengths range from half a day to a week or more. You can be taught on-site or at the premises of the company offering the course. Prices? Well, don't expect to see much change from £100 for half a day. Unfortunately, personal contact costs megabucks, although it is very reassuring to have your questions and problems answered immediately by an informed teacher.

● **Your local technical college:**
An alternative to commercially available training courses. They will be running courses covering everything from basic computer appreciation and word processing, to advanced digital electronics and programming. Prices are usually very reasonable and the standard of teaching will be high, but there may be rather a long wait for a places.

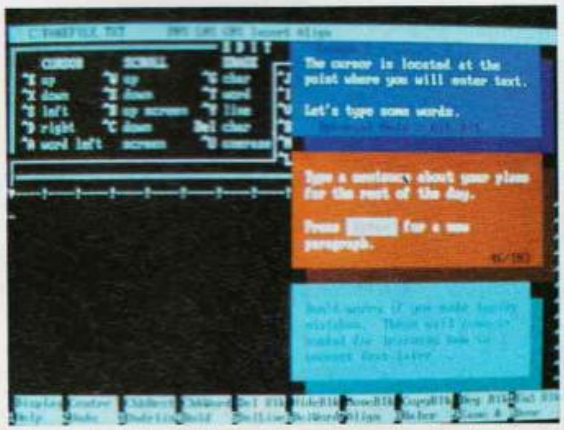
● **Manuals:**
Probably – depending upon yourself – the least attractive alternative. They come in all shapes and sizes, some good and some bad. You pays your money and takes... etc. Don't dismiss the good old textbook out of hand though, they've come a long way in the last few years and no longer resemble the little-read dusty tomes of a bygone age. There will be a book available on any aspect of computing you can think of – and probably some you can't, and they are definately the cheapest alternative. If there's something you've just got to know about and your reading age is marginally greater than that necessary for the average sci-fi novella, get along to your local bookstore!

A picture is worth a thousand WordStar manuals...

• The tutorial's opening screen



• Several steps into the tutorial you've reached the edit menu



• Easy or what? The tutorial even tells you what you're going to write and where you're going to write it!

• You've finished the lesson, saved your file – and now we hope you were paying attention because we're going to ask you a few questions...

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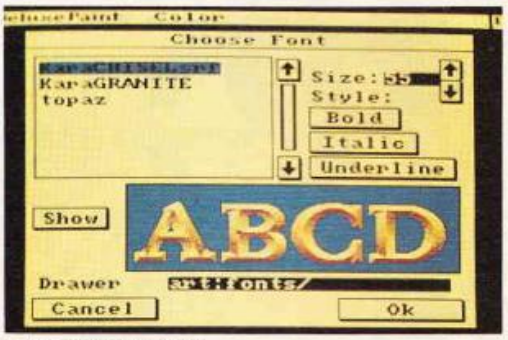
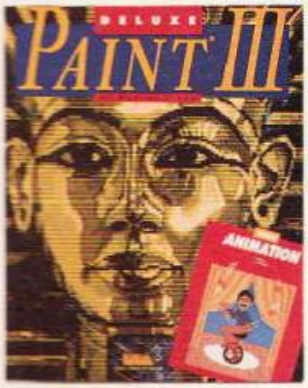


• The all-new font requester

When Electronic Arts launched DeluxePaint on the Amiga back in 1985, it soon established itself as the paint package standard to judge all other paint programs by. A year later, EA released DeluxePaint II, which had even greater graphical capabilities than its predecessor. Now EA has launched DeluxePaint III, which combines paint and animation in one program. Rik Haynes rediscovers the State of the Art...

• Reshaping Old Toot in a variety of ways at high speed



• DPaint III: Latest and greatest

DeluxePaint III Paint and Animation Package ● Amiga (Minimum 1Mb of RAM required) ● £79.99 ● Electronic Arts ● Upgrade offer available to owners of DeluxePaint (£50 + £5 carriage) or DeluxePaint II (£30 + £5 carriage) ● Further details from EA's Customer Service Department on 0753 46465

DeluxePaint III is a flexible and powerful graphics tool. It not only allows you to create works of static art to incorporate in a picture slideshow, photograph or include in your own programs, but also lets you design animations which can be output to video tape – or if used in conjunction with a genlock device enables you to mix your computer-generated image with your favourite video film.

Features

DeluxePaint III allows complete control over the graphics modes to work in, and includes all the standard tools for drawing shapes like dots, circles and polygons. However *DeluxePaint III* really comes into its own with its huge range of brush manipulative commands and *AnimPaint* animation paint controls, which allow you to draw sequences of animated screens as easily as you would a static screen.

User interface

User control of *DeluxePaint III* is split between drop-down menus, clickable icon boxes and keystrokes. Fortunately, every function is easily accessible, immediately identifiable and very ergonomic. In fact, the *DeluxePaint* series of programs are about the easiest-to-use paint packages we've ever used on any micro.

Documentation

The manual accompanying *DeluxePaint III* is an impressive 250-odd page, ring-bound beastie which comprehensively covers all the features found in the package in a clear, concise and easy to understand way. It includes an index and appendices covering *DeluxePaint III* 's keyboard commands, memory management etc for your reference.

HIGHLIGHTS
- Superbly easy to use, fast and flexible – but powerful – paint and animation facilities.
- Supports all graphics modes except HAM mode.
- Excellent manual.

DRAWBACKS
- Requires at least 1Mb of RAM.
- Doesn't support 4,096 HAM graphics mode.

Verdict

With *DeluxePaint II*, Electronic Arts had already produced the easiest to use, most versatile paint package available for the Amiga. Now EA has released *DeluxePaint III*, the State of the Art has taken a significant step forward.

If you can only buy one Amiga paint package, *DeluxePaint III* is *the* program to go for – there's no other package even worth considering. That is, of course until *DeluxePaint IV* is released...

✪ ✪ ✪ ✪ ✪

• Using the wrap brush to remodel DPaint III text

DeluxePaint III's new features

- Faster operation
- Incorporates excellent animation functions
- Supports overscan and 64-colour extra-halfbrite graphics modes
- Wrap and tint brushes
- Enhanced font handler
- Improved airbrush
- Compatible with ANIM file format
- Compression mode

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Dragon's Lair for ST

Sensational news for *Dragon's Lair* fans: it's coming out on the ST. ReadySoft in the States is working on the version at this moment; this comes as a surprise as it was claimed by Entertainment International – UK distributors of the Amiga version – that there would be no ST translation.

• Dragon's Lair: Already out on the Amiga

It's still early days and ReadySoft isn't committing itself to a release date or to a UK supplier. The Amiga version comes on six disks; how many will the ST come on? Remember that Amiga disks store 880K and single sided ST disks manage around 360K. Surely the ST version won't come on 12 disks? ReadySoft isn't saying anything at this stage. It's certainly going to be interesting to see what appears.

Dragon's Lair has already appeared on the ST... in video disc format. Early last year Microdeal arranged a scheme whereby owners of a special video disc player could buy the *Dragon's Lair* disc and control the game from the ST. The laser disc player required its own television while the ST needed to be connected to the ST. At strategic points in the action, motion would stop and your ST's screen would request you to press a key to go left or right, draw your sword or go on. Not exactly pulsating interactive stuff. Microdeal dropped the product a while back.

Multiface V2

Less than two weeks after the announcement of Multiface 1.4, Romantic Robot has started shipping version 2. The latest Multiface, it is claimed, will stop all software. Once stopped, memory can be viewed or edited and a snapshot of RAM saved to disk. Most snapshotted software can then be reloaded and continued from the point at which it was halted. Not all can be restarted though.

What makes the Multiface different from other copying/hacking devices is that the hardware gadget must be attached for memory snapshots to reload and execute correctly.

Along with an improved success rate, the version 2 *Disk Organizer* (an optional £10 disk utility program on ROM that sits beside the Multiface ROM software) can be called from anywhere with the Multiface menu, has a better printout option and can cope with wildcards.

A bug which prevented the Multiface working with Mega ST4s has also been fixed. The reason the device didn't work, it transpires, is the same reason that much software falls down on the top-end Mega machine: the software tried to read or write beyond the 4Mb limit.

A disassembler ROM, which will let you disassemble (logically enough) baited programs, is nearing completion. This will set you back £19.95 when it's finished. Further information from **Romantic Robot, 54 Deanscroft Ave, London, NW9 8EN** (01-200 8870).

A bit more

Tony Racine at 2-Bit systems was chatting to me the other day and mentioned various exciting ST projects he's working on. 2-Bit, if you don't know, is the development house responsible for the Pro Sound Designer and Replay 4 sound sampling software. Anyway, the project nearing completion is the software for Replay Deluxe which, by all accounts, sounds excellent.

The Deluxe hardware will feature a 12-bit analogue to digital converter (ADC) which means sampled sound will be breathtaking. Digital sound can be thought of as precise measurements of analogue sound. An 8-bit ADC will therefore measure a sound 256 times. Naturally the more measurements per wave the more accurate the digital representation of the sound will be. A 12-bit ADC is capable of measuring sound to 4096 levels. That's an impressive leap from 256 levels. It's not difficult, therefore, to understand why the sound quality attainable with Replay Deluxe will be spectacular.

Also on the cards by 2-Bit is a 16-bit sampler (that measures sound waves to 65,536 levels – CD quality). Naturally this won't be cheap and will most likely be sold to professional musicians. The reason it won't be cheap is because of the price of ADCs. An 8-bit ADC costs around £5, a 12-bit version comes in at around £14, while the 16-bit variety costs £50.

Snippets

● Silica Shop is selling the Quadram Multisync monitor at £399 – that's £100 below the RRP. The beauty of this monitor is that it works with all ST resolutions. Details on 01-309 1111. Do note that a special lead is required. This, and virtually any ST to monitor lead, is available from Lightwave Leisure on 051 6095050.

● Users of GFA products will be interested to know that there's a club that supports all System Technik titles. *GFA User*, as it's called, publishes a magazine that comes out every two months. Interested? Write to **GFA User magazine, 186 Holland Street, Crewe, Cheshire**.

● Have you seen the latest *ST/Amiga Format* magazine? What! You haven't? Well get down to your local newsagents 'cos on the cover disk you'll find *Devpac 1*. It's the complete package. Astounding!

● Last week I mentioned Photophile's digitising service; well, I've just been sent a demo disk containing some of their grabs. The pictures are in the multi-thousand colour *Quantum Paint* picture format and the results are superb. You've got to see to believe. The number, again, is 0602 481997.

Adrion McHerriot

Heroes of the Lance cheat

Just a quickie for this infuriatingly addictive game. Use the find traps spell often as falling rocks tend to hurt. Always place Goldmoon third and Tanis fourth in your party. Put Flint first as he can avoid most spells and is deadly with his axe. During the early stages the only real problem in combat should be the hatchlings, so use deflect dragon breath spell and get Tanis to the front. Use the Bow and aim at the hatchlings stomach. Several well placed arrows will dispose of it.

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PC UPDATE

Deceptive Deals

There is a current spate of PC offers from a number of companies which appear to be extremely good value. Good value, that is, until to you examine closely what you are getting. Take the Walters AT, for instance. A base price for this Taiwanese-sourced machine is £970, plus VAT. That buys you an 8MHz 80286-powered PC with a single 1.2Mb floppy, 640K of memory, mono monitor and no serial port. It suddenly looks less attractive.

By the time you've added a 20Mb hard disk, VGA monitor, and the missing serial port, you're looking at £1,885! A similar spec though 50% faster machine from Elonex, one of the mid-runners in the field, would set you back only £1,295. So what? There are always price discrepancies between manufacturers. The point is that it pays not to be taken in by low entry-level prices, when what you're after is not the base model.

While I'm carping, it's hard to credit the entry-level specs of some machines. What's the point of advertising a 386 machine for under £1,000, if that spec includes no hard disk and only 512K of memory? What could you use such a system for? Nobody's going to buy one as a terminal on a network, and there's no sensible way of using a machine with that little memory. The only guess is that the low price really is the carrot the supplier obviously thinks it is. And, in the end, that must say something for the inexperience of the PC buying public.

Page Processor

When reviewing the exotica of PC software for a living, it's easy to forget the thousands of users, perhaps the majority, who can't afford or don't have the requirement for such sophistication. There are plenty of people who have their PC attached to a humble 9-pin printer, but are still interested in getting the best out of it to produce attractive documents. For these people, there is now another DTP system calling for attention. Describing itself as a page processor, rather than a desktop publisher, *MicroDesign* sets out to do what it can for the keen amateur.

Though I've not had the chance to give the program a detailed run-through, it seems competent, well designed and quite quick. It offers to integrate text and graphics on a single page with over 20 fonts and a good selection of icons and symbols, though no clip-art as such.

One of the strong points of the program should be its font handling. Not only is there a good selection provided on the library disk, but a complete font editor is incorporated into the program, giving you the opportunity to modify or design your own fonts.

Even given the market area at which the product is aimed, there are a few design decisions which need questioning. *MicroDesign* runs in monochrome CGA display only. If you're going for the low-end market, why not cater for Hercules screens as well as CGA? Hercules screens are actually cheaper, and offer much higher resolution than CGA's 640x200. Why not offer facilities to load as many different graphic formats as possible? What most DTP users lack is artistic training, and the easiest way round this is a wealth of ready-made clip-art. Lastly, why copy-protect the program? When major software houses are going around removing copy protection from their products every day, nobody should have to use their precious master disk as a key into the program they've just bought.

PHAXswitch

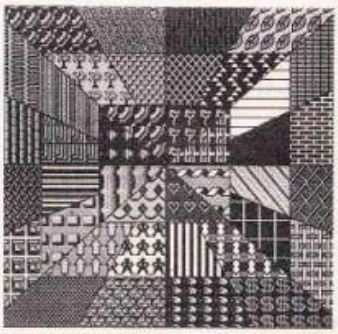
Following on from what I said the other week about Fax machines and voice telephone lines, Other People have obviously been thinking about the same problem. And being American, those Other People have come up with a $100 solution in the form of the PHAXswitch.

This little box of silicon trickery sits on your phone line, detects incoming calls and transfers them to your Fax or your phone depending on whether it hears a Fax carrier tone or not. All very clever, but the really ingenious part comes when it has to deal with manually operated Faxes. On receipt of this kind of call, it's very difficult for the switch to tell the difference between it and an ordinary voice call, until the Fax operator starts his/her machine sending the Fax.

The PHAXswitch gets over this by saying, no doubt in a silky-smooth stateside voice "This is a BIT FAXswitch answering your call. If you want to send a Fax, say Fax after the tone, otherwise wait until the phone is answered." It then listens for the word (which it can presumably distinguish from soundalike obscenities) and routes to the Fax if it gets confirmation. You can ring MDS, the US company marketing the device, on 0101 714 739 0995 for more information.

GEM Patterns

A tip, by way of a Little Known Fact. As well as all the handy features of *GEM Paint*, which still seems to me to be one of the best designed bit-map paint packages on the PC, you can use a number of fill patterns in your drawings. When you load the program, you are provided with a selection of 21 colours and textures in the pattern toolkit down the right-hand side of the screen.



• **A selection of the 'other' patterns in GEM Paint**

What I've only recently discovered, though, is that there are seven other files of patterns provided on the GEM Paint disk and loaded onto your work disk on installation. These other patterns include some nicely drawn symbols and fills which can be used very effectively in bar graphs, diagrams and other illustrations. Because of the nature of *GEM Paint*, you can mix and match patterns from all eight sets in one picture, too. The load and save patterns commands are logically enough in the patterns menu.

Simon Williams

AMIGA BLIT

A Look at DPaint 3

After many weeks of waiting, I've finally managed to get my hands on *Deluxe Paint 3*. Under normal circumstances, I'd usually start by giving you a little background information about *Deluxe Paint*, but seriously, is there a single Amiga owner that hasn't already heard of the product? I'd be very surprised indeed if there was!

The only thing that can be said about this latest release is that it is quite simply the most complete paint and animation package available on the Amiga. As far as paint packages go, *Deluxe Paint 2* was the market leader and with this latest release, the competition just as well count their losses and give up; there is just nothing to touch *DPaint 3*.

The animation facilities may not be as powerful as those in packages such as *Sculpt 4D* or *VideoScape 3D*, but they are most definitely getting there. What *Deluxe Paint 3* does provide is an ideal solution for anyone requiring complex animations with very little work involved at all. This is another factor the programs favour: its simplicity. What other programs allow you to spin a logo in realtime in three dimensions just by typing in two numbers? *Deluxe Paint 3* lets you.

I'm not easily impressed, but *Deluxe Paint 3* is quite simply the best software package available on the Amiga. If I was to be cast away on a desert island with my Amiga 2000 and just one program, *Deluxe Paint 3* would most certainly be it (of course, finding a power supply could be a problem!).

Game Snippets...

● Those of you who are fans of Psygnosis' excellent shoot-'em-up, *Menace* will be pleased to know that the follow up, *Blood Money*, isn't far off. I've been lucky enough to have been able to play *Blood Money* and was very impressed by what I saw. The game features some of the largest and ugliest aliens ever seen on an Amiga screen. If you though *Denaris* was good, you ain't seen nothing yet!

● Oi Guv, fancy a Strip Poker game? It'll be in a plain brown paper bag of course! Yep, you've guessed it, the Amiga has got yet another strip poker game, this time from US Action. *Hollywood Poker Pro* is another run of the mill strip poker game that uses digitised HAM mode pictures. However, this one has a rather strange feature; a zoom mode. Why would you possibly want a zoom mode in a strip poker game? No, don't answer that!

• Why should you possibly want a zoom facility in a strip poker game?

The Complete Virus Survival Kit

Have you suffered at some time or another at the hands of one of the many Viruses (Virii?) floating around on the Amiga? You can imagine the scene: there you are putting the finishing touches to a masterpiece in *Deluxe Paint* when all of a sudden the machine completely locks! Who usually gets the blame? The poor old Guru of course. However, chances are that something more sinister could well be the culprit.

The following *Virus Survival Kit* was sent in by Greg Hewitt-Long from Devizes in Wiltshire and will give you all the information you'll ever need to combat the dreaded viruses. Not only will Greg's invaluable words of wisdom help you combat the more common SCA and Byte Bandit strains, but they will also help you keep the latest IRQ virus at bay.

The first thing you should do is to arm yourself with the necessary tools for the job. In this case, the PD programs *KV* and *VirusX 3.10* (or later). There are other virus killers available, but these two will do the job perfectly. Both programs are available from most good PD suppliers such as George Thomson Services.

Once you've managed to acquire these two programs, use the *KV* programs on the C directory of all your boot disks, they will now be clean from any IRQ viruses that may have crept in before hand. Next, edit your StartUp-Sequence file (found in the S directory of your Boot disks) and include a 'dummy' line at the very beginning such as:

Echo "Computer Viruses Suck!"

Next, using the CLI, enter the following two commands:

Protect C:Echo R <Press RETURN>
Protect C:Dir R <Press RETURN>

For those of you wondering why this is necessary, Ill explain. The IRQ virus is a very crafty little chap in that it reads the first line of your StartUp-Sequence and tries to tack itself on it. If it fails, it then tries to infect the DIR command. By protecting these two files and making the necessary change to your StartUp-Sequence, the IRQ virus will be unable to touch your disk.

The next type of virus commonly found on the Amiga is of course the boot block virus. These are very much easier to protect against.

The most effective way is simply to write-protect all your program disks. As an extra precaution, copy the *VirusX* program to all your boot disks and edit your StartUp-Sequence in such a way that *VirusX* is always loaded during the boot procedure. If any viruses rear their ugly heads while *VirusX* is active, you'll be informed instantly and the virus removed before it can do any harm.

Both the *KV* and *VirusX* virus killers are available from George Thomson Services on 077082 234.

Jason Holborn

Message Port

If you have any views on any issues raised within AmigaBLIT, or even the Amiga scene in general, then why not send them in. Similarly, if you have any great hints or tips that you think would be of interest to you fellow Amiga user, then I'd love to hear from you. You can contact me by writing to: AmigaBlit, New Computer Express, 4 Queen Street, Bath BA1 1EJ

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Twice as obscure

A copy of a fanzine called *TAG* has just landed on my bill-laden in-tray, demanding a plug. The title stands for *Twice As Good*. Twice as good as what? We're not told, but such is the way with snappy one-word computer mag titles.

Apparently, *TAG* started out as a Spectrum, Commodore and Amstrad magazine, but an exploding photocopier soon put a stop to that by setting the resident C64 on fire. Hold back the tears if you can. We're not told what happened to the CPC, but I wouldn't mind betting it's a case for the Royal Society for the Prevention of Cruelty to Computers.

Anyway, the people behind *TAG* have managed to find a brave replacement photocopier and the second issue is due to roll off the presses soon. Meanwhile, I had a look at and quite liked the first one, which contained a fairly ordinary mix of reviews, news, letters and previews, and was nicely presented and well produced. If you'd like to see it, send 50p to Vincent Vitty, 11 Willow Road, Bare, Morecambe, Lancs.

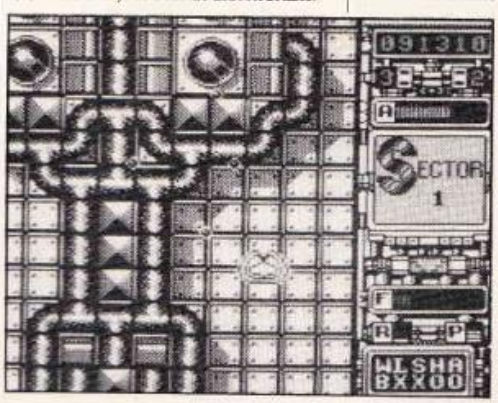
Solid Incentive

Good news. Good to the point of being great news, even. Not wholly unsurprisingly, Incentive Software is planning continued support for the Speccy in the form of several solid 3D games à la Driller etc. What these games will be like or called, I haven't the foggiest, but I thought you'd like to know anyway. For what it's worth, I think Incentive should squeeze its code even smaller, or maybe write for the +2/+3 and come up with a fast-ish 3D filled shoot-'em-up. Its three puzzle-based Freescape games so far have all been superb, don't get me wrong. I just can't think of a more pleasant way to see an alien die than in solid 3D.

Friend for life

I knew you wouldn't be able to resist the thought of receiving my eternal gratitude. This was originally promised in issue 16 to the sender of any gaming tips. A man of true integrity, who values things like eternal gratitude higher than cash or software, has written in with these:

● **Xenon:** Pause the game and hold down the T, I, N and Y keys to become indestructible.



• Xenon: Infinite indestructibility – at your fingertips

● **REX:** For infinite everything on Level One (providing I've typed it in correctly), Merge the loader and add the following before the Randomize USR statement:

POKE 40057,0 :POKE 38745,0 :POKE 39396,189 :POKE 38157,0

● **DT's Olympic Challenge:** When training, select Kempston joystick but don't plug it in to achieve 100 per cent fitness.

● **Empire Strikes Back:** Hold down CAPS, Z, X, C and V for infinite lives.

That morally sound, compassionate and good-looking guy is Eddy James. For similar amounts of embarrassing creeping, send your tips, pokes and cheats to me at the usual address.

F A coup

Staying with the fanzine scene a moment longer, I've just heard from Gareth Pitchford, who as well as having a hand in more publications than Rupert Murdoch (all of them much better written, one suspects) has also just set up the International Amateur Fanzine Association. This is a group offering a number of services to computer fanzine Eds. These include free advertising in all *IAFA*-affiliated mags and a logo-designing service. Something a few professionally-produced mags could do with, I reckon. Send an SAE for details to 45 Underwood Drive, Whitby, Ellesmere Port, South Wirral L65 9BH.

Get your head screwed on

Picture the scene. You're flicking through the latest issue of *Express* – a back-up copy, obviously, since you have already stored the original collector's item in your indestructible titanium binder. You see that long-awaited Spectrum mega-game reviewed. It's so good it gets five stars plus recommendations from the Amiga, ST and PC columnists. You buy the game, rush home from the chemist-cum-software store, slam it into your tape recorder and start drooling. Three days later is still hasn't loaded. It's a duff copy. You rush back to the shop in search of a replacement. They try loading the game on their Spectrum. Naturally, it works. Cue one embarrassed punter clutching a tenner's worth of really useful foot treatment – or worse, vouchers.

The problem is, shop computers get their cassette decks properly aligned regularly, and so are that much more likely to load stubborn software than the one you have got at home. Here are a few tips and wrinkles for getting things to load that I've picked up through the years:

Firstly, keep those tape heads clean. Rather than the cleaning cassette which you chuck in and play I advocate cotton buds and a bottle of head-cleaning fluid. Just dab some cleaner on the end of a bud and gently wipe the play and record heads. Whilst you're there, wipe any excess gunk from that little roller thingy near the heads (technically-minded, aren't I?). Remember when buying cotton buds to allow for the huge number you'll use cleaning out your ears etc.

More often than not, your tape recorder head needs realigning as well as cleaning. To do this, have a look around the heads for a small, small screw – sometimes it's positioned in front of the buttons. Use a small screwdriver to turn it a few millimetres either way. To find out if it's correctly positioned, play an audio tape. If it sounds as clear and sharp as possible you've got it right. For obvious reasons, playing a *Bros* album is not recommended.

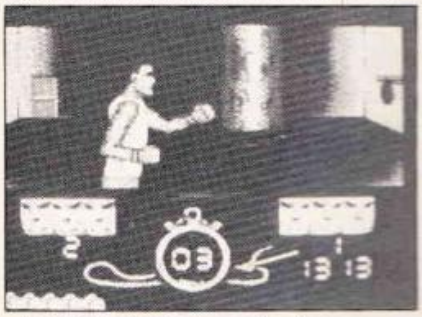
Robin Alway

SECTOR 64 SECTOR

Coming soon!

Players' new £2.99 label Premiere Edition will be releasing two new games later this month.

• **Street Cred Boxing** is a three-part loading arcade box-em-up. You play the part of Joe Lebrinski, and must help save your gym from a consortium of yuppies.



• Street Cred Boxing: Coming soon from Players

The first part of the game sees you training in the gym, where by hitting the punchbag you must get as many members of your gang trained up as you can. You then go into the fighting gym, where you and your team must beat the enemy. If you succeed, you then go on to street fighting, clearing the beat yuppie's bouncers out of the way until you're finally confronted with the toughest fighter of them all.

• **Subway Vigilante** give you the chance to clean up the low-life. You control a Guardian Angel-type hero who must clear the London Underground of thugs, punks, dealers, pushers and muggers as you travel around the capital by tube. It's your duty to protect all those law-abiding citizens and wipe out rival gangs.

Both games are being written by Wow!, and will have soundtracks by Maniacs of Noise.

On its way next week from Titus is the C64 version of *Titan* – which is already on every other format, including Amstrad, ST and Amiga.

Titan is yet another *Breakout* clone – but with a difference. The scrolling is fast and smooth, and the playing area scrolls up, down, left and right as you guide your ball onto the bricks. You can start on any of the four levels, and face a tough challenge in this new variation on an old theme. *Titan* will be £9.95 on the C64.

Cheat

This week's lonely cheat is for US Gold's *Thunderblade*. Load the game, and then reset to type the following:

POKE 13622,44:POKE 8500,44:POKE 13135,44
SYS 4092 (to re-run the game)

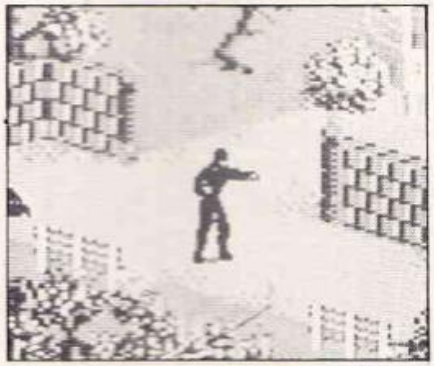
Thanks once more to Gary Gould for that cheat.

If only they knew!

Do you get frustrated by the dimbos who work in computer stores? When we were last in the town we thought 'let's pop into the computer shop.' There we saw an Amiga, and by sheer coincidence Ian had his Amiga demo disk with him. But what we didn't know was that the Amiga was linked to stereo speakers around the shop, which were set to a very high volume. After looking around, we popped our disk into the drive to show the demo off to all around. Then there was sudden panic. The music was loud enough (almost) to smash the shop windows! Needless to say, this caused a bit of a stir. Within moments the assistant came over to find out who was touching the Amiga. The manager then turned around and said to the trainee, "Don't let people put disks into the Amiga because viruses jump off the disk and into the Amiga's ROM! And that costs the shop money, having to send the duffed Amiga back!"

Is it real?

Computer games are getting more and more real-looking. People can associate with most of the games published now, such as street fighting games, football simulators and arcade adventures with amazing animation. Years ago, computer games were mostly about shooting aliens and flying over sci-fi backdrops, and when a layman took a look at the computer screen, all they saw was loads of squares and colours thrown together. All that has changed now, though. Background graphics particularly are now altogether more realistic, so that if your granny were to see them she'd say "Oh! Watching cartoons again!" This means that the *Uridium*-type shoot-em-ups and *NOMAD*-type adventures could never be seen again. To be quite honest, if I was a complete stranger to home computers and saw a game like *NOMAD*, I would have no idea what it represented – it would just look like so many pretty patterns. But after the release of the first street fighting game, programmers have all been hard at work trying to write games to attract your attention. Backdrops are now quite different, featuring such everyday things as chip shops, cafes, motorways and pavements. Realistic software is now a big thing, and pretty well three quarters of software houses now use modern-day scenarios.



• Last Ninja II from System 3: Much more realistic than earlier computer games

Ian + Mic

Your very own game?

By special arrangement with Wow!, here's a special survey for you budding games players. What type of game would you most like to see written for the C64? Send your answers to Sector 64, New Computer Express, 4 Queen Street, Bath BA1 1EJ. Who knows, if the demand is great enough you could have your own ideal game written by Wow!

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PCW PATCH

Drawing strength

People seem as keen to produce new products for the PCW these days as they do to bring out new books against Islam. And while the PCW hasn't quite been around as long as the Koran (though some of its documentation is just as difficult to translate) it's nevertheless surprising, and refreshing, that a Major New Program should be coming out for it now.

Micro Design is a full featured desktop publisher and graphic package that beats the current competition (*Stop Press, Newsdesk, Fleet St. The DTP*) hollow – on paper at least, but then that's probably quite enough for a

desktop publisher. The makers say it squeezes twice as much resolution as the other programs out of the PCW and the printer (pages are 256K in *Micro Design* as opposed to 96K in *Stop Press*) and demo printouts certainly seem startlingly good. It works with mouse or keyboard, 8256s or 8512s, 9512s (with Epson compatible printer) and has lots of graphics facilities such as expanding or shrinking designs.

You won't need a million pounds either – prices should be around £50 or so when the package is officially launched at the PC User Show on May 9th. Creative Technology is not going into hiding over its new package; it can be contacted on 0889 567160.

Keytop tip

Are your keytops wearing down? Going thin on top is an unfortunate consequence of age for many of us, and on the keyboard it means the letters can fade away. Rejuvenate them with a permanent marker from any stationers and seal them with clear nail varnish.

TV Times

You may have seen the 9512 featuring in those Stanley Unwin ads currently being re-run. Love that claim that they use 1Mb disks. Only when you look at the small print do you see the proviso that they're "1 Mb unformatted, 720K formatted", which is a bit like saying your car would be able to carry another two or three passengers if only it wasn't for these tedious things called "seats" which get in the way.

The PCW though has found its way into television culture on a wider scale. A Tarzan clone is seen swinging over a 9512 night after night in an ad for an employment agency; a Grange Hill inmate uses one for an unspecified home service; Amos Brearly, Landlord of The Woolpack in Emmerdale, appears so taken by a PCW bought for Henry Wilks that he's taken it over; there is even one on Jill Archer's desk.

Basil Pigg

Q corner

QJUMP news

When I spoke to Tony Tebby (designer of the QL) recently about his plans for QJUMP, he said that although he had been thinking about pulling out of the QL market, there appeared to be a resurgence of interest in the QL, and that he had a couple of new products in the pipeline. These are a replacement for the popular QRAM WIMP environment, and a set of maintenance utilities.

ROM disassembly

Quanta member Wolfgang Goeller has spent many months disassembling the QL ROMs to produce a commented source code listing. He has made such a good job of it that the listing can be reassembled, generating code that is identical to the original ROM. Of course, he can also modify the source code to produce his own EPROMs, with modifications and enhancements.

Have you too got a dirty head?

It is quite a good idea to check the Microdrive heads occasionally; they are positioned just inside the slots. If they are dirty, give them a wipe with a Q-Tip moistened with cassette head cleaning fluid.

Atari ST QL emulator

I recently saw the Atari ST QL emulator, marketed by Strong Systems, in action, and I was most impressed. The emulator consists of a small circuit board that has to be mounted inside the ST case, making the ST display QL-compatible, and some software. The modified ST behaves as normal until the emulation software is loaded. It then behaves exactly like a QL, except that it runs QL software about three times as fast as a standard QL. The modifications costs £199 on top of the price of the ST (£299) if you buy it from Strong – which makes it quite a good buy if you compare it to the price of a QL with memory expansion, disk interface and disk drive.

Text87

Readers who are fed up with the vagaries of *Quill* should look at Software87's *text87* word processor, which has just been updated to version 2.00. I first saw this product over three years ago, when it was a programmer's text editor written in BCPL (the precursor of C) for author Fred Tussi's own use. Since BCPL is a very efficient language, *text87* is very fast in use. Among its many features are multiple fonts (displayed on-screen), multiple-line headers and footers and up to four columns of text.

Software87 claims that *text87* running on the Atari ST with the aforementioned QL emulator outperforms most multifont word processors running on the ST, Amiga or Macintosh Plus.

John Torofex

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Electron conversion

As I reported the other week, Superior has converted *Firetrack* to the Elk. I put the program the way of an Elk owner for review, and this is what he said: "The speed and gameplay are every bit as good as the original, but the number and variety of attackers has been reduced." Well, I for one reckon that's a pretty good compromise, so go on - blast away.

Show time again?

Unconfirmed rumours suggest that not only the Acorn User Show, but also a Micro User Show could be resurrected this summer and winter respectively. I will believe it when I see it!

Good games

Blue Ribbon Software seems to have filled the last chink in the BBC games market with its cheap range. Certainly, *Galaforce*, *Thrust*, *Repton2* and *Ravenskull* are not to be sneezed at when priced at £2.99. Other games are priced at £1.99, thus keeping Superior happy and giving impecunious Beeb owners the chance to pick up good games from their local corner shop. Incidentally, Blue Ribbon is a division of CDS, so has been around for a while. Funny, I thought it was Blue *Riband*, or maybe that's a brand of margarine.

Slow and obscure

Fast and powerful. Two words whose meaning is most abused by computer people everywhere. Fast usually means slower than you thought, and powerful means difficult to understand.

I had cause to ponder the meaning of these words recently when reviewing a hard disk upgrade for the Amiga, a machine which has the most appallingly slow disk drives.

The hard disk, while speeding things up to an acceptable level, still felt no faster to use than a Beeb with standard floppy disks. Undoubtedly the Amiga is a more 'powerful' computer than the Beeb, but for simple text editing, using a BBC you can get the work done much more quickly.

If you want to get the best performance out of your floppies, however, some basic rules should be observed. There are: Keep back-ups – it could save hours of typing. Don't use double density modes – they take longer to access the catalogue. And lastly, set your drives for 3msec access by issuing a *FX255,15 <BREAK> before you start.

Right on cue

Firebird's box new game *3D Pool* should be in your shops as you read this, at a price of £9.99 for the cassette version or £19.95 for you nuts types with an Archimedes. The Electron version was in doubt at the launch, but it should appear eventually. I've seen the Arc version, and if the Beeb version is anything like, then this will be an ace game. You can move round the table just like in real pool, and even try out all your favourite trick shots.

Andrew Brown

MSXTRA

Stone me!

Aarrrggh! I'm tearing my hair out. Please, anyone, help me find a way to paint Fred's wall before Wilma gets home. What with Pebbles undoing all my good work by drawing on the wall, and that damned Dino wandering about getting in the way, at this rate Fred's never going to go bowling with Barney. Yes, it's *The Flintsones*, from Grandslam (£8.95).

Thank goodness you can practise the driving section as well as play the first stage, otherwise frustration would ensue and I might just be tempted to throttle Pebbles. (Oops, mustn't encourage child abuse.)

You may think from reading the above that I didn't enjoy this game – but the contrary is true. It really is great fun to play. There are some very nice touches, such as Pebbles writing messages on the wall or drawing flowers etc, depending on how the mood takes her, I suppose.

The graphics are excellent, even if they are only two-colour, and the sound is also very good – a nice rendition of the *Flintstones* tune, in fact.

Nice one, Grandslam. Hope your future MSX releases are as good as this.

Crazy price

I've had a chance to give *Crazy Cars* by Titus a "road test" this week, and as the game is on ROM and costs a hefty £24.95, I was expecting a game up to Konami standards (e.g. *Hyper Rally*). Alas no.

If this game had been priced at a more realistic £9.99, I think that it would have sold well, as it isn't a bad car racing game.

You are presented with a rear view picture of the car you control, just like *Hyper Rally*, only in this game you get two-colour graphics – black buildings and car, yellow backdrop. This is the most disappointing feature, because the sound is excellent and the impression of speed well captured.

As you progress through the levels the going gets tougher, with the road undulating more and more and making your car jump spectacularly in the air if you hit a bump too fast. Hit another racer and your car leaps into the air then comes to a standstill, losing you valuable time – as does going off the road!

The car is easy to control and responds well to the joystick – this part of the game has been well-programmed. It is nevertheless hard to see how Titus can justify the price of £24.95.

Keith Neal

Boulderdash tip

I have been asked if anyone has tips for the MSX version of Mandragore by Infogrames. If you think that you can help with this game, please write to MSXtra c/o Express.

This plea was from Richard Cross of Bournemouth, as is this tip for Boulderdash:

As soon as the game loads, select cave 1/1, 1/2 or 1/3. Collect as many objects as you can, and as soon as no more are available press ESC. The number of points scored should be enough to provide you with another life to continue with on the same screen.

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CPC centre

Database claims AMS

In what is being touted as "a vote of confidence in the CPC market," Database Software has purchased the exclusive manufacturing rights for all AMS products from Logitech. The deal covers the three DTP packages *Stop Press* (£49.99), *Stop Press* and mouse (£79.99), and *Extra! Extra!* (£24.99); the art and graphics package ART and mouse (£69.99); and the DTP environment utility *MAX* (£19.99).

• Chris Payne of Database – "vote of confidence in the CPC"

"It's our vote of confidence in the CPC," Database's marketing manager Chris Payne told *Express*. "Some companies have ended their love affair with the Amstrad. We certainly haven't." Well, you don't have to listen to this old guff, but certainly Database is only doing it because there's money to be made.

Nick Pearson, General Manager of Logitech – which claims, incidentally, to be the world's largest manufacturer of computer mice – offered: "As Database Software specialises in fields relevant to the AMS products, we felt that it would be better suited than ourselves to look after the existing user and carry forward" (whatever that means) "the AMS range of 8-bit products."

This latest move is part of a growing trend in CPC software. Most of the major packages have already been written, and I have to say that I'd be surprised if many more are yet to come. But as they continue to sell, and as the companies that originally developed them find themselves moving into different markets, programs are increasingly going to be re-packaged and licenses to sell shifted to other companies specialising in the 8-bit market.

It happened just a couple of months ago when the original holders of *Art Studio* and the *Advanced Art Studio* bought back the licence from Rainbird.

The good thing about it is that rather than letting products fade away, such deals give them an injection of new enthusiasm and may even lead to their revitalisation. Let's hope that's what happens to the AMS range.

Cheerful message

If you have CPM 2.2, Setup gives you the opportunity to have a warm, friendly start-up message when you boot up. Here's how to do it in CPM Plus. Insert a system disk into your drive and type [Bar] CPM as usual. When you have the A> prompt insert your programming utilities disk and enter SIDB:C10CPM3.EMS and wait until the SID message appears. (SID, by the way, stands for Symbolic Instruction Debugger.) Remove the utilities disk and re-insert your system disk. You should see:

```
NEXT     MSIZE PC   END
6500     6500  0100 DAFF
```

Type S1168 and you ought to get 1168 43. This is the beginning of the start-up message. To insert a character at this location type an apostrophe ['] followed by a character and ending with another apostrophe. You should end up with something like:

```
1168 43 'H'
```

Press [Return] and you get 1169.43. After each group of numbers appears you can enter another character, eventually building up a message. Your message can only go to location 1792. (If you alter anything after this you may corrupt CPM.) To stop entering characters press the full stop and hit [Return]. So your list may look something like this:

```
1168 43 'H'
1169 43 'E'
116A 43 'L'
116B 49 .
```

(It's not complete, but you get the idea.) You should now get a hash [#] prompt. Now type F (last address edited), 1192, 20. 'Last address' refers to the location at which you pressed the full stop. Finally type WC10CPM3.EMS and to see your message on the screen reboot CPM.

Thanks to Cormac Gaughey of Cushendall in Country Antrim for that nifty bit of investigative work!

Moral outrage shock horror boredom

The latest punch-'n'-kick-'em-up – an increasingly popular genre, so it seems – comes from US Gold. Entitled *HKM*, for *Human Killing Machine*, it takes you to strange and exotic locations in your quest to beat the stuffing out of all and sundry opponents. These include the usual pack of stereotyped baddies such as Ivan the wicked Russian, a pair of Arabs, a couple of Germans, two Dutch women, a Spaniard, a bull and a dog. That would appear to offend anti-racists, feminists and animal lovers all in one game! And come to think of it, since Spain is one of the CPC's big markets it would also appear to alienate a fair proportion of its potential customers, too!

Now what can one say that hasn't been said 100 times before about such an amoral game? Well, how about it's more fun than most? Although the sprites move a little too slowly for my liking, they're rather graceful fighters and have an impressive smooth kicking and punching action. Another thing I noticed is that they have exceptionally long legs. Evidently the programmers weren't so much interested in the faithful reproduction of the human form as in conveying the impression of fighting machines.

So despite my reservations about the tackiness of the scenario, I must admit to having whiled away many a happy hour (after work, you understand) with *HKM*.

Available from US Gold at £9.99 tape and £14.99 disk.

Steve Carey (editor, *Amstrad Action*)

Up, up and away!

Which of the two CPC magazines, do you think, has just returned readership figures for the second half of last year up some 9.5% from 35,095 to 38,457? Is it
a) Amstrad Computer User, or is it
b) Amstrad Action?
No prizes, but there's a clue at the end of this column.

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TECH TIPS

HELP!

Serious 64-ers

I would be grateful if you could recommend a good graphics/paint package and a fairly easy-to-use word processor for the Commodore 64. Could you tell me where to obtain these items and their cost?
K Wilcox, London, SW6

• Hands up all C64 owners who are finding it very difficult to find any software that isn't strictly a game. It looks as though a lot of dealers, especially the high street chain stores, have forgotten that the C64 – like all 8-bit computers – can be used for more than game-playing.

However, all is not lost. The first possibility that springs to mind is the Geos series of software. Geos is a graphical operating system, rather like Gem on the PC and ST, or the Macintosh.

The basic Geos package costs around £25-£30 on the C64 and includes a word processor and paint package. You'll also need a mouse – the Commodore 1351 costs a shade under £30, or there's the Neos mouse (which comes with its own paint program) for around £25.

Also recommended for word processing is *Superscript*, a bargain at £25. All of these products are available mail order from **Dimension Computers, 40/50 High Street, Leicester LE1 5YN**, telephone 0533 517479.

HELP!

Tandy RAM

I have a Tandy MC10 Color Computer which I bought some time ago. This machine was supposed to rival the ZX81 but arrived too late.

I also have an Amstrad which fills all my computer needs, but as a matter of interest I would like to expand the Tandy by building a large RAM pack and thus, perhaps, learn something about computers.

Can you advise if this would be possible, and if so, where would I get the parts. Tandy staff say they can't help.
Eric Sanders, Leamington Spa, Warks

• Well, Eric, you've already learned something about computers: always buy "big name" machines, preferably ones that have already sold in large numbers.

Sadly, if Tandy can't help I don't think I can. You'd really need to be something of an electronics wizard to undertake this sort of project and, even so, you'd have to have complete technical specs and circuit diagrams of the machine.

Best stick with your Amstrad.

HELP!

Cable query

I have just got a Brother HR5 printer for my Commodore 64. I have the centronics cable which fits the printer but not the computer. I know I need an interface, but which one?
Andrew Richardson, Wigan, Lancs

• The only one I've been able to track down is the Super G interface sold by **Dimension Computers, 40/50 High Street, Leicester LE1 5YN**. The price is a rather stiff £35 – if anyone knows a cheaper alternative, let me know.

TIP Extra PC drive

Some software written for IBM-compatibles can only be used on a computer with twin disk drives, so if you only have a single drive here is a way to get round it.

Set up a ramdrive as large as you can (this depends on how much memory the software will use). If your ramdrive is created as drive C:, use the command SUBST B:C:\

This makes the ramdrive act as drive B: and allows the program you wish to use to work – provided that the files it expects to find on drive B can fit into the ramdrive.

This technique is particularly useful when unArcing files, because otherwise you have to change disks a lot.
Graeme Kelly, Maidstone, Kent

TIP

Chips off an old block

In reference to the letter from RD Bennett in issue 15 about upgrading the ST's memory, I have just upgraded my 520 STFM by adding 16 chips and although the original 16 are soldered directly to the PCB, I fitted sockets and plugged the fresh chips into them.

It also required some capacitors and resistors but everything is OK. The chips were second-hand and used but work fine.

If Mr Bennett would like to write to me, I will give him further details on where to get the bits.
DG "Phil" Phillips, 51 Avenue Road, Wakford, Nr Christchurch, Dorset BH23 5QH

HELP!

Amiga assembly

After being the owner of an Amiga A500 for several months, I feel confident enough to dabble in the wonders of assembly language. The trouble is, where do I begin?

I would find it a great help if, in your infinite wisdom, you could guide me in the right direction. So what books and software would you recommend for a novice?
Gary Crook, Royston, Herts

• The key software is the assembler itself, and you have a choice of two: the "official" *Metacomco Macro Assembler*, or the unofficial but highly-regarded *Devpac* from Hisoft.

The former will set you back £70, the latter is ten quid cheaper.

A tougher question concerns the books you need. The Amiga is an immensely complicated critter to program in machine code and all the information you need is spread throughout a bunch of very expensive books – you can easily spend on more on books than the cost of your Amiga itself.

The Amiga System Programmer's Guide at £32.95 from Abacus is a good starting point. Although this sounds expensive, believe me it isn't. You'll also need a good general reference on the 68000 and there are several of those – find one that suits you.

TIP

Extra ST channel

I'm sure there are many Atari ST owners out there who like me are unhappy with the mono sound the machine produces, especially when the computer is used with a stereo monitor like the Philips CM8833.

The following simple modification does not provide the missing stereo sound but it does give a more satisfying noise from both speakers in the monitor.

The answer is to provide the missing channel with a signal from the computer. Obviously to get any sound at all, either the LEFT or RIGHT channels will be connected to the audio output of the ST.

To discover which is which, take the SCART connector out of your monitor and open it up. If pin 2 is connected then the signal is being directed to the RIGHT channel; if it is pin 6 then it is to the LEFT. The answer is to connect a small wire inside the plug that goes from pin 2 to pin 6. This provides a mono signal to both channels and, although not true stereo, is a big improvement.

The advantage of this method is that the monitor need not be opened up, thus voiding the guarantee.
Graham Brown, Tranent, East Lothian

HELP!

PC200 5.25"?

I recently purchased a Sinclair PC 200, monitor and printer. This model has a single 3.5" drive which is fine for my purposes but my son, who takes computing at school, uses a 5.25" model.

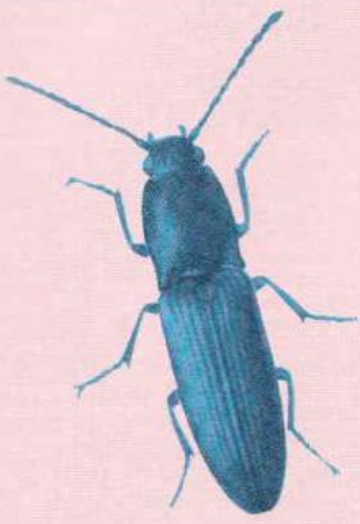
Can I buy a second disk drive and make it a 5.25" model? If so could you recommend one, and would I be able to copy from to another?
EP Ingram, Glenburn, Paisley

• Amstrad markets a 5.25" drive specifically to overcome this type of

• The Sinclair PC200 comes with a 3.5" disk drive as standard, but what about 5.25" software? Can you use an external 5.25" drive? (PC200 5.25"?)

BUG OF THE WEEK

CRL have produced a package called *The Image System*, a kind of drawing and manipulating program. The bug comes to life when you've spent hours on a picture and then try to save it. You have to put a square round the picture to save it, but if the picture is too big it won't save, and you get the chance to try again – but you have to press a key to get back to the save menu. And when you press this key the colour palette at the bottom of the screen becomes corrupted. You don't lose the picture, but you have to reset the computer to get the proper colours back again.
Derek Edwards, London



• Athous haemorrhoidalis

Thirteen members of this genus are known in Central Europe, six of which are also found in the British Isles. The adults can be found in large numbers lurking behind trees and bushes and clip-art packages are frequently a source of infestation, though other routes exist. One your software is infected, you will experience regular and persistent pains in the posterior.

problem. So there's no problem...

You should be able to get one from the same dealer who sold you your PC200, price around £100. And you can copy files freely between the two formats.

HELP!
80-column Plus/4

I have been searching for months to find an 80-column screen utility for the Commodore Plus/4. I remember a peripheral device which was marketed for the C64 some years ago but unfortunately I have no idea who marketed it, or whether it is compatible with the Plus/4.

Also, there have been a number of software utilities written for the Commodore 64 which emulate an 80-column screen by the use of the hi-res screen. Are there any such utilities for the Plus/4?

Paul Clancy, Yateley, Surrey

• Unless some Plus/4 owner out there (hello, anyone there...?) can prove the contrary, I'd hazard that your search is fruitless. There were, in fact, several such devices for the C64 but they never sold well, at least partly because very little software worked with them, and partly because some of them could ruin your eyes on the official Commodore monitor.

Someone may have converted a soft utility from the C64 – it isn't particularly difficult – but, again, the display will border on the unreadable. My advice would be that if your computing's reached the stage where you need 80 columns, it's time to ditch the old faithful Plus/4 and buy something a tad more professional.

TIP
CST interface and QL

Could you please pass on the following information through your pages to Kassim Selamat, who requested information about the CST interface and Sinclair QL.

The possible problem areas are:

1. Power supply problem in the drive.
2. Some early versions of the CST interface had the connector upside down. The problem can easily be corrected by filing the location lug on the interface flat and inserting in the correct way. This can also be confirmed if the indicator light is on continuously.
3. Pins may have become bent either on the QL connector side of the interface (very easy to do), or on the drive side.
4. Check that the drive select link is on the correct position, i.e. DRIVE 0 for FLP1_ or DRIVE 1 for FLP2_

Hope this info is of help.

Joseph T. Millar, Bedlington, Northumberland

HELP!
Commodore printer

First of all I'd like to say how much I enjoy New Computer Express, especially Amiga Blit. Secondly, I would welcome your advice.

As you've guessed, I own an Amiga, but I also own a C64 and want to obtain a printer which would be compatible with both machines. I discovered that the Commodore MPS 1000 was suitable and reasonably priced (£159). However, it now appears that this printer is no longer available and I wonder if it is still being made.

Perhaps you could shed some light on suitable alternatives, if any.

AS Lewis, Upton, Wirral

• First, there are no printers compatible with both the C64 and Amiga. Second, virtually any printer is compatible with both the C64 and Amiga. Perhaps you'd like an explanation? The C64 uses a very odd system of interfacing to peripherals. Only Commodore's own printers specifically made for the C64 connect directly, but that precludes them working with the Amiga, which uses the industry-standard parallel/centronics interface.

However, there are third-party interfaces that allow the C64 to drive a standard parallel printer, so any parallel model can be made to work with your C64 and your Amiga.

HELP!
Guru numbers

As an Amiga owner I am still trying to find out what the Guru meditation numbers mean. 00000003 seems to be a favourite of my machine, but I have numerous ones ending in three non-zero digits.

I have also had problems with an RS232 port on a card in an MS-DOS slot on the XT Bridgeboard in an Amiga 2000. I have a Diablo 630 printer which is currently interfaced for RS232 on the Amiga serial port (which can't be accessed by MS-DOS), and I would like to drive it from a serial card.

Apparently the interrupt needed for the printer is IRQ2. This doesn't seem to be available on my card (which is a dual port card offering IRQ4 or IRQ5 alternatives.

In the early days of my experience with MS-DOS, my ignorance of MODE operation was a problem, but I have finally arrived at the conclusion that I need a different serial card. Do you know of one which doesn't need a second mortgage and which will drive my printer?

John W Stanley, Wistaston, Crewe

• Bet you thought the Guru was going to be the more difficult question. Nope ... there's nothing in the world more difficult than RS232.

But first, the Guru. There are two kinds of Guru alert: those that crash your machine, and those that don't. Also, there are two causes: system soft-ware problems, and 68000 traps. So it follows that there should be two kind of Guru message.

The first looks like this:

Guru Meditation
#00000003.0000xxyy (look familiar, John?)

The number before the full stop tells you the 68000 trap number, and number 3 is an address error – specifically, trying to access an even word on an odd-byte boundary. Others include 2, a bus error; 4, illegal instruction; 5 divide by zero; and 8, a privilege violation.

The numbers after the full stop give the address of the offensive instructions.

The second type of Guru message has more non-zero numbers and looks like:

Guru Meditation #aabbcccc.0000xxyy

Here, byte a identifies the area of system software that generated the problem; byte b flags the cause of the problem and echoes the accompanying text message; and word c gives a cross-reference to the specific error which can be found in the exec/alerts.h dev-elopers file.

For example, if the a-byte is 02, the problem is in the graphics library, 04 is Intuition, 07 is AmigaDOS, 13 is the keyboard, and so on. The b-byte has a value from 1 to 6 (01 to 06) and may mean "no memory", and I/O error, or that the Amiga is having trouble with a library or device.

For a complete rundown on Gurus, acquire a copy of Ariadne Software's *Kickstart Guide to the Amiga*, around £13 from most good bookshops.

The printer problem is a curious one. In Sybex's *The MS-DOS Handbook* (£18.95) by Richard Allen King, there is an example of using the serial port with a printer. Fortuitously, the printer is a Diablo 630.

King gives the set-up details of:

MODE COM1:1200,N,8,1,P
then
MODE LPT1: = COM1

However, assuming you already new this, your problem lies elsewhere – and I mean somewhere other than the IRQ setting. Printers really don't care which IRQ is being used because they have no way of knowing. IRQs only become an issue when you're using more than one serial device, and I would guess that in an Amiga 2000 that would mean more than one device on the MS-DOS side.

If MS-DOS can't access the Amiga's serial port, that should mean it isn't aware of its existence.

What this boils down to is that I can't see any reason why your printer wouldn't work from any serial card under MS-DOS. If yours doesn't, I'm afraid you need more professional advice than I'm able to give you.

TIP
Spectrum pokes

I have gathered together some pokes for the ZX Spectrum, which I hope will be of interest to your readers.

POKE 23562,0 to 255 – Delay time of keypress.
POKE 23606,250 – Allow user fonts.
POKE 23609,9 – Beep after each keypress.
POKE 23659,9 – Bomb the BASIC, crashing the computer.
POKE 23658,8 – Caps lock on (POKE with 0 for caps lock off).
POKE 23756,0 – Make program line 0.
POKE 23570,10 – Edit disable.
POKE 23613,82 – Break disable (POKE with 84 to re-enable).
POKE 23570,16 – Stops listing whenever enter is pressed.

Richard Lissamore, Great Barr, Birmingham

HELP!
Telly on the ST?

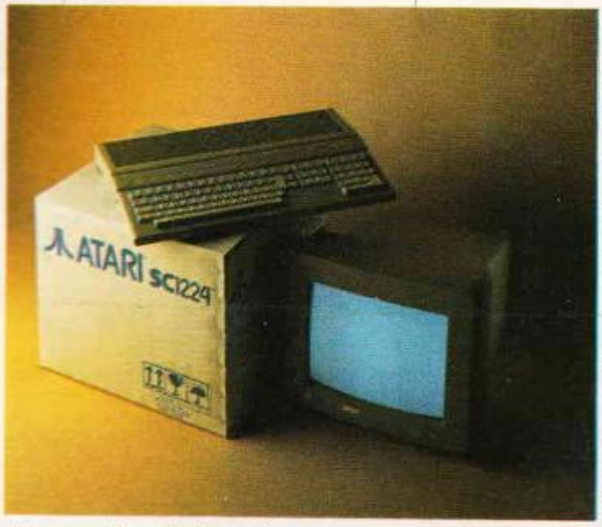
I am thinking of buying an Atari STFM and I would like to know if it would work on colour and black and white televisions.

Also, what is Metacomco BASIC?

Mack Marshall, Ely, Cambs

• Yes. The Atari machine incorporates a television modulator which generates the signal necessary to drive a television.

Metacomco BASIC is intended as a direct replacement for the BASIC bundled with the Atari machine. The Metacomco package provides a superior range of features over the Atari offering. You can contact the company at **26 Portland Square, Bristol BS2 8RZ**. Tel: 0272 428781.



• Do you need that monitor for your ST, or can you use your telly? (Telly on the ST?)

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(Saturday) morning dreams come true...

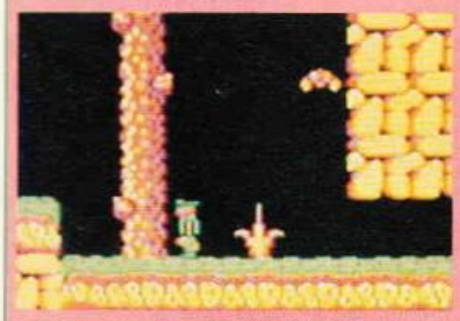
Rik Haynes stops daydreaming and previews six new releases

WEIRD DREAMS
RAINBIRD

You've seen the Saturday morning TV quiz show version on *Motormouth*, now comes the home micro version of *Weird Dreams* on the ST – with Spectrum, C64, CPC, Amiga and PC versions to follow. While lying unconscious on the operating table, you'll find a

whole meaning to the word terror, as you progress from one nightmare to another in this surreal arcade adventure from James Hutchby and Herman Serrano. For connoisseurs of compu-trivia, *Motormouth*'s version of *Weird Dreams* ran on a Atari ST Mega 2 with a custom-built genlock device and MIDI hooked up to an Akai sound effect box.

From little Acorns...



INFINITY
WHITE PANTHER SOFTWARE

Just in case any Beeb owners were feeling left out of the previews page, here's a new game for the BBC called *Infinity*, which features over 1,000 different screens, 32 alien types, 50 puzzles, over 80 objects and – wait for it – is written in 100% machine code. It's just a pity the screen shot is out of focus – ah well, you can't have everything.

OVERLOAD
CLARES MICRO SUPPLIES

And to prove we're all-round nice guys, we've even included an Archie preview this week in the form of *Overload* – a rather unusual game, in that you take on the persona of an 11-legged flea with a mission to squash anything that moves. Further details from Clares Micro Supplies on 0606 48511.

VIGILANTE
IREM/US GOLD

Vigilante, by Irem – the coin-op company responsible for the hugely successful *R-Type* – is a kick-'em-up which sees you as the heroic vigilante in a rescue mission to free a so-called Madonna girlie from the clutches of an evil street gang. As you progress through five levels (Main Street, The Junkyard, Brooklyn Bridge, Back Street and Construction Site) of 1994 New York you'll encounter all manner of street-scum – so let's hope you're strong enough to take the Pepsi challenge. Out from US Gold soon on Spectrum, C64, CPC, ST, Amiga and PC.

RISK™
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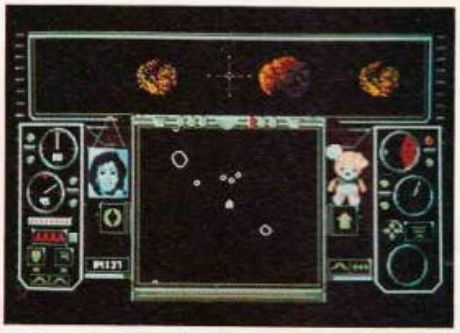
RISK™ is a board game micro conversion allowing one to five players to partake in a touch of strategic world domination. Each person tries to wipe out the others by building armies, fortifying defences and generally making a nuisance of themselves. Already out on C64, *RISK*™ will be out shortly on Spectrum, CPC, ST, Amiga and PC.

MARS COPS
ARCANA



Already previewed elsewhere a long, long time ago – *Mars Cops* is a strategic shoot-em-up with simulation elements placing you in the role of a cop out to nick some crims on the planet Mars. Out sometime on Amiga.

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Here are the highlights of the previous issues – but remember they also contain all your regular favourites: news, games reviews, machine columns, beginners' guide, controversies, tech tips, letters, PSsst, vouchers etc etc.

Issue 1: Future of computing, PC graphics, revival of Basic, Xmas games
Issue 2: Which computer?, the perfect wordprocessor, Konix console
Issue 3: Portable computing, Alan Sugar profile part I, yuppie software
Issue 4: Sega's 16-bit console, best value PC, games that change your life
Issue 5: PC 200 fiasco, DTP guide, computer art, Unix explained
Issue 6: MGT Coupe, careers in computing, Realtime profile, cracking
Issue 7/8: Best games of '88, review of the year, look forward to '89
Issue 9: Censorship controversy, classic computer problems solved
Issue 10 : PC software guide, Christmas games tips, Release Schedule wk 1
Issue 11 : CDI technology, choosing a printer, Alan Sugar profile final part
Issue 12 : Being a smart consumer, dyslexia and computers, Jack Tramiel story
Issue 13 : Konix console, da Vinci exhibition, best Amiga software, shareware
Issue 14 : Which PC?, PC Engine CD ROM, Hackers, Workbench 1.3
Issue 15 : MiniGEN, monitors, virus book reviews, Sir Clive Sinclair
Issue 16 : Music special, History of the PC, TV graphics, beginners's graphics
Issue 17 : Digitisers, programming languages, History of the Spectrum
Issue 18 : ST essentials, Hypertext, QuickBASIC review, History of the BBC
Issue 19 : Virus guide, History of the C64, Hanover show, hackers caught!

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● *Ballistix* scored a hit in the Express offices this week with great graphics and novel gameplay. The rest ranged from the quite acceptable to...*Human Killing Machine*, which proved – astonishingly – worse than its artwork. *Realm of the Trolls* and *The Deep* gave it a run for its money, though...

REALM OF THE TROLLS

RAINBOW ARTS/US GOLD

Amiga • £24.95dk
Also on C64, ST

***Realm of the Trolls* is a platform/exploration game from German software company Rainbow Arts. It's based around an arcade adventure to retrieve priceless treasures from the thieving clutches of some Trolls in their underworld kingdom...**

● GAMEPLAY

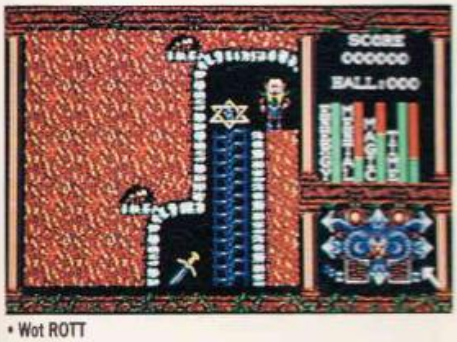
ROTT provides no surprises in the gameplay department as you persevere through a bog-standard and intensely boring approach to the genre – if you can stand the tedium of playing the game, that is. Obviously, this game is ROTTen to the core...

● GRAPHICS AND SOUND

Audi-visuals are simple, strange and sketchy and do absolutely nothing to heighten the already appalling gameplay. The only half-appealing audio-visual aspect is the superb (but muffled) sampled sci-fi soundtrack, which sounds out of place in a game about the trolls and tribulations of fairytale folk.

● OTHER VERSIONS

The ST version is similar, probably due to the restricted gameplay display in both versions. We haven't got our hands on C64 *ROTT* yet.



• Wot ROTT

● EXPRESS VERDICT

Rainbow Arts has released some spectacular (if sometimes controversial) games in the past, such as *Garrison*, *Great Giana Sisters* and *Denaris*. But of course, everybody is entitled to make at least one mistake – *Realm of the Trolls* is that mistake for Rainbow Arts.

We were playing far better versions of this game type back in 1983 on the C64, so we don't expect to pay full-price for *Realm of the Trolls* in 1989. Please take note US Gold – budget, or forget it. *ROTT* – you're not kidding.

✪

Rik Haynes

BALLISTIX

PSYGNOSIS

Amiga £19.95dk
Also on ST and C64

• Footie sims were never like this...

Pitching deep into *Crossfire* and *Speedball* territory is the latest pack of perfect pixels from Psygnosis – a futurismo footie sim. *Express* asks the definitive question "when will Jimmy Greaves be buying an Amiga?"

● GAMEPLAY

A vertically-scrolling game of skill for two players in which you attempt to blast balls at a puck to send it into your opponent's goal. You may also choose to play against the computer, in which case there are only 50 levels instead of 80 and the pitch is tilted towards your own goal. You can predetermine the ball speed, the number of balls available and the auto-repeat rate. You can also alter the power of your shots and the number of goals and games needed to win and thereby progress to the next level.

• Ballistix is reminiscent of the old Crossfire game

Each level has a number of obstacles, which are most easily described as reminiscent of pinball features – bumpers, fenders, and magnetic attractors. In addition, there are random appearances of bonus phenomena occupying the grid squares making up each level. To collect the special effect you fire balls at the icons and in return you may receive extra points, shield your own goals and invert your opponent's joystick control. But beware – firing into the wrong icons may have the effect of slowing down your control. Firing through letters and making up the word 'Ricochet' results in 10,000 extra points. There are also curious additional features such as acid pools, pipes, splitters and hyperspace tunnels.

● GRAPHICS AND SOUND

Ballistix's visuals are right up there with the quality of the Bitmap Bros – scrolling is smooth and animated action fast and furious. Since there's a total of 130 different screen configurations on show you won't get tired of the vertical-scrolling format. Sound is impressive too – there's a continuous music score mixed in with crowd applause throughout.

• Just one of the 130 different screen configurations

● OTHER VERSIONS

The ST version suffers from dreadful sound effects but no apparent difference in the quality of the graphics. The C64 outing is as yet unreleased, though it should be pretty good.

● EXPRESS VERDICT

Although *Ballistix* bears more than a passing resemblance to *Crossfire*, there's enough action here to ensure good sales.

The option to alter gameplay configurations can only ensure its continuing playability. This release is well worth a look.

✪ ✪ ✪ ✪

Andy Storer

ELIMINATOR

HEWSON

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Also on C64, ST, Amiga, CPC

If you like *Impossaball* and *Nebulus* and are a fan of burn-up roadster violence, you'll like *Eliminator*, the latest from the same author – John Philips.

● GAMEPLAY

You fly a hover ship along an undulating road that twists and curves through barren wastes, tunnels and space bridges. All along the route masses of aliens fire charges at you whilst strange obstacles and barriers litter the road ahead. You have a range of weapons at your disposal which are collected by driving through cubes – you can switch between dual-fire cannons, ☞

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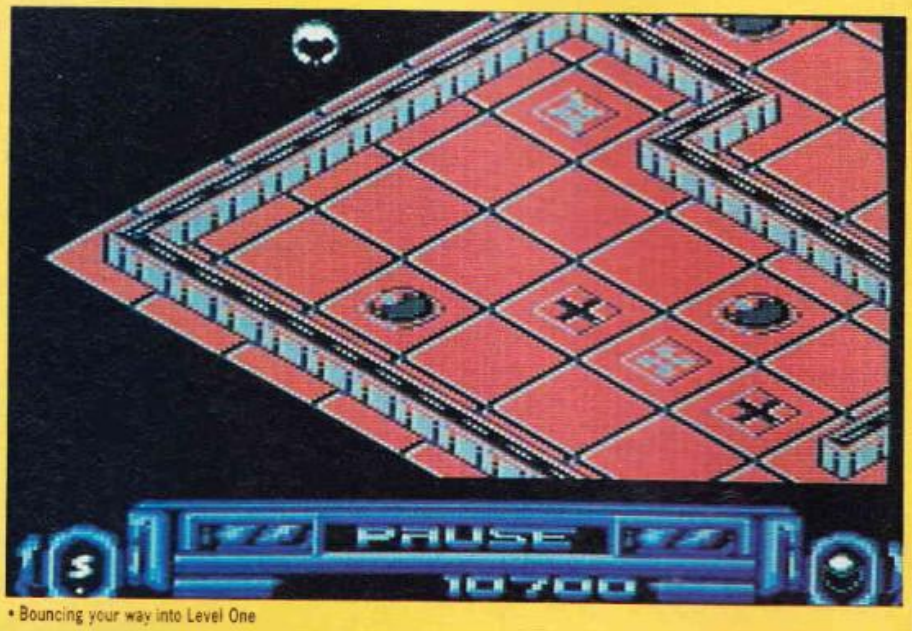


• Bouncing your way into Level One

***Incredible Shrinking Sphere (ISS)* combines puzzle, exploration and shoot-em-up in a *Marble Madness*-like arcade adventure from Fours Fiels/Software Studios.**

● GAMEPLAY

Taking the helm of a Fighter Sphere, you've got to rescue Matt Ridley, a pen-pushing colonel-in-chief of Sphere Corps who thought he could handle The Death Run (the Sphere Corps training arena) but chilled out somewhere inside.

In-game entertainment consists of you manoeuvring your Fighter Sphere around levels of mazes, avoiding traps and hazards, and blasting Assassin Spheres. Along the way, you discover tiles which will increase your Fighter Sphere's mass, volume or make it bounce at a chaotic speed – to name but a few.

● GRAPHICS AND SOUND

Visuals are admirable, with pseudo-3D backdrops and sprites. The Fighter Sphere sprite is well drawn and moves around realistically. Sound-spot effects are OK but not exemplary, and are overwhelmingly overshadowed by the brilliant Anthony Lees soundtrack.

● OTHER VERSIONS

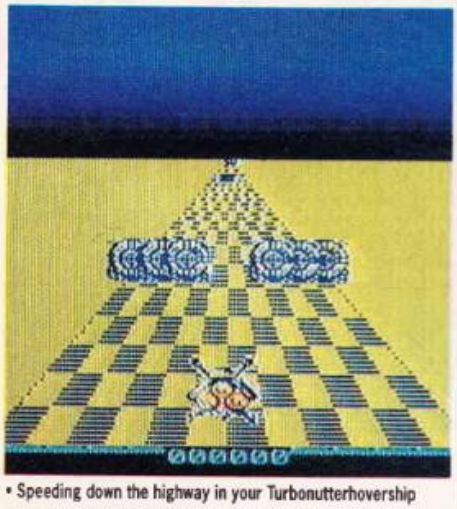
ISS on the Spectrum and CPC perform well, as *ISS* relies just as heavily on gameplay as audio-visuals. The ST version is more colourful, but the audio is a little disappointing. We haven't seen the Amiga version yet.

● EXPRESS VERDICT

ISS is a workable combination of puzzle-solving and explore-action, backed up by appealing visuals, proficient sound spot-effects and an excellent soundtrack.

✪ ✪ ✪

Rik Haynes



• Speeding down the highway in your Turbonutterhovership

bouncing bombs and triple blasters in a bid to rid the road of everything in your way.

Eliminator takes practice, even more so since some stretches are inverted so that you're flying upside down along a road hanging in the sky!

● GRAPHICS AND SOUND

This little beauty shifts along at a fair old whack for the Speccy, and uses colour to great effect too. Obstacles and barriers are clearly depicted and the vertical and horizontal movements of your ship are very smooth. The backing music track is tiresome, but then once you've heard the range of spot-effects you'll probably keep the volume off in any case.

● OTHER VERSIONS

We've only seen the ST version, which moves at the speed of light, takes quite a bit of practice and is a great escape.

● EXPRESS VERDICT

A great conversion from the 16-bit parent, which does justice to the Speccy's spec and one of those addictive little numbers that'll have you loading up until it's cracked. Which could take some time.

✪ ✪ ✪

Andy Storer

THE DEEP

US GOLD

C64 - £9.99cs, £14.99dk
Also on ST, Spectrum, CPC

An early 'eighties style 'drop the charges and destroy the submarines' effort from US Gold.

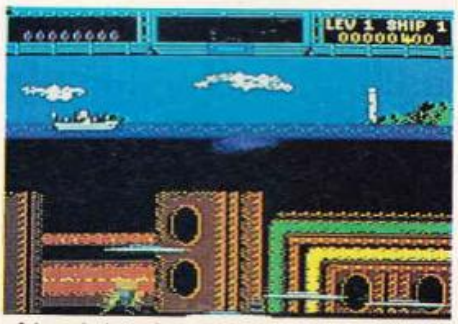
● GAMEPLAY

The Deep features an utterly laughable ship pitted against innumerable aquamarine objects which, for the sake of clarity, we shall call submarines.

All you have to do is waggle away, dropping as many mines as you like and wasting the submarines. The joystick controls (somewhat crudely) control how fast the depth charges sink to the bed. To stay alive you have the task of avoiding lots of missiles and such like.

Along the way there are a few bobs to be picked up which prompt a helicopter to drop off a package. This will give you the option to change into an underwater probe and pick up goodies – or it will give the charges extra strength depending on the type of bob which emerges.

This option sometimes stretches to giving the vessel a pair of skis (à la hydrofoil) for extra speed. Given the narrowness of the screenplay, this is all but pointless.



• Sub standard game?

● GRAPHICS AND SOUND

Basically, all the sprites are awful. The ship moves in a baffling style and realism has clearly been thrown straight out of the porthole. Some of the underwater enemies are so abysmal as to make it impossible to identify them plausibly.

Even by C64 standards the sound is dreadful, restricting itself to that 'pingy' noise submarines make in World War 2 movies, as well as dreary crashes every time something explodes.

● OTHER VERSIONS

Thankfully, we were unable to load the ST version. *The Deep* is also on the Spectrum and CPC. We couldn't imagine that these versions would be any better, given the limited gameplay.

● EXPRESS VERDICT

This really is an abysmal effort. Interest is short-lived since it's all too simple and repetitive. This would have been dreadful five years ago. Today, it's unforgivable.

✪

John McCleary

JUG

MICRODEAL

ST - £19.95dk
Out soon on Amiga

Microdeal, the software house behind the infamous vertically-scrolling *Goldrunner II* (*Express* issue 19), has now turned its attention to a horizontally-scrolling shoot-em-up/arcade adventure in the guise of *Jug*.

● GAMEPLAY

In control of a INTERACTIVE humanoid nicknamed "Jug", you're assigned with the task of saving the poor souls of the planet Spiraeus from a deadly virus (something wonderful has happened to your planet, perhaps?)

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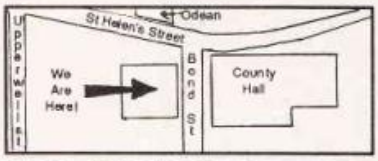

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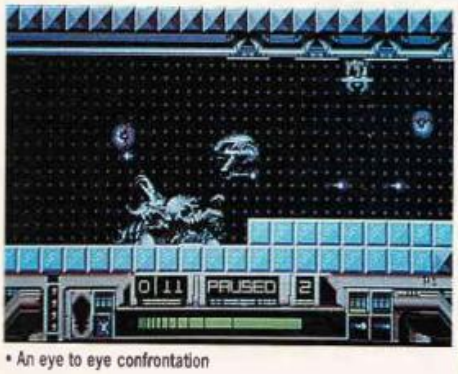


• An eye to eye confrontation

you're able to pickup and use three different types of weapon – plasma fire, laser cannon and smart bomb – as you travel through the zones of the planet.

● GRAPHICS AND SOUND

Jug's visuals are skilful, with excellent backdrop objects and competent sprites – but this quality is offset by the awfully slow execution of your sprite's movements and the horizontal scroll. The imaginative animated title screen is worthy of particular note, although it doesn't add anything to the in-game display.

Audio is split between a terrible soundtrack on the title page and tedious sound spot-effects.

● OTHER VERSIONS

No details on the Amiga version are currently available.

● EXPRESS VERDICT

Even with its above-average sprites and backdrops, *Jug*'s slow speed of execution makes for a very tiring and tiresome game which falls far short of what we expected. With Microdeal's recent batch of sub-standard (so called "mega") releases such as *Slipstream* and *Goldrunner II*, and now the disheartening *Jug*, let's hope *Fright Night* fulfils its promise when it finally arrives.

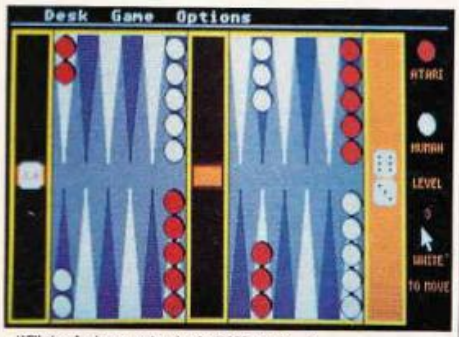
✪ ✪

Rik Haynes

BACKGAMMON

ATARI MINDGAMES

ST • T.B.A.
PC and Amiga versions planned



• Will the Amiga version be in HAM mode...?

Backgammon's been around for some 5,000 years now and has been found among the relics of Chinese, Aztec, Celtic and Mesopotamian cultures. How could it have surfaced in so many places so long ago? Easy. Backgammon's from another galaxy.

● GAMEPLAY

Playing *Backgammon* is simplicity itself. After choosing whether to play the computer and fixing the difficulty level, it's merely a matter of clicking on the piece, holding down the left button and moving it to the desired point. You wait a short while for the machine to make its move and continue.

You can also set up desired positions to play through, print out and replay games from scratch, change levels at any point, swap sides, move back and restore moves. If you're prone to a little punting, there's also a doubling cube for whacking up the stakes to 65536 times the original pot.

● GRAPHICS AND SOUND

Graphics are also simplicity itself. There's nothing that could be described as anything more than functional – but then you wouldn't expect anything more would you? There's no sound either. None needed.

● OTHER VERSIONS

No other versions released as yet.

● EXPRESS VERDICT

A straightforward sim of a deceptively simple game, which should appeal to anyone wanting to while away a few hours whilst improving their chances of beating the dice at their own game.

✪ ✪ ✪

Andy Storer

HUMAN KILLING MACHINE

D.O.A.

US GOLD

Amiga £14.99dk
Also on ST, Spectrum, C64, CPC

● GRAPHICS AND SOUND

Something approaching terrible. Animation's smooth enough, but then we're only talking about a handful of sprite frames against a static background. Neither is there even any spot-effect sound for all the crunching kicks and pows. Just an inane backing track.

• Don't matter who he is – just 'it 'im

At least there's little doubt as to what treats this little number will serve up.

● GAMEPLAY

From Moscow to Amsterdam to Barcelona to Munich to Beirut, all there is to do is kill – and in the words of the package blurb, 'Carve out a path of destruction as you battle to stamp your supremacy...' This boils down to another beat-'em-up where you punch and kick your way through a variety of opponents. And...er...that's it.

● OTHER VERSIONS

Apart from the ST version, which we haven't seen, the 8-bit outings do a little more justice to their respective machine specs. But this is a travesty on the Amiga.

● EXPRESS VERDICT

An unoriginal, unexciting and unacceptable release. Truly unimpressive.

✪

Andy Storer

PACLAND

QUICKSILVA/GRANDSLAM

Spectrum • £8.95cs, £12.95dk
Also on C64, CPC, MSX
Out soon on ST, Amiga

Pac – the star of *Pacman* the cult coin-op, *Pacman* the cult TV cartoon series and *Pacman* the (cult?) breakfast cereal – is back with a vengeance in *Pacland* – the cult horizontally-scrolling arcade adventure coin-op from Namco.

● GAMEPLAY

Pac is a walking "Smiley" badge with a mission: to reunite a lost fairy with her fairy-folk back in fairyland (ah!). To achieve this quest, Pac must travel through towns, mountains and deserts while avoiding his/her/its arch ghostie enemies: Inky, Blinky, Pinky and Clyde.

On his travels, Pac will have to feed his addiction to fruit, negotiate various natural hazards and evade ghosties on foot(?), in cars and flying in planes!

● GRAPHICS AND SOUND

Audio-visuals are authentic to the coin-op parent. The sprites and backdrops are reasonably drawn and animated, and the foot-tapping (but ultimately annoying) soundtrack is very accurate.

● OTHER VERSIONS

C64 *Pacland* has been out some time, and is a good playable conversion complemented by decent audio-visuals. The CPC, MSX, ST and Amiga versions also look as though they will follow the trend set by the C64's and Spectrum's faithful conversions.

● EXPRESS VERDICT

While *Pacland* is not as good a game as *Pacmania*, it's still a cute, playable and enjoyable game which is should appeal to male and female pre-teen gamester alike (not that we would endorse any preconceived gameplayer stereotypes).

✪ ✪ ✪

Rik Haynes

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The Pirates of PC-DOS

Dave Langford contacts the spirit world, and brings us an operatic masterpiece

I was playing round with a joke program to produce computerised ouija-board messages (you generate random letters with the correct distribution frequency for English, and let the spelling checker make its best guess at each word). Imagine my surprise when I began to receive astral-serial communications from Sir William Schwenck Gilbert of Gilbert and Sullivan fame, who is trying to finish a new, topical and posthumous operetta. Here is all I can remember of his draft libretto for *The Pirates of PC-DOS*.

This opens with software pirates debating an apprentice who's been signed up with them on his 21st birthday – which is today. But since DOS accepts no dates existing before 1 January 1980, they argue that the poor guy can't clock up 21 years and escape his indentures until 2001. "We've bugs and glitches met in flocks. But none to beat this paradox!" Then comes a song as the buccaneers plan their foray into data theft...

A rollicking band of pirates we,
Who, tired of BASIC and of C,
Are trying our hand at burglaree
With weapons grim and gory.
We are not hacking for bankers' gold,
A story pays much more, we're told:
We seek a royalty fiftyfold
From selling our hacking story!

The grim and gory weapons are duly distributed:

Take your modem and your cable kit,
Your BIOS manual – helps you tweak that bit –
Your disassembler and your DEBUG seize,
Take your disk with the algorithmic keys

Against these miscreants, however, are ranged the stout-hearted men of the Federation Against Software Theft, all somewhat surprisingly equipped with golden hearts full of sympathy for the wicked...

When the enterprising hacker's not a-hacking
At the Stock Exchange or starting World War III,
He loves to hear his Sony Walkman quacking,
Or to watch the Blues of Hill Street – as do we –
When the copy-breaker's flogged a stolen copy,
He loves to scan the third page of The Sun;
Ah, forgive us that we're pardonably stroppy:
A FASTman's lot is not a happy one.

The ensuing debacle is confused by the entrance of a Sorcerer who does a self-advertisement routine:

My name is A Solomon (Doc),
I'm a dealer in panic and shock,
In rumours of piracies,
Charms against viruses:
Placebos always in stock!

This is in turn interrupted by the Mikado himself, who has strong personal views on prison reform – "something humorous and lingering, with boiling oil or molten silicon" –

The software pirate and overpriced vendor,
Their dooms are just the same;
For they're made to fight through endless night
With an obsolete video game:
At Kong, Invaders, Frogger, Defender,
Each hapless felon strives,
On a duff machine with flickery screen
And a poke for fewer lives.

My object all sublime,
I shall achieve in time,
To let the punishment fit the crime,
The punishment fit the crime!

After some backchat from Sir Clive Pooh-Bah ("My family pride is something inconceivable. I can trace my ancestry back to a protoplasmal primordial membrane keyboard."), there enters a mysterious figure who seems to have strayed from yet another production, and who launches into something called the Sucrose Patter Song.

If you ask me how to rise in this hardware enterprise and become a mega-star,
I say, fill the papers' pages with some sentiments outrageous, never mind just what they are.
So a scheme that's hardly practical for selling weapons (tactical) means column space for free –
Then in headlines that are shockers you may castigate the "knockers", and it's all publicitee!

And everyone will say,
As you walk your flagrant way,
"If that young man gets quoted even on the BBC,
Why, what a most particularly famous man that bearded man must be."

Then does your product need improving?
Still you keep the boxes moving and don't ever tell a soul:
But ensure each media mention is designed to shift attention from your quality control.
Though the magazines may grumble, you will never take a tumble while the punters all admire
Your delightfully outspoken words of confidence unbroken – in a cockney accent, squire.

And everyone will say,
As you walk your rough-hewn way,
"If that young man needs elocution lessons just like me,
Why, what a most particularly unspoilt man that bearded man must be!"

Enter, at this point, the Lord High Executioner, cooling his motherboard with a large Japanese fan, and...and...will someone please take this libretto away from me before the lawyers do?

NEXT WEEK

Comms
Get the best out of your modem! The Express guide on How to be a Smart Comms User

History of the ST
How a STar was born

DeLuxe Paint III
The man who made it all happen

Your machine
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Shoot from the Lip... *the week's most quotable sayings*

"Hollywood Poker contains a zoom-in feature – because Germans are pervies."
US Action's Howard Newmark dubious theory on the new German strip poker game

"Computer studies now is a subject which is tackled by a declining number of students in search of an ill-defined objective."
TES's Nick Evans on the declining popularity of computer studies in schools

"It is a matter of grave concern that our culture is defining computers as pre-eminently male machines."
Celia Hoyles, author of *Girls and Computers*.

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Philips 8833 Med Res Colour Monitor – Excellent Buy	£249.00
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