Issue 151 • 28th September 1991 • £1.50

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• PC
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* THE SHOW *

*A unique Show dedicated to the world of Acorn and BBC computers with both existing and potential users in mind.

*A Show which brings together the best and latest in the Acorn market ranging from the widely used and much loved 8-bit computers right through to the up-to-the-minute 32-bit machines.

*A Show fully supported by Acorn Computers themselves who will be sponsoring many of the technical and informative activities.

*A Show presented in association with BBC Acorn User Magazine, a long established and respected publication, well informed on BBC and Acorn computer matters.

*A Show designed to entertain as well as provide opportunities for purchasing a wide variety of hardware and software, often at special Show prices.

* A Show NOT to be missed!! *

* THE FEATURES *

*Fantastic Theatre providing on-going product information, computing techniques and tips, entertainment, competition prizes, celebrity spots and much more, all with a light hearted flavour.

*Personal appearance by CAROL VORDERMAN all day Saturday and LINFORD CHRISTIE and friends on other days subject to sporting activities.

*Computer problem "Clinics".

*Fabulous Games Arcade and High Score competitions. (Try the VERY LATEST games for the Archimedes).

*BBC Acorn User Magazine "Editor's Office".

*Schools Projects including in-house production of the unique BBC Acorn Show newsletter.

*Club Corner.

*Mock Classroom with Schools' activities.

*Rest-Your-Legs lounge area.

*Competitions.

*FREE Show Guide with all adult tickets.

MUCH, MUCH MORE

* THE EXHIBITORS *

*Exhibitors represent many of the leading companies in the Acorn world. You will find;

*Software houses and distributors with programs covering the range from games right through to sophisticated desk-top publishing or image processing.

*Acorn appointed dealers with their own special offers and deals, and some from Acorn Computers themselves.

*Special peripheral manufacturers and distributors.

*Publishers and Clubs.

*Consumables and Accessories.

MANY MORE

* THE VENUE *

There are fewer places in the nation better known than Wembley. Renowned for its Stadium, Event, Exhibition and Conference facilities, the BBC Acorn User Show '91 will provide both visitors and Exhibitors alike with a first class venue.

Excellent Rail, Road and Air links make it easy for visitors to reach Wembley. Massive on-site parking (NCP) is available for those travelling by car and a free shuttle bus will operate from Wembley Park Underground Station.

A variety of snack bars and restaurants will provide light refreshments throughout the open days.

* THE CONCERT *

A FABULOUS 60's CONCERT will take place in the Grand Hall of the Conference Centre on Friday evening (11th October 1991) with legendary groups HERMAN'S HERMITS, and THE BRUVVERS with the great MIKE BERRY.

Bring back the memories, sing along with your old favourites and generally let your hair down. See the Exhibition during the day and stay on for the Concert in the evening. DON'T MISS THE FUN!

Why not see the Concert and stay in London overnight and visit the Exhibition on Saturday. A great way to enjoy a trip to the Big City.

Concert tickets are all one price at a modest £10.50 each and are available from the Wembley Box Office - Tel. 081 900 1234.

* TIMES AND PRICES *

Tickets at Door;

Adult	£6.00
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Family (2 Adults & 2 Children)	£16.00
Under 5's	FREE

Advance Tickets - use coupon below

FRIDAY 11th October 1991 - 10.00 a.m. - 6.00 p.m.
SATURDAY 12th October 1991 - 10.00 a.m. - 6.00 p.m.
SUNDAY 13th October 1991 - 10.00 a.m. - 5.00 p.m.

Please note - Pushchairs are not allowed in the Exhibition Halls.

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28 September 1991 • Express 151

YOUR MACHINE

AMIGA

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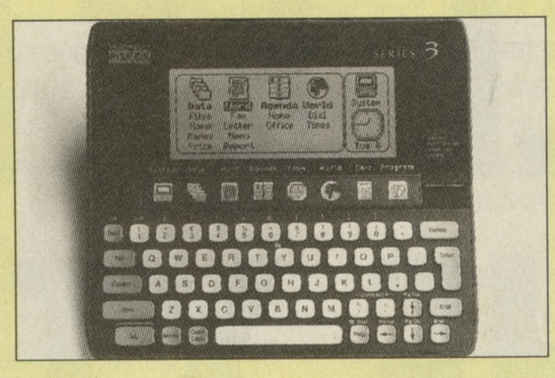


Power in the palm of your hand

Psion's Series 3 delivers unrivalled compact performance for its price – so will it become the ultimate accessory or has it arrived too late? – page 5

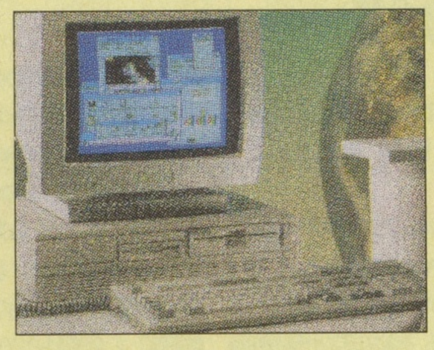
• Series 3 small, light and perfectly formed - all for only £199

THIS WEEK

News: All the latest updates – page 4-7

What's New

Battery powered floppy disk drives, high-end graphics boards and power protectors – page 8



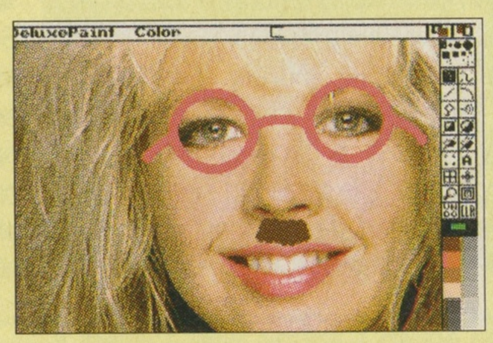
• The machines with no name - an entire low-cost range of PCs from PCML

COVER DISK 4

***Express* software: page 10 is all set to guide you in getting this week's packed disk up and running...**



THE EXPRESS FEATURE



Deluxe Paint 4 for the Amiga

The paint package that's setting the standards for graphics on all machines is here – pages 14 &15

• *DPaint 4* – painting by numbers with even more

INSIDE INFORMATION

The Amiga, ST & PC pages

All the hottest gossip about your machine plus the most valuable previews and tips – pages 49, 50 & 52

• Pieces of 24! – GVP's new 24-bit colour Amiga board

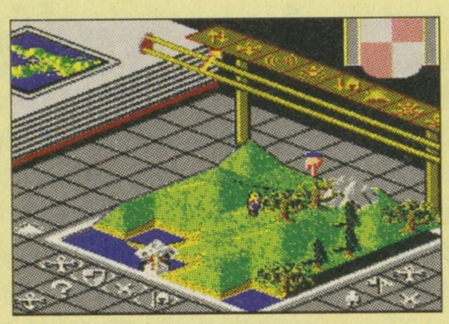


Public Domain

The essential guide to the best in low-cost software – pages 54, 55 & 56

Games Week

Dragon's Lair for the Game Boy,
Populous for the Sega Master System
PLUS: the latest news – pages 58 & 59



• *Populous* makes it to the Sega – at £35 is it worth the money for 5,000 worlds? (answer - yes!)

SHOPPING EXPRESS

16-bit reviews	**17**	**CPC**	**25**	**Consoles**	**33**
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NEWS

EXPRESS ...

Companies used to give away small plastic models which caught in your teeth, in order to sell cereal. Nowadays life is more dangerous - GST is offering a microcassette tape recorder to flog its *DeskPress* software. Let's hope that doesn't catch in anyone's teeth!

...SNIPPET

Chip up the old block

Acer International has announced that it is selling a 'Chip-Up' PC.

It is also claiming that this machine is the world's first – a claim which is easily upheld as no other company has as yet dreamt up the phrase Chip-Up.

What this means is that you buy an Acer 486SX which runs at 20MHz, and merely by fitting a new XD processor you can upgrade to a 33MHz 486DX.

The AcerPower 486SX comes with a 3.5-inch floppy, 120Mb hard drive, 2Mb of RAM and what the company likes to call Ultra-VGA compatibility. It is bundled with *Windows, MS-DOS*, a Microsoft mouse, and the Acer Disk Cache Utility (ADCU).

Acer's MD, Colin Gable, explains: "The AcerPower is the first system that allows users to virtually double processor power with the installation of a single, standard Intel processor." This is assuming that 20 to 33MHz is virtually doubling power rather than adding 13MHz.

The machine costs £3,445. The DX upgrade is £375.90. For more information call Acer on 0753 523024. ■

ST gets personal

Bay Computers has announced an enhanced version of its *Personal Database Plus*.

Although it is based on the shareware program, *Personal Database*, it is emphatically not shareware.

However, if you are registered user of the shareware version the upgrade is £7 cheaper than the commercial price – £12.95 instead of £19.95.

If you're not sure about buying the full blown system, a demo is available from many PD libraries (see *Express* PD listing on page 57 for the world's most comprehensive list of PD outlets). If you are already convinced then call Bay Computers on 0524 831162. ■

Atari rebundles games pack, updates Family Curriculum

A LITTLE EXTRA FOR THE XTRA

Atari re-affirmed its intent to make the ST an all-round machine in the eyes of the public with news for two of its major hardware/software bundles.

It is to add four new games to the Discovery Xtra pack. These are the hugely popular *Sim City*, which the company sees as being a crossover between straight game and eductional bundle, *Final Fight*, a straighforward beat-'em-up, *Escape from the Planet of the Robot Monsters*, a chase and shoot-'em-up and *9 Lives*, a cutesy outing. These replace *Indiana Jones and the Last Crusade, Super Cycle, Dragon's Breath and Anarchy.*

The £329 price remains the same, and the move is seen as being a way of thrusting the 520STE back into the faces of the young buyer during the run up to the incredibly lucrative Christmas season.

MORE OF THE SAME

Also adding to the arsenal of Atari's ST product line is a tie in between the Xtra and Family Curriculum pack – the Family Curriculum is advertised on the back of the Xtra packaging. This serious STe bundle is claimed by Atari's marketing manager, Paul Welsh, as being "really incredibly successful". In fact it has been such a success that Atari has run out of units to sell.

The educational bundle has also gained extra software in the form of eight new packs: Entry Level Productivity, Sound and Music, Home Accounting, Basic Programming, Word Processing, Database Management, Spreadsheet, and Programming Utilities. Each of the new packs costs £19.99 to £24.99.

PUT THE BOOT IN

Atari is not simply concentrating on the ST to up its profits and re-define it in the marketplace. Along with the new selling slogan "Seriously more than just a games machine", comes another, double-edged piece of ad-speak which is set to sell the colour hand-held Lynx. Based on the American advertising campaign, the slogan is: "Are you still playing that same old game boy?"

This can quite easily be read in two ways. First, as a straighforward, and rather bland question as to whether you are sticking with the 'same old game'. But second, and more interestingly because it declares Atari's perceived competition: "the same old Game Boy".

Apparently, Atari deems that Nintendo's mono hand-held Game Boy, which Paul Welsh described as a "good machine to doodle with", and "a time filler", is their market target rather than the colour Sega Game Gear.



•Adding four new games to its Xtra pack, Atari aims not only to sell more games, but to increase Lynx sales

GOOSE IS GETTING FAT

So, with Christmas on the way and no news from Commodore on its main offering for the seemingly unassailable Amiga, Atari's rehashed bundles and £2 million advertising campaign could be good news for all ST owners . On the other hand, the public may well not rise to what is simply a re-packaging. ■

The Mac has it all sewn up

This strange, black, spaceship looking device is in fact an embroidery machine – the latest Macintosh peripheral.

The Personal Original Embroidery Machine (POEM) is not just an excuse for an arty acronym, it is a high-tech piece of hardware which can be run from any Mac with 2Mb of RAM, a hard drive, and Mac embroidery software.

The system costs £750 and should keep you in cushion covers for years to come. For more information call Macsolutions on 0535 690001. ■



EXPRESS ...

Fat-mag, *Computer Shopper*, got it wrong when it said that it had reviewed, and critically murdered, a GoldStar PC recently. It got the wrong GoldStar, reviewed an unbranded PC from a retailer rather than the major Taiwanese corporation. At least that's what Silica tell us, and they sell the real things.

...SNIPPET

Amstrad's £87m law suit

Amstrad is flexing its corporate muscle in an attempt to win £87 million in a law suit.

It is suing California-based drive makers, Seagate, for loss of reputation and, of course, money.

The case relates to Seagate's ST277R hard disk drivers which were fitted to PC236s. Amstrad is alleging that these dodgy drivers forced it to recall 7,000 machines.

Seagate is not lying down and roiling over however, it claims that the action is "without merit" and that it will contest the suit.

Amstrad badly needs to protect its reputation which has been under constant attack in the media, and more importantly, in the City of London, since the company began trading in the late 60s.

With news that the company has had to write-off some £20 million of unsold stock, and is likely to announce halved profits of around the same figure next month, it needs all the help it can get. ■

School's out for CD-ROM

If you are still at school, or have a child who is, then make sure you get in touch with the head-teacher, and get them to call Hitachi. Failing to do this could see you missing out on a free CD-ROM.

The CD is MS-DOS, and RISC.OS (the Archimedes operating system compatible) and contains the full text of the Bible, 300Mb of demo software, several 32-bit images and utilities for the Archie, as well as audio data.

Hitachi is not being totally charitable however, and it admits it: "The disk is being sent out to promote Hitachi's CD-ROM drives which have been recommended by the DTI/NCET's 'CD-ROM in Schools' scheme".

If your school has not received a CD, contact Hitachi New Media at Hitachi House, Station Road, Hayes, Middlesex, UB3 4DR, or call 081-849 2092. ■

Mouse tailored for toddlers

Whether or not they needed one, children have now got a mouse of their own.

Called the Kidz mouse, it comes from Logitech and is said to be tailor-made for the toddling user of the 90s.

EXPRESS...

WordStar has set up a customer hotline on 0932 850555 for problems and solutions with the world's second most popular word processing software. It's open from 9am-5pm.

...SNIPPET

It is PC-compatible and has been ergonomically designed for "smaller hands". Instead of mouse buttons, the artifact has 'ears' which the kiddies can press to get the pointer to perform actions.

To avoid disturbing any of the grown-up mice which might be installed on the PC, the pint-sized version has to be activated by the child entering its name on a menu. This means that the device is not active all the time.

Kidz will be available just before Christmas in the USA – just in time for pressie-buying season. It costs $79 (approx £50) and is expected in the UK next year. ■

Visit Iceland and live a little!

It might come as a shock to people who always thought of Iceland as one of the most boring countries in the world, that the country is to have the world's most advanced tourist information system.

Countries like the United States might claim that £600,000 (the price of the new Apple Mac-based system) is a little low to merit claims of 'World's most advanced' but that isn't worrying the Icelanders.

Their Travel Monitor system uses touch-screen technology, as well as the voice of the world's most advanced Icelander, Magnus Magnusson. Graphics, video, sound and text are all incorporated in the new system.

Twenty five Travel Monitors will be placed at locations around the country in Spring next year and will use several European languages to convey the delights of Iceland to visitors.

Just in case you are thinking of taking a flying visit to the land of cod and... cod, you should pay a call to Keflavik airport to see the Travel Monitor in full swing.

Finally, the Apple Centre Glasgow is a prime mover behind this trail-blazing use of multimedia in the public eye. Managing director, James Dawson, says: "Our involvement with the Icelandic Government is a major step forward in our plans for continued growth into the 90s. The new venture will give Iceland, where tourism represents 14 per cent of the economy, the most modern tourist information and monitoring system in the world".

Good news for tourists every where is that, if a £600,000 system is considered to be a major national investment, and the most advanced system in the world, the future for such systems is immense in countries such as Italy, France, or even the UK. ■

Latest organiser from yuppie trend originators is set to put them back on top

PSION OF THE TIMES

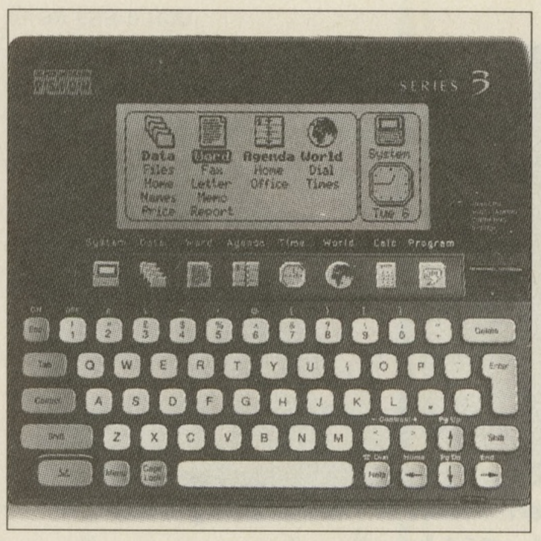
Psion, the company which bought us the Organiser – the electronic equivalent of the FiloFax™ – launched two new 16-bit machines, called Series 3, this week.

And according to Psion's CEO, Sir David Potter, the new machines are: "... the world's most powerful pocket-sized computers". He continued, in a prophetic mood: "Eventually pocket computers will be carried by everyone and to fulfil this potential, advances in hardware miniaturisation, software utility and functions, and the user interfaces to access this power are required."

THE PSION ROARS

The Series 3 hand-helds are much in the same mould as the Organiser-bashing Sharp IQ and Atari Portfolio.

Rather than the upright boxiness of the machines which put the name Psion on the lips of every other stockbroker, barrow-boy and computer user, the new computers are lightweight (265g) and look like compact mirror cases.



• Psion's new Series 3 range of hand-helds could restore a flagging reputation in the public eye, and offer a threat to the Portfolio

The basic sub-£200 machine measures 6.5-inches by 0.9-inches – about the same size as a game of Travel Scrabble.

An impressive 128 or 256K of RAM is complemented by two on-board Solid State Disk Drives (SSDs) which are capable of storing up to 4Mb of data.

Bundled with the hardware comes several built-in applications including a MicroSoft *Word* compatible word processor, a database, the OPL programming language which is already used with the Psion organiser range, and enables the user to program the systems Graphic User Interface (GUI), there is also a calculator, and a time management system.

The utilities are accessed via touch-pad icons at the top of the machine. However, the diminutive keyboard does make actual use of the comprehensive applications a finicky task to say the least.

TALK TALK TALK

Communication with MS-DOS based machines is achieved using the Flash Filing System (FFS) via the optional RS232C interface.

Links have also been designed which will enable the machine to interface with Macs, modems, STs and Amigas among other machines. Access to Telecom (now BT) Gold, and other electronic mail services is also provided via a number of built-in scripts.

HELP IS AT HAND

Psion needs a boost back into the populist computer business. Its once famous Organiser range has been caught and overtaken by such machines as the Sharp IQ and Atari Portfolio. In fact the Organiser was beginning to look downright clunky when compared to these other machines.

Psion's range of MC1000 computers never caught the public imagination in the same way as the Organisers, and were not in fact pitched at the user in the street.

Equally serious for the company were reports such as that printed in *The Financial Times* late last month which reported a drop in profits and trouble on the horizon for the company.

However, the Series 3 machines, with 80C86-compatible NEC V30H processors, LCD screens and 384K of ROM-based applications software signal a re-birth of the company's reputation in the public eye.

Prices for the two machines are £199.95 for the 128K version and £249.95 for the 256K machine. ■

Nippy optics

Hitachi has announced a revolutionary advance in data transfer.

Called the APD, the optical system can transmit data at a breathtaking 10 Gigabytes (Gb) per second.

That is 36,000,000Mb an hour – the equivalent of 450,000 80Mb hard drives transferred in about the same time as it takes you to have lunch.

The system is based on the groundbreaking Iridium Gallium Arsenide (IGA) foundation .

Tests were carried out over a 100Km distance and the data was found to be in tip-top condition when it reached its home. ■

Big Blue gets the human touch

In a move which could bring the feeling of the stock exchange or an air traffic control room, Big Blue, as IBM is known, has launched a touch-sensitive screen for its range of PS/2 personal computers.

The 8516 Touch Screen is a 14-inch colour monitor which can be used with input from a stylus, pencil or even a human finger.

IBM UK's personal systems manager, Howard Ford, says of the system: "Most touch displays currently in the marketplace incorporate overlays which can introduce problems with parallax or dimmed colours. IBM's pressure transducer technology leaves the viewing area on the screen completely unchanged".

He continued to extol the systems virtues: "Uniquely, the 8516's touch function records not only where the screen has been touched, but also how hard; the harder you press, the faster you can scroll through a list".

The ability to use touch is achieved via fitting the system not only to the standard display port but also to the standard PS/2 mouse port – the mouse can be fitted in parallel to the system.

A major upside for owners of PS/2s is that no special adaptors are required to fit the system.

Accompanying the 8516 on the scene are two new colour displays for its range: these are the 8515 and 8518. Both are 14-inch models. The 8518 supports standard VGA, while the 8515 which step up from that, and make use instead of the new XGA standard.

Good news for health conscious users is that ELF (Extremely Low Frequency) and VLF (Very Low Frequency) magnetic field emissions have been cut on all the new displays.

The price for the 8516 is £1,119. The 8518 costs £563, and the 8515 costs £678. ■

Philips DEC'd

Philips Electronics Information System Division is to be sold to the American PC giant DEC.

After months of deliberation, the European Commission has agreed to terms for the sale. It has also announced that this approval does not mean that it intends to allow either firm to "create a dominant position for itself in the European marketplace".

Philips IS division is just one of the massive Dutch company's operations. Its most public area at the moment is its Interactive Multimedia division, responsible for the development of Compact Disc Interactive (CD-I) system. This is not affected by the deal. ■

Competition for CDTV and CD-I

NEC of Japan is developing a new angle on the multimedia revolution.

Called the PC-VCR, the machine does not travel up the by now well worn path of CD, as is the case with Commodore's CDTV, and the Compact Disc Interactive (CD-I) school of thought. Instead it uses the more familiar VHS video standard.

Effectively it is a video cassette recorder (VCR) which can be controlled directly from a PC.

New developments for the system include a software add-on from multimedia developers, Jam. It has produced an interface which enables the hardware to work with IBM's latest multimedia device, the M-Motion Video adaptor.

It is claimed that M-Motion will allow video to be displayed on a straightforward PS/2 personal computer screen.

ALL THINGS TO ALL PEOPLE

Sources within Jam are claiming that its software, along with M-Motion and the PC-VCR will lead to a combination of video taped graphics and sound with computer produced text and animation to create presentations.

Jam president, John Marszlek said: "There is lots of video material. Also the PC-VCR is one-tenth the cost of most multimedia development systems, in comparision to $7,000 to $8,000 cost of the IBM InfoWindow or Sony ViewSystem. Although the PC-VCR might be as much as one third slower than CD-ROM, it is still of interest, especially in training and information displays".

However, with the increased production of CD-ROMs from companies such as Matsushita, Hitachi, Toshiba, Commodore and Philips and with laserdisk movies becoming all the rage in the US, this looks like too little too late.

An Amiga armed with the soon-to-arrive A690 CD-drive and a Genlock could quite happily carry out the same tasks for the same cost, with less reliance on third party software. ■

EXPRESS ...

Apple founder, Steve Wozniak is adding 5,000 sqft to his 7,000 sqft mansion. Secret tunnels are part of the deal.

Perhaps underground complexes are all the rage among hi-tech company execs. Microsoft's Bill Gates has a massive one too

...SNIPPET

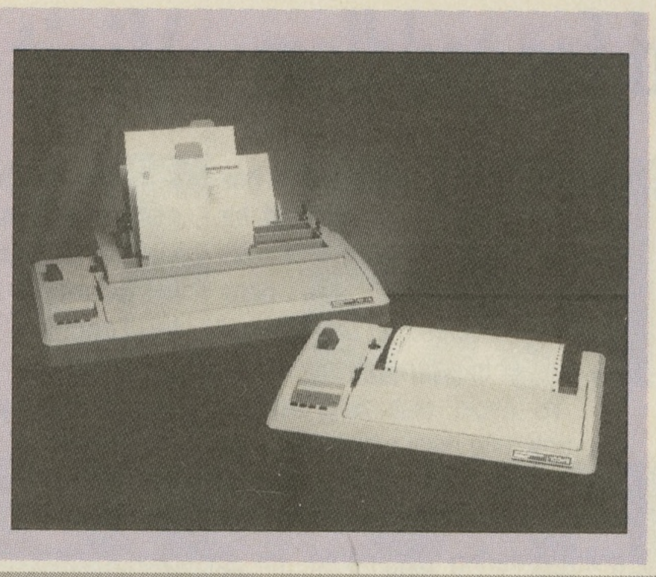
Tally ho

Mannesman Tally has cut the price of its MT130 range of 9 and 24-pin dot matrix printers.

£30 has been slashed from the cost of MT131/9, the MT130/24 and the MT131/24.

As well as this, paper handling has been improved, new fonts have been added and noise levels have been reduced.The new prices are:

MT131/9	old price: £509	new price: £479
MT130/24	old price: £569	new price: £539
MT131/24	old price: £679	new price: £629



EXPRESS ...

The mighty WordStar International is not having a good time of late. It has just announced a loss of $7.5 million (approx £5 million).

This is up, or down depending on how you look at it, on last year's £4.5 million (approx £3 million) loss.

...SNIPPET

Ancient and revered 8-bit gets a boost with Terminator 2

ARNIE BEEFS UP COMMODORE 64

Commodore's plans to pep up its ancient and revered 8-bit computer, the C64, seems to have taken a turbo charge with news of the addition of *Terminator II* to a new bundle.

However, the bad news for people considering buying the C64 is that the price is likely to rise from £99 to £119.

AHEAD OF THE PACK

Express reported in issue 143 (way back on the 3 August) that Commodore UK's managing director said exclusively: "There are some very, very exciting plans for the C64 home computer this Christmas... they are probably the most exciting plans for the machine in five years". It now transpires that these plans include Arnold Schwarzennegger in his role as a T800 Terminator.

The Ocean game, which has been met with a mixed critical response, will not be alone in the bundle. Also included will be graphics software called *Image System* , and a slice of audio programming called *Modern Music Maker*.

Commodore is making strenuous denials that any such pack exists. However sources close to it, and among its distributors, are convinced that Christmas will see the *Terminator* judging C64 owners left right and centre.



• ***Terminator II* – an exciting addition to the C64 bundle**

TO BE CHEERFUL

The reason for the Commodore denial appears to be that the company considers such as leak of information would damage present sales of its C64 bundle.

The inclusion of these new titles with the C64 will take the machine away from the debacle of the C64GS console which was seen to damage Commodore's otherwise near perfect reputation in the home computer market. In effect, it re-affirms the company's committment to its 8-bit.

OCEAN OF NEWS

Another piece of C64 related news will bring smiles to the faces of those who already own the machine, rather than those thinking of buying it.

Major UK software house, and the force behind *Terminator II*, Ocean, has announced that from 14 October it will be slashing 25 per cent from all C64 cartridges. Once again this must reflect the poor showing of the console. But nevertheless, it bodes well for users.

The cartridges, or carts as they are known, which can run quite happily in the C64 home computer, will plummet from £19.99 to £14.99. Six games are available on cart: *Batman the Movie, RoboCop II, Shadow of the Beast, Chase HQ2, Navy Seals, Toki* and *Space Gun*.

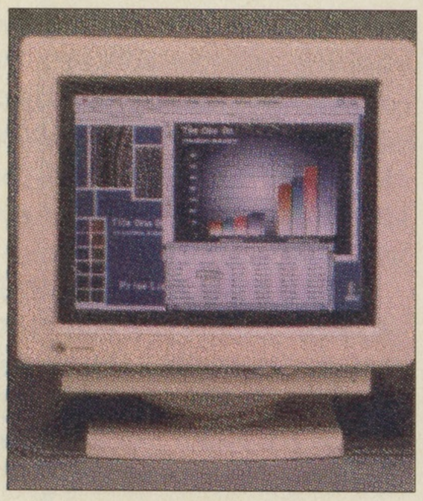
However, new games are expected both before and after Christmas. ■

E-machine monitor for the Mac makes fitting easy

The E-Machines ColorPageE16 monitor, is Mac-compatible and comes with 640x480, 832x624 or 1024x768 pixel screen resolution.

It has a built-in video interface for the Mac IIsi or IIci. The fact that no separate interface card is required for the system means that costs can be kept low when fitting it.

Price is £1,195 for the 16-inch beauty. For more information call the distributors, Heyden and Sons on 081-203 5171. ■



• **Keep your costs low with E-machine's monitor**

DPAINT IV IS UP FOR GRABS!

Just because some idiots have pirated Electronic Arts' *Deluxe Paint IV* doesn't mean that the rest of us can't get the real McCoy legally.

So, in a bid to ensure that *Express* readers are getting the best software possible, we have not only reviewed *DPaint* on pages 14 and 15 – so that you can see for yourself whether or not it's worth having for your Amiga – we, and Electronic Arts are also offering 10 packs for free.

That's right **10** free copies of *Deluxe Pain IV* will go to the first **10** correct answers to the following to come out of the bag:

Q: Was there such a person as Jackson Pollock or was his name made up to sell lager?

That's it... So send your answer on the back of a postcard to: *DPaint* Me, *New Computer Express*, 30 Monmoth St, Bath BA1 2BW.

The end of an era dawns as veteran publishing house shuts its doors

CRASH AND ZZAP! GO DOWN HARD

Don't bother searching the shelves for *Crash* or *Zzap! 64* next month because they won't be there.

Along with *PrePress* for the Macintosh, *Games Master International*, for strategy game fans, and *Raze* for consoles, *Crash* and *Zzap!* have ceased to exist.

The publishing company behind the titles, Newsfield, has gone into what co-founder and director, Oliver Frey, called: "voluntary liquidation" with the loss of some 45 jobs and assets estimated at £500,000.

In the early to mid-1980s*Crash* and *Zzap!* are generally accepted as having laid the foundations for 8-bit computer leisure magazines as we know them today. Circulations of 100,000 and 70,000 copies a month were common in the boom years. But it all went sadly wrong because the company failed to move with the times.

No one at the company was prepared to comment on what would happen to outstanding subscriptions to the titles. However, a creditors meeting is planned for 15 October.

If you have an outstanding subscription then contact the appointed receivers, Kidsons Impey, on 061-236 7733 and ask for Ian Clarke.

BAD LAUNCHES

Speaking shortly after the 45 Newsfield staff were stunned with the news that they no longer had jobs, Oliver Frey commented: "There are so many factors involved. Really what happened is that we just discovered we were insolvent."

In fact during a company search carried out by *Express*, it transpired that the last time Newsfield's declared audited accounts was September 1988 – almost three years ago.

And in the view of Companies House: "The companies latest filed accounts are too old for an assessment". A complaint to this extent had been lodged with the relevant authorities.

Frey continued in his description of the reasons which lead to the demise of his company: "We did some bad launches and made some mistakes, oddly enough not in the computer market".

He blamed magazines such as *Movie*, the video listings title.

Newsfield's committment to 8-bit machines such as the Spectrum and C64 was never in question. However, it was seen as being late in launching into the 16-bit market. *The Games Machine* and *Raze* never took off in the same way as *Crash* or *Zzap!* in their heydays.

According to Frey: "*The Games Machine* never really sparked for us, and I don't think that *Raze* was ever really what we wanted".

STUNNED STAFF

Although Newsfield is remaining generally quiet about the whole affair, *Express* managed to get one employee to talk about the situation. However he refused to be named because: "I've got to look for a job now".

He told *Express*: "We were all called into the main editorial room, and this guy, I assume he was the receiver, told us that Newsfield was insolvent and couldn't go on. No-one was expecting it. I've been there five years, but some people had only just been taken on to launch *Sega Force* and *Nintendo Force*. We were all totally shocked."

THALAMUS THREAT

Newsfield also owns software house Thalamus. This company was responsible for *Sanction* and *Armalyte*. The future of Thalamus was hanging in the balance as we went to press. However, it is understood that the company had been given 48 hours to get its house into order. This time began on Tuesday 16 September.

THE FUTURE

The unnamed source also told us: "I understand that the directors are treating *Nintendo Force* and *Sega Force* as the major assets and will either try to sell them on, or maybe launch a new company. They would have to do this under another name of course. As for *Crash and Zzap!*, I think that they were under negotiations to sell them, but that they couldn't agree a price. I can't see them going on".

Although the demise of *Crash* and *Zzap!* is a sad piece of news it should not unduly worry 8-bit owners. The market is far from dead as the success of magazines such as *Commodore Format* and *Your Sinclair* shows. ■

EXPRESS ...

The American's are getting mighty annoyed about what they see as one-sided Japanese trading. More Nippon-made computers are hitting the US than ever, and the Americans want increased tariffs. However, a canny insider has pointed out that the 50th anniversary of Pearl Harbour and an election are fast approaching.

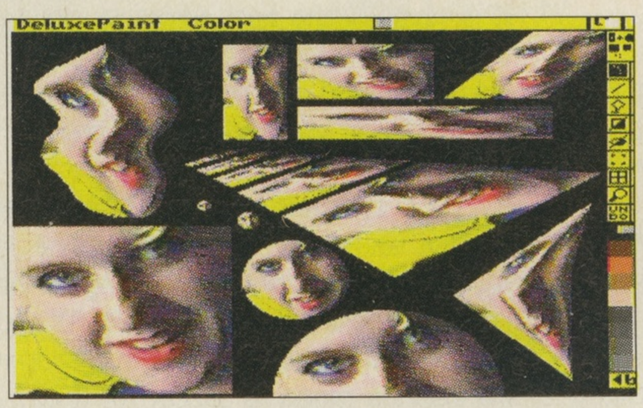
...SNIPPET

DPaint piracy

The imminent arrival of *DeluxePaint IV*, the biggest Amiga software launch outside of the leisure industry for sometime, is being marred by pirates.

It is known that three sub-standard versions of the software are already in circulation. Although these pale imitations claim to be the original, they are merely hacked versions of *DPaint III*, hacked versions of a demo, and a beta-version which somehow crept out of Electronic Arts offices.

According to EA's European MD, Mark Lewis: "All pre-release software from us is fingerprinted, we will soon be expecting to source the origination of this leak". And the culprits will be brought to book. ■



• Don't even think about getting a hookey copy of the best paint package ever. Turn to page 14 and 15 for a full review and then enter the *Express'* competition on page 6 to win a FREE copy

Super man!

Just when you thought it could get no better, the Rendale 8802 genlock for the Amiga has been upgraded.

According to Marcam which distributes the genlock, the Rendale is now 'Super'. New features include: Super VHS in/out, composite in/out, fade Amiga to black, fade video to black, cross fade, cross wipe, fore/background mode, fade out Amiga/ video.

The price is £599.99. Call Marcam on 081-941 6117. ■

Croucher feature

One of home computing's best known characters is back on the scene with a winning scheme.

Mel Croucher, a one time contributor to the pages of *Express*, has launched Addware.

The first Addware title to be launched will be *Airmania* on the ST, PC and Amiga. Not only do you get to play the game for free, just like PD, but you could also win a round-the-world air ticket if you beat the game. The PD library, BBS or individual who supplies the game to the winner also wins the same prize.

According to Croucher, the reason for Addware is: "Full price software is dead. Budget price software is dead. Commerical software is dead. Their putrid corpses stink. I should know, I was their father."

Airmania, will be followed with *Europa 1992* and the person who wins this game stands to gain a 13th Century French chateau.

For details contact Addware at PO Box 1992, Southampton, S09 7XH, or phone the Addware HQ on 0703 441 763. ■

Shoot from the lip

"As you all know, I am shackled by the corporation I work for" **Atari UK's managing director, Bob Gleadow, bemoaning the fact that head office in the States still wants to be involved.**

"We didn't expect it all to turn around in one year, though it would have been nice" **A WordStar spokesperson talking about the company's rather grim last year.**

"Japan continues to be a free-loader... " **Richard A Gephardt, leader of the Democrats in the US House of Representatives, doing his bit for American foreign relations.**

"Humanising this (mouse) technology for children will help prepare them for the important task of dealing with the important task of dealing with computers as adults."
Logitech doing a hard sell on its new Kldz mouse.

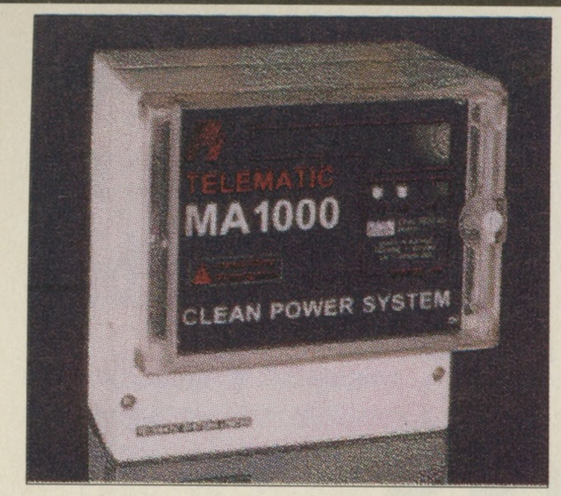
"Newsfield has ceased trading. The receivers have been called in. I say receivers, it could be liquidators" **The only person left manning the switchboard at failing Newsfield has everything clear in his mind.**

"It's a real bummer" **Anonymous Newsfield hack on being sacked.**

NEW PRODUCTS

WHAT'S NEW

Hardware with a soft user-friendly centre? Software with hard business-like applications... the best of the latest products for your computer are here



• Spikes, surges and brown-outs, all words of fear for the computer user. Protect yourself with the MA1000 CPS

Power corrupts

PRODUCT: Spike/Surge protector
NAME: MA1000 Clean Power System
COMPATIBILITY: All users

If you are really serious about your computing, or in fact any of your electrical goods, then protection against electrical surges and spikes should be top of your priority list. These disturbances can do immense harm to data, and in some extreme cases to your hardware as well. They can occur at any time, with no warning.

This is where Telematic's MA1000 Clean Power System (CPS) will come in handy. It is not one of those trifling little plug attachments which sticks out of the wall at an ungainly angle – just right for the vacuum cleaner to run into. It fits directly into your mains electrical supply and protects your house or business.

It comes in two configurations: a single phase giving over 1,200 joules protection, and a three-phase set-up giving 1,700 joules. There is also an optional board which provides self-testing, surge counting, audible warnings and remote monitoring facilities.

Price: £219 (single phase), £298 (Three-phase), £95 (optional board)
Availability: Now
Target users: Anyone who wishes heavy-duty protection against electrical disturbances.
Contact: Telematic: 0727 833147
Perceived competition: Nothing within this price range.

That's magic!

PRODUCT: Graphics boards
NAME: Merlin 3D
COMPATIBILITY: PC

From the makers of the legendary NOB Box comes Merlin, a range of graphics boards aimed at getting the highest possible, near CAD-station quality image manipulation from the standard PC.

Merlin comes from Datapath, a company which has an excellent record in the production of hardware add-ons for the PC.

The range consists of four boards: Merlin CAD 25, a 25MHz board which comes with 4Mb of DRAM (Dynamic Random Access Memory), the CAD 33 (a 33MHz version), the CAD 25 8, which has 8Mb of DRAM, and the 33 8.

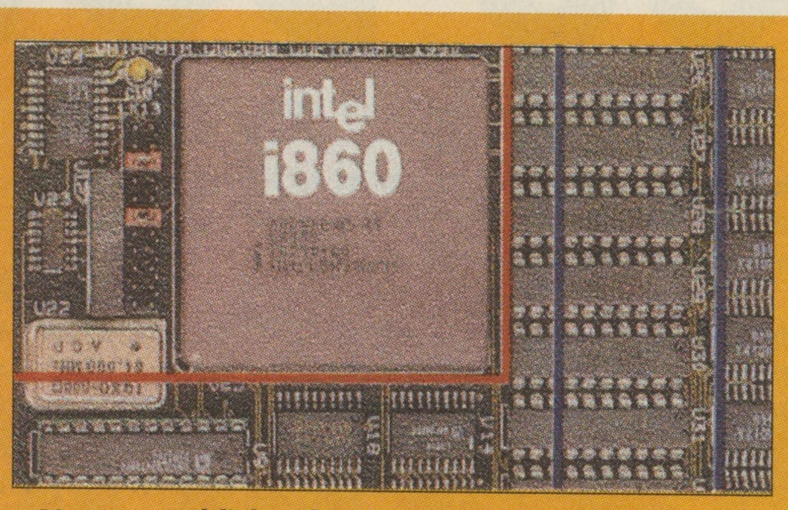
Basically, Merlin enables the dedicated CAD users to carry out 3D work using the AutoCad 1.1 system.

Using extensions to AutoDesk's (the maker of AutoCAD) development system (ADS) drawings can be transferred to Merlin, for full 3D manipulation.

This means that full rotation of wire-frame images can be achieved in real time.

The Merlin boards are based on Intel's i860 RISC (Reduced Instruction Set Computing) processor, and the Texas Instruments TMS34010 chip which work in unision.

Ideally the system should be used with the NOB Box system, which enables PC users to use multi-angle views. In effect this gives more precision than a mouse or puck and tablet because the angles can be individually programmed.

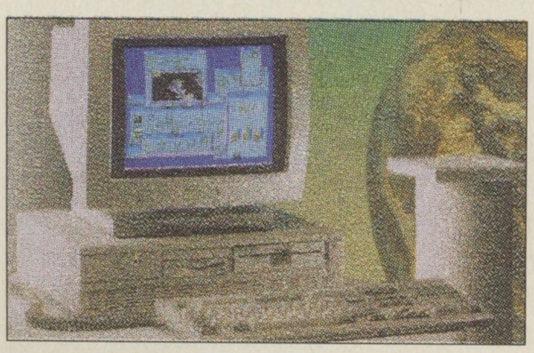


• Ventura Publisher for the PC. A window on to high quality desktop publishing at long last? And there are three subsidiary packages to go with it

Price: Merlin CAD 25/4 (£2.995), 33/4 (£3,495), 25/8 (£3,695), 33/8 (£4,195)
Availability: Now
Target Users: Computer Aided Design users who require high-end, 3D graphics manipulation
Contact: Datapath: 0332 290667
Perceived competition: Graphics workstations

A machine with no name

PRODUCT: PCs
NAME: NS range
COMPATIBILITY: PC



• What's in a name after all? This range of unbranded PC s could well be the answer to your problems...

It is normally the best advice to aim for brand names. However, in this era of tightened belts, and over-charged credit cards, paying that bit extra for a name might not be the wisest of ideas.

This is where the PCML range of desktop and tower PCs could come in handy. There are six in the NS range at the moment. These include a 286, 386SX and 386DX (that means a 25MHz machine) in the desktop range, a 386DX (at 33MHz) tower, and new 486 desktops.

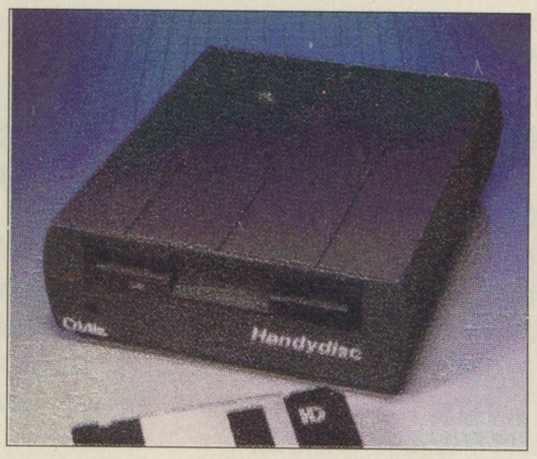
The machines are aimed initally at systems builders rather than individuals, so price is on application (if you'll pardon the pun). All NS PCs come with seven expansion slots, and eleven bays for the addition of peripherals. RAM is 4Mb upgradable to 64, and there is also a 64K RAM cache.

Price: On application
Availability: Now
Target users: Primarily systems builders.
Contact: PCML: 081-864 3600
Perceived competition: Brand name, and ready built PCs.

Handy hand-held

PRODUCT: Disk drive for hand-helds
NAME: HandyDisk
COMPATIBILITY: Psion, Portfolio

Users of hand-held machines such as the, Atari Portfolio (yes the one seen hacking banks in the cutesy *Terminator II*) and the Psion range have long been looking for some reliable form of magnetic storage which will also enable them to transfer data to home PCs without the hassle of cables and interfaces.



• The HandyDisk will make users of handhelds feel like they actually belong to the computer using community

The 3.5-inch HandyDisk attaches to the hand-held, and even to more sturdy machines such as the Husky Hunter, via the RS232 serial port and is treated as a logical drive.

It can read both 720K and 1.44Mb drives, both of which are standard to most to PCs nowadays.

It comes with a built-in battery power supply which gives up to four hours of life in continous usage It can also be powered via a car cigarette lighter. It has also been designed to be carried around!

Price: £199
Availability: Now
Target users: User of hand-held machines such as the Atari Portfolio, Psion, or even the Husky Hunter..
Contact: Cristie Electronics: 045 382 3611
Perceived competition: None. There is no other 3.5–inch drive which is both mobile enough, and can transfer data directly to PC, to compete with HandyDisk.

Press ganging

PRODUCT: Desk top publishing
NAME: *DeskPress* upgrade
COMPATIBILITY: PC

GST has upgraded its *DeskPress* DTP software so that it now copes with networking, has more fonts and extra support for extra memory. A good product is made even better.

Price: £327.82 (upgrade £35)
Availability: Now
Target users: Desktop publisher
Contact: GST: 0480 496789
Perceived competition: The Ventura Publisher range of DTP kit looks like the best to knock this off its perch. ■

CITIZEN

ALWAYS A GOOD IDEA

Silica presents some great offers on the award winning range of high quality matrix printers from Citizen. Each Citizen printer is built in the UK to exacting standards, ensuring superb reliability and output. Our confidence in Citizen's quality is such that we are pleased to include a 2 year guarantee with every printer. Plus, if you buy a Citizen printer from us, we will give you the Silica Systems Printer Starter Kit (worth £29.38), *FREE OF CHARGE!*

FREE DELIVERY
Next Day - Anywhere in the UK mainland

FREE STARTER KIT
Worth £29.38 - With every Citizen printer from Silica.

2 YEAR WARRANTY
Silica offer a 2 year warranty (including the printer head) with every Citizen printer from Silica.

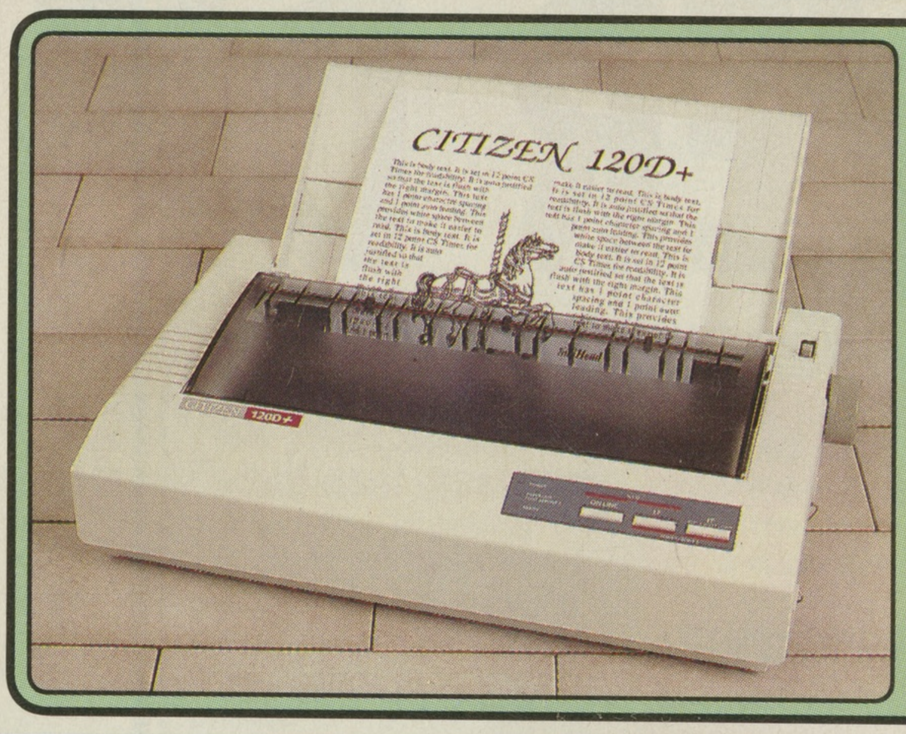
WINDOWS 3.0
Free Windows 3.0 driver.
Included with the Silica Starter Kit.

FREE COLOUR KITS
With every Swift 9, 9x, 24 or 24x printer.

FREE HELPLINE
Technical support helpline open during office hours.

MADE IN THE UK
Citizen printers are manufactured to high standards.

DOT MATRIX & NOTEBOOK PRINTERS



9 PIN PRINTER

144 CPS **80** COLUMN

- *Citizen 120D+ - 9 pin - 80 column*
- *144cps Draft, 30cps NLQ*
- *4K Printer Buffer + 2 Fonts*
- *Parallel or Serial Interface*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *Pull tractor & bottom feed*
- *FREE Silica Printer Starter Kit*

RRP: £199
STARTER KIT £25
TOTAL RRP: £224
SAVING: £95
SILICA PRICE: £129

The 120D is supplied with a parallel interface. If you require a serial interface instead, please state when placing your order.

£129
+VAT=£151.58 ref: PRI 2120

NOTEBOOK PRINTER



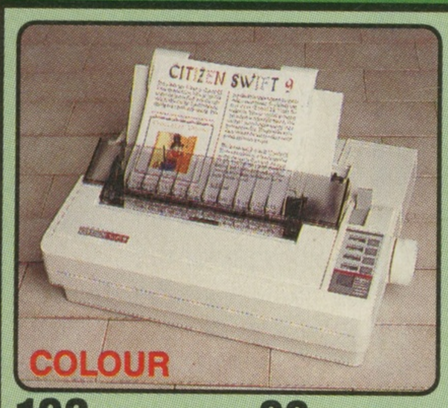
64 CPS **80** COLUMN

- *Citizen PN48 Notebook Printer*
- *Non-impact Printing on Plain Paper*
- *LASER QUALITY - 64cps*
- *4K Printer Buffer + 2 Fonts*
- *Rear and Bottom Paper Loading*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson, IBM, NEC P6 & Citizen Emulations*
- *Powered From Mains, Battery or Car Adaptor*
- *FREE Silica Printer Starter Kit*

RRP: £325
STARTER KIT £25
TOTAL RRP: £350
SAVING: £101
SILICA PRICE: £249

£249
+VAT=£292.58 ref: PRI 2100

9 PIN PRINTERS

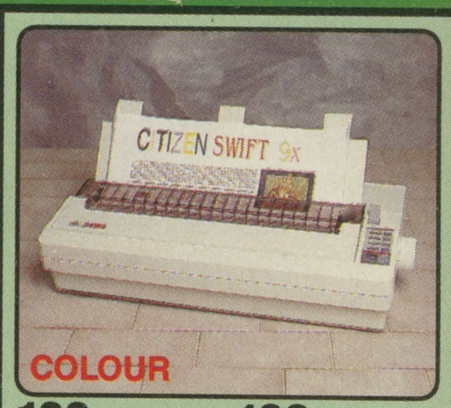


192 CPS **80** COLUMN

- *Citizen Swift 9 - 9 pin - 80 column*
- *192cps Draft, 48cps NLQ*
- *8K Printer Buffer + 3 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *FREE Colour Kit*
- *FREE Silica Printer Starter Kit*

RRP: £239
COLOUR KIT £38
STARTER KIT £25
TOTAL RRP: £302
SAVING: £113
SILICA PRICE: £189

£189
+VAT=£222.08 ref: PRI 2209



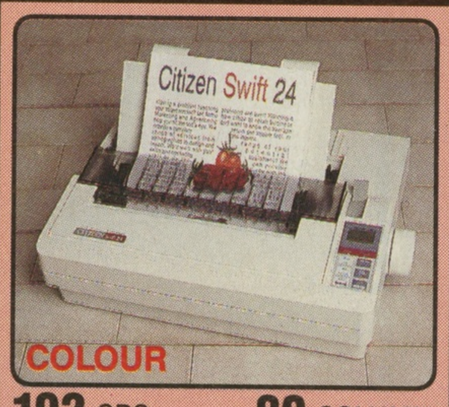
192 CPS **136** COLUMN

- *Citizen Swift 9x - 9 pin - 136 column*
- *192cps Draft, 48cps NLQ*
- *8K Printer Buffer + 3 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 240×240dpi*
- *Epson and IBM Emulation*
- *A3 landscape printing - FREE Colour Kit*
- *FREE Silica Printer Starter Kit*

RRP: £329
COLOUR KIT £41
STARTER KIT £25
TOTAL RRP: £395
SAVING: £146
SILICA PRICE: £249

£249
+VAT=£292.58 ref: PRI 2309

24 PIN PRINTERS

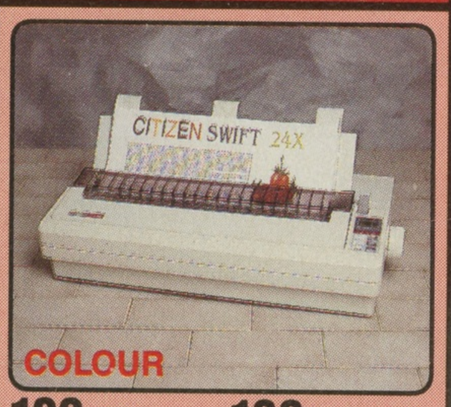


192 CPS **80** COLUMN

- *Citizen Swift 24 - 24 pin - 80 column*
- *192cps Draft, 64cps LQ*
- *8K Printer Buffer + 4 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson and IBM Emulation*
- *FREE Colour Kit*
- *FREE Silica Printer Starter Kit*

RRP: £365
COLOUR KIT £38
STARTER KIT £25
TOTAL RRP: £428
SAVING: £169
SILICA PRICE: £259

£259
+VAT=£304.33 ref: PRI 2524



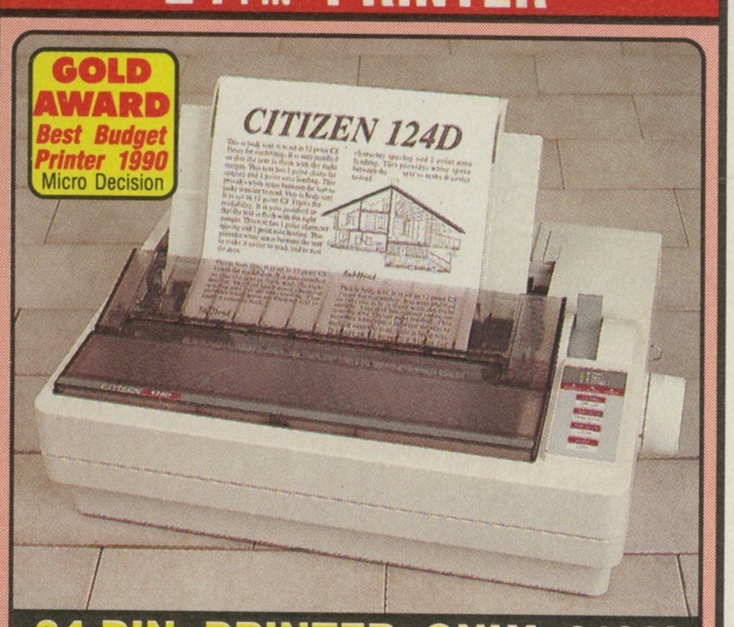
192 CPS **136** COLUMN

- *Citizen Swift 24x - 24 pin - 136 column*
- *192cps Draft, 64cps LQ*
- *8K Printer Buffer + 4 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson, IBM and NEC P6 Emulation*
- *A3 landscape printing - FREE Colour Kit*
- *FREE Silica Printer Starter Kit*

RRP: £489
COLOUR KIT £41
STARTER KIT £25
TOTAL RRP: £555
SAVING: £206
SILICA PRICE: £349

£349
+VAT=£410.08 ref: PRI 2574

24 PIN PRINTER



144 CPS **80** COLUMN

- *Citizen 124D - 24 pin - 80 column*
- *144cps Draft, 48cps LQ*
- *8K Printer Buffer + 2 Fonts*
- *Parallel Interface*
- *Graphics Resolution: 360×360dpi*
- *Epson and IBM Emulation*
- *FREE Semi Automatic Cut Sheet Feeder*
- *FREE Silica Printer Starter Kit*

RRP: £249
CUT SHEET FEEDER £40
STARTER KIT £25
TOTAL RRP: £314
SAVING: £145
SILICA PRICE: £169

£169
+VAT=£198.58 ref: PRI 2474

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PRA1200 **120D** £71.38
PRA1215 **124D/Swift 9/24** £88.70
PRA1228 **124D/Swift 9/24** £42.00

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PRA1189 **120D+** £56.45
PRA1209 **Swift 9/124D** £32.25
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32K MEMORY EXPN
PRA1753 **124D/Swift 24** £13.10

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PRA1242 **124D/Swift 9/24** £24.03
PRA1274 **Swift 9x/24x** £30.66

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RIB 3520 **120D/Swift 9 Black** ... £3.41
RIB 3949 **Swift 9x Black** £7.15
RIB 3924 **124D/Swift 24 Black** . £4.70
RIB 3936 **Swift 9/24 Colour** ... £15.63
RIB 3248 **PN48 Single Strike** ... £4.11
RIB 3348 **PN48 Multi Strike** £4.11

COLOUR KITS
PRA1236 **Swift 9/24** £39.65
PRA1240 **Swift 9x/24x** £44.18

PN48 ACCESSORIES
PRA 1148 **PN48 Battery** £51.70
PRA1155 **PN48 Cable Extn** .... £ TBC
PRA1162 **PN48 Car Adaptor** ... £ TBC

All prices **include** VAT and Free delivery.

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FREE!

Every Citizen printer from Silica comes with the Printer Starter Kit, everything you need to get up and running with your new printer, FREE OF CHARGE!



- ***3½" Disk - Amiga & ST Drivers***
- ***3½" Disk - Drivers for Windows 3***
- ***2 Metre Parallel Printer Cable***
- ***200 Sheets of Continuous Paper***
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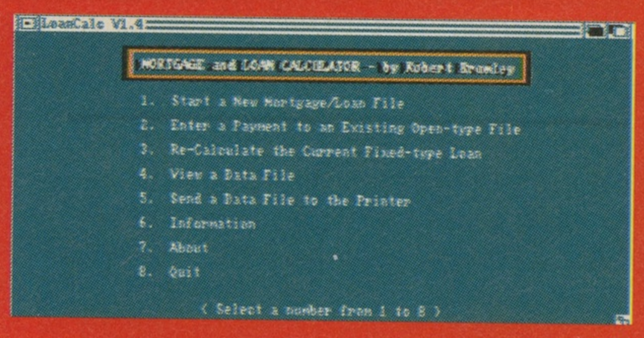
COVER DISK 4

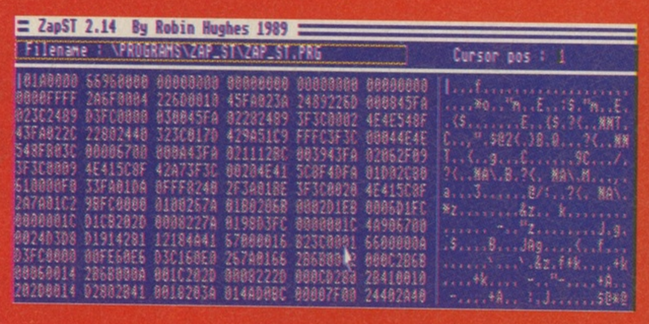
COVER DISK 4

DISK CONTENTS

AMIGA
LoanCalc



ST
Top Chart ● Snapshot ● Zap ST



PC
Air Warrior



If you're a games player or want to use your computer for more serious purposes, then there's something for you on the *Express* Cover Disk!

Each week the *Express* Cover Disk zooms into the shops splitting at the seams with software for the three most popular 16-bit machines: the Amiga, ST and PC.

This software is obtained via several different channels, including commercial demos of games and applications, Public Domain and shareware and reader contributions.

Many people have expressed surprise at the feat of having a disk that contains software for three different machines on it. That surprise is, umm... not surprising – no-one else has ever done it before. The custom disk format has been created for *Express* by Rob Northen Computing. With it we cannot only have software for the three systems on the one disk, but we can adjust the amount of disk space that we dedicate to each of those systems.

WHAT DO YOU THINK?

Although the space we dedicate to each machine depends on the size of the softwar on the disk, we'd like to hear what type of software you'd like to see filling that space. Send your ideas, or any other comments you have on the Cover Disk, to: Cover Disk Feedback, *New Computer Express*, 30 Monmouth Street, Bath, Avon BA1 2BW.

COVER DISK PROBLEMS

The *Express* Cover Disk is tested each week to see if it works on as many system configurations as possible, but because of the complex nature of the disk format some problems could arise.

If they do then write in and tell us about them, explaining what went wrong, the type of system and set-up you have and whether you have found a solution to it.

That way, we can inform other readers of the problem (and, hopefully, a solution) in the next possible issue of *Express*. And because we're a weekly magazine, you'll all be informed of these much sooner than in any other publication.

Send your information to: Cover Disk Problems, *New Computer Express*, 30 Monmouth Street, Bath BA1 2BW.

DISK RETURNS

Each week *Express* is responsible for duplicating 40,000 Cover Disks. Because of the numbers involved it is possible that some of the disks are faulty.

If this is the case, and you've exhausted all the means you know how of getting the disk working, send your faulty disk, accompanied by an SAE, to: *New Computer Express* Cover Disk 4 Returns, Disk Copy Labs, Unit A, Westmarch, London Road, Daventry, Northants, NN11 4SA.

A replacement disk will then be sent off to you within a month of the cover date of the magazine.

EXPRESS DISCLAIMER

While we strive to ensure that the Cover Disk is free of all viruses and that the programs on it work properly, *New Computer Express* does in no way accept any liability for any consequences that may arise from using the disk or the programs on it.

CONTRIBUTIONS

Because *Express* produces a tri-format Cover Disk each week, we need to have a wide range of software to put on the disk.

If you've written anything that other readers may be interested in, whether it is a utility, game, application or anything else of merit, then we'd like to see it!

Remember, anyone who contributes software that is used on the disk will be paid for – up to a maximum of £1,000. Of course, for it to earn that much it would have to be brilliant. Any takers?

If so, fill in the form at the bottom of this page, enclosing as mush information as possible on the program(s) you send in. ■

INTERESTED?

If you work for a software house or run a Public Domain/shareware company and are interested in contributing software to be used on the *Express* Cover Disk, we'd like to hear from you now! Call Tim Howell, Cover Disk editor, on 0225 442244.

FANCY CONTRIBUTING? THEN FILL IN THIS FORM

NAME: .....

ADDRESS: .....

.....

TELEPHONE: ..... (day) ..... (night)

COMPUTER: Amiga Atari ST PC The name of the program is:

SIZE OF FILE(S): ☐ K

TYPE OF SOFTWARE:
- ☐ Business application
- ☐ Game
- ☐ Music program
- ☐ Novelty
- ☐ Technical utility
- ☐ Art program
- ☐ Educational
- ☐ Other

BRIEF DESCRIPTION: .....

.....

CHECKLIST:
- ☐ README.DOC file included on disk
- ☐ Printout of README.DOC (if possible)
- ☐ Disk is labelled with your name, address, phone number
- ☐ Disk is certified virus free

DECLARATION: This program is submitted for publication by *New Computer Express*. I have totally written it myself, and I agree to indemnify Future Publishing against any legal action that may arise due to copyright problems.

SIGNED: .....

DATE: .....

AMIGA

AMIGA INFORMATION

PROGRAM: LoanCalc
DESCRIPTION: Application
DIRECTORY: LoanCalc
FILE (S): LoanCalc, LC.doc, Changes, Monthlydata, Semi-Monthly.data, Bi-Weekly.data, Weekly.data

LOANCALC

Often, getting your mortgage and loan repayments into order can be a daunting prospect. With all those numbers, fluctuating interest rates and the thought of just where all your hard earned money is going, sometimes it's hard to keep track of what's going on.

Well, now your worries are over. On the Amiga portion of the *Express* Cover Disk this week is *LoanCalc,* a program that enables you to monitor all these niggly financial details.

LOADING THE PROGRAM

Before you do anything, make sure that you have first write protected the Cover Disk (move the notch in the top right hand corner of the disk so that you can see a hole through the disk). Then, make a copy of the disk (see the instructions in the Amiga back-up copy box) and always use that copy.

Once you have copied the disk, it's a matter of inserting your back-up copy into your internal disk drive and waiting for the Workbench screen to come up. Then, once it has, double-click on the LoanCalc drawer icon to open up another window with several other icons in it: one for the *LoanCalc* program itself, another to display the documentation for the program and several others which are data files that demonstrate what *LoanCalc* is capable of.

Double-click on the LC icon to run the program.

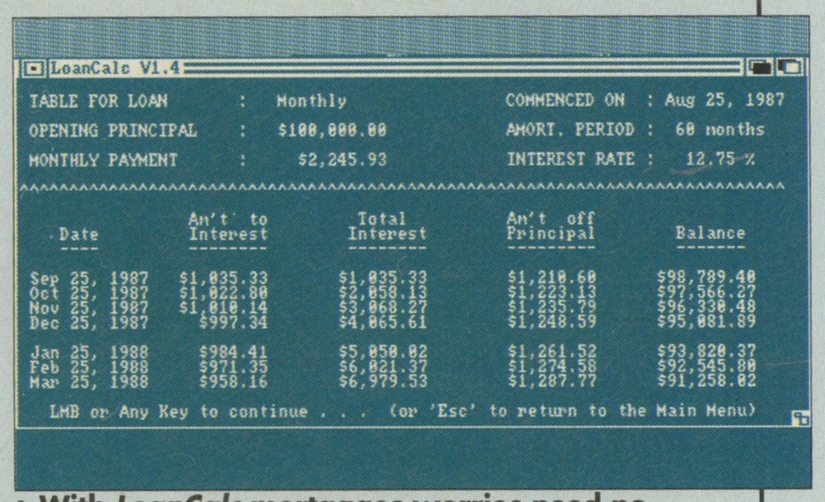
To see the documentation for *LoanCalc,* double-click on the LC.doc icon which will then display the documentation file automatically.

USING LOANCALC

Once *LoanCalc* has loaded, there are several numbered options displayed on-screen.

1 – Start a new mortgage/loan file
2 – Enter a payment to an existing Open-type file
3 – Recalculate the Current Fixed-type load
4 – View a Data File
5 – Send a Data File to the printer
6 – Information
7 – About
8 – Quit

For details of these commands there is a comprehensive document file included on the Cover Disk. To read it, click on the LC.doc icon which is in the same directory as the *LoanCalc* program. ■



• With *LoanCalc* mortgages worries need no longer be a problem. You can keep tabs on all aspects of your finances

AMIGA BACK-UP COPY

1 Start your Amiga with your Workbench disk.

2 Take a blank disk and initialise it (instructions in your user manual).

3 Now enter the CLI, by double clicking on the CLI icon that is in your System draw on a standard Workbench disk.

4 Then enter the following CLI commands to set up our working environment (remember to press <RETURN> after each):

```
MAKEDIR RAM:C
COPY C:COPY|DIR|DELETE RAM:C
COPY C:MAKEDIR|INSTALL RAM:C
PATH RAM:C ADD
PROTECT RAM:C RWE
PROTECT RAM:C/COPY RWE
PROTECT RAM:C/DIR RWE
PROTECT RAM:C/DELETE RWE
PROTECT RAM:C/MAKEDIR RWE
PROTECT RAM:C/INSTALL RWE
```

5 Once you have entered the commands and the drive light has gone out, take out your Workbench disk and put your *New Computer Express* Cover Disk in the internal drive (DF0:). To start copying, enter the following CLI command:

```
COPY DF0:#? RAM:
```

6 During copying, the machine will display a list of the files being copied. Once copying has finished, remove your Cover Disk and insert your newly formatted disk into the internal drive and enter the following commands:

```
COPY RAM:#? DF0:
DELETE RAM:#?
```

7 That's the first part of the Cover Disk copied. The next step is a bit more tricky.

Firstly, remove your copy disk and insert the Cover Disk into the internal drive. Enter the following:

```
DIR DF0: OPT D
```

The Amiga should then display a list of all the directories on your Cover Disk which will looking something like the following:

```
c (dir)
devs (dir)
l (dir)
libs (dir)
s (dir)
```

Write down this list onto a piece of paper (the '(dir)' extension is not needed).

8 With your Cover Disk in the internal drive, each directory that was listed has to be copied individually from the Cover Disk onto your copy disk.

So, as an example, to copy the c directory you would enter:

```
COPY DF0:c ALL RAM:
```

9 Now, remove the Cover Disk and insert your copy disk and type:

```
MAKEDIR DF0:c
COPY RAM: ALL DF0:c
DELETE RAM:#? ALL
```

Now repeat stage 8 for all the directories on the Cover Disk master. (So, in the CLI commands above, replace each instance of 'c' with the name of the directory to be copied). Once all the directories have been copied you will have a successful copy of the Cover Disk.

10 The final step in backing up the Cover Disk is to install it to make it bootable:

```
INSTALL DF0:
```

AIR WARRIOR PLAYER'S GUIDE

KEYPAD COMMANDS

7 Raise Flaps	8 Look Up	9 Right	- Rudder Right
4 Look Left	5 Back	6 Look Right	+ Look Down
1 Lower Flaps	2 Look back	3 Rudder Centre	Enter Front View
0 Rudder Left		. Rudder Right	

Following on from last week's Amiga and ST versions of *Air Warrior*, we have the PC version of the program. For your convenience we've printed the controls to the program across the bottom of the Cover Disk pages, so you don't have to worry about printing the document file that comes with the main program.

Once you've practiced your aerial skills at home, you can put them to the test on-line. Using a modem you can fly with, and even battle against, other pilots from all around the country.

YOUR PRE-FLIGHT CHECKS

But before you jump in and take off, it's worth finding out the controls. You can use the mouse to guide your plane through the skies by changing the position of the plane's control stick.

There are two types of keyboard commands: touch key and command line. Touch key commands work when you press the appropriate key; no other action is needed. To access command line functions, press ESC, enter the command and then press RETURN.

CLEARED FOR TAKE-OFF

Load up the *Air Warrior* program for your machine and you find yourself looking at the main menu. At this stage you may wish to try the planes out on a safe practice airfield. Just select Transport from the menu bar and then choose a fighter or bomber by pressing the buttons which appear. The display clears and after a second or two you're looking out of your craft's main windscreen.

Ahead of you stretches the runway. First press 8 or * to get the engines fired up. Bombers with more than one engine need several presses on the keys to get them all running. Once the motors are going, press SHIFT and C together to open the throttles up to maximum. After a short delay you should see the backgrounds beginning to move as you taxi down the runway. Just keep with it,

continued on the next page ➢

SOFTWARE

COVER DISK 4

ST

ST INFORMATION

PROGRAM: Top Chart
DESCRIPTION: Utility
FOLDER: ST/TOPCHART
FILE(S):TOPCHART.PRG

PROGRAM: Snapshot
DESCRIPTION: Utility
FOLDER: ST/SNAPSHOT
FILE(S): SNAPSHOT.TOS, SNAPSAVE.TOS, SNAPVIEW.PRG

PROGRAM: Zap ST
DESCRIPTION: Utility
FOLDER: ST/ZAP_ST
FILE(S): ZAP_ST.PRG

TOP CHART

With *Top Chart* you can enter numeric data and see it displayed in a number of useful ways – as a bar chart, line graph and as a pie chart. And you can use *Snapshot* (also on the Cover Disk this week) which will save the picture for you to use in a graphics or desktop publishing (DTP) package.

LOADING TOP CHART

Before you do anything, make a copy of the Cover Disk. See elsewhere on this page for details on this.

To load the program, insert your back-up copy into the drive, click on the drive A: or B: icon, depending on which drive the disk is in, and then click on the ST icon to open its folder.

You will then see three other folders on-screen, one of which is labelled TOPCHART. Double-click on that to open it, then click on the TOPCHART icon to run the program.

USING TOP CHART

When *Top Chart* first loads, it will ask you to enter up to 32 pieces of data. Enter as many numbers are you want (up to the maximum of 32), and when you have entered all the data you want to, press Q and return.

After you have entered the data, you will be asked to move the mouse to define the shape and size of the screen to put the graph in.

Then, you can move to the Display menu which will give you a choice of displaying your data as a Graph, Bar Chart, or Pie Chart. You can also label the charts by selecting a font style from the Type menu, and then go back to the Display menu and select Write. From there, enter your label or comment, press return, and then move the word(s) over to where you want to put them on the graph with the mouse.

The last menu, labelled Run/Exit, enables you to re-enter data if needed, or to redisplay it.

If you want to save the graphs, use *Snapshot* (see below) which is also on the Cover Disk.

SNAPSHOT

This handy little utility lets you save graphic screens for you to use in your own programs. It can save the screens from all GEM-based applications, it is claimed, as well as some programs that don't run under it.

The type of files that the program saves are in the .NEO format, as used by *Neochrome* and most other half-decent paint packages and graphics utilities.

LOADING SNAPSHOT

Before you do anything, make a copy of the Cover Disk. See the ST back-up copy box.

To load the program, insert your back-up copy into the drive, click on the drive A: or B: icon, depending on which drive the disk is in, and then click on the ST icon to open its folder.

You will then see three other folders on-screen, one of which is labelled SNAPSHOT. Double-click on that to open it, then click on the SNAPSHOT.TOS icon to run the program.

USING SNAPSHOT

Run *Snapshot,* as detailed above, and then load the program you want to save the screen from.

To save the screen press Alternate and Help at the same time to save the screen to memory.

Once you have made the Snapshot, you can exit the program and then return to the disk the other *Snapshot* files are in. Use SNAPSAVE.TOS to save the screen, and SNAPVIEW.PRG to view them again.

ZAP ST

Zap ST lets you do is examine files, right down to the very last byte. This is handy if you wish to change any data within a program, or if you just want to see how a file is constructed.

LOADING ZAP ST

Before you do anything, make a copy of the Cover Disk. See the ST back-up copy box.

To load the program, insert your back-up copy into the drive, click on the drive A: or B: icon, depending on which drive the disk is in, and then click on the ST icon to open its folder.

You will then see three other folders on-screen. Double-click on the ZAP_ST folder to open it, then click on the ZAP_ST icon to run the program.

USING ZAP ST

Zap ST is based on the Amiga's *NewZap, and even* imitates the behaviour of the Amiga's mouse buttons. So, to access the pull-down menus press the right mouse button, and to select a function, release the button over the function you want.

These menus enable the loading and saving of files. To load a file, go to the leftmost menu and click on load to load the file. Then, once the file is loaded the screen will display a whole load of numbers. These numbers aren't meaningless – they are the loaded file represented as ASCII data which can be edited by simply moving through the data with the cursor keys and making changes at will.

At the bottom of the screen there are four arrow icons which have the function of scrolling through the file. This means that you can gradually scroll through the entire disk, examining and editing data at will.

And you can also move forwards and backwards through the file, and move to the top and bottom of it using the four icons at the bottom centre of the screen.

It is important to remember that if you do plan on making any changes to a disk or the files on it, always work on a back-up of the disk and not the original. ■

ST BACK-UP COPY

Be warned that because the disk is a complicated format, some of these instructions could be a bit tricky.

1 Format at least one blank disk.

2 Write protect the original *Express* Cover Disk (with the notch open so you can see the hole through the disk) and insert it into the drive. If you've got two drives, insert the Cover Disk into drive B. Double click on the drive B icon to open a window showing the contents of the Cover Disk. If you've only got a single drive a message appears asking you to put disk B in drive A. Just click on OK.

3 Insert one of the blank formatted disks into drive A (removing the Cover Disk if you only have one drive). Double click on the drive A icon and open up another window. You may be asked to insert disk A in drive A - you already have, so do nothing and just click on OK.

4 Highlight the ST folder in the drive B Cover Disk window and drag it into the drive A window.

5 If you only have one drive, you're asked to insert disk A and disk B at regular intervals. Be careful not to mix the two disks up! Remember, Disk B is the original Cover Disk and disk A is the newly formatted blank disk.

AIR WARRIOR PLAYER'S GUIDE

moving the mouse to keep the plane lined up with the runway. Your flight speed indicator shows your current rolling speed; once you reach 75 knots you can gently pull back on the mouse to raise the plane's nose. Alternatively, you can sit back and wait for the plane to catch enough lift to take off by itself.

UP, UP AND AWAY

Once you're in the sky (you see the altimeter winding clockwise), press ; to retract the landing gear and that's it – you're flying. You can now experiment with the various views to find out what's out there. When you've seen enough, press ESC followed by e to exit the game and return to the main menu screen. If you think you're ready, use the File menu to get you into terminal mode where you can log on to the on-Line network and fly against a host of beginners and experts in the biggest dogfight of your life.

COMMAND LINE COMMANDS

e – Exit plane (you must be on the ground and stationary)
p – Parachute
s – Sight control
sf – Set the target width to a fighter wing span
sg – Set to gunnery sight mode
sb – Set the target width to a bomber wing span
sd – Set to dive bombing sight mode
ss – Turn the gunsight pipper off
sr – Turn the sight reticule on/off
t <number> Set the radio channel. The number must be between 0 and 999 inclusive.
/<text> Send <text> over the radio (eg. /eat hot lead).
'<text> Send <text> over the intercom to all crew members (eg. 'starting bombing run).
r – Display a roster of all players in flight
z – Switch to bombsight mode
m<number> Set the range of the radar. The number must be between 0 and 2 inclusive.
a – Arm/Disarm bombs (and open/close bomb bay doors if present)
j<a..z> Jump between turrets in a plane.
w – Where am I?
n – Display the nationalities and their icon colors
oj – Toggle analogue joystick
ot – Toggle visible tracers

PC

PC INFORMATION

PROGRAM: Air Warrior
DIRECTORY: PC
FILE(S): AIRWAR.LZH, LHARC.EXE

Type GO.BAT to see the contents of the disk.
NOTE: MS-DOS must be loaded on your system before you use the Cover Disk

AIR WARRIOR

Last week we featured the Amiga and ST versions of this revolutionary multi-user flight simulator. Now PC users have the opportunity to soar to similar heights with *Air Warrior* for their machines.

In case you missed the information on *Air Warrior* printed last week, the game enables users to log on to On-line Entertainment's system and take part in a breathtaking multi-user entertainment extravaganza.

Further details of *Air Warrior* were printed in last week's issue of *Express,* issue 150. If you missed the issue, then one can be ordered from the back issues department at: Future Publishig, The Old Barn, Somerton, Somerset. Phone: (0458) 74011.

TO START THE GAME

Before you do anything with the Cover Disk you must do two things. Firstly, write protect it (move the notch in the top right hand corner of the disk so that you can see a hole through it). And after that, make a copy of the disk for your machine – see the instructions in the PC back-up copy box.

Next the *Air Warrior* file itself has to be copied. If you go to the PC directory on the Cover Disk (type A:\ or B:\, depending on which device your 3.5 inch drive has been assigned as) you will see two files there: AIRWAR.LZH and LHARC.EXE. Both of these need to be copied to a blank, formatted disk or your hard drive.

HARD DRIVE INSTRUCTIONS

To make a directory on the hard disk to copy the files to, enter C:\ and type MKDIR AIRWAR or MD AIRWAR to create a directory called AIRWAR.

Now, go back to the A:\ drive and copy the files from the floppy to the hard drive. To do this, type: CD PC (if you're not already in the PC directory). Then enter: COPY AIRWAR.LZH C:\AIRWAR. Repeat the commands for LHARC.EXE by replacing the AIRWAR.LZH filename with LHARC.EXE.

FLOPPY DISK INSTRUCTIONS

To copy the files to another floppy disk, insert the Cover Disk and go to the A:\ drive (or B:\, depending on which drive your 3.5-inch drive is). To copy the file, enter CD PC to change to that directory. Then, type: COPY AIRWAR.LZH B: (or A:\ if you only have one drive and it is assigned as B:\).

Repeat these commands to copy LHARC.EXE across by replacing AIRWAR.LZH with LHARC.EXE in the commands above.

DE-ARCHIVING

Once you have made a copy of the disk, the AIRWAR.LZH file needs to be de-archived. Unlike the previous two Cover Disks, the files for the PC are not self-extracting.

Before you extract the file, format a blank disk to save the de-archived files to. Next, insert your back-up copy of the Cover Disk in your internal drive. Change to that drive, if you are not already accessing it.

To de-archive the file, enter: LHARC X AIRWAR.LZH B:. This will extract the file to the other drive, if you have two floppy drives (but make sure the destination drive – that is, the drive you are dearchving the file to – is a 3.5-inch drive or a 1.2Mb 5.25-inch model), or the internal drive in which case you will be asked to swap disks a number of times.

Be patient when you are asked to swap disks, as you will be asked to do this a quite a few times. The program will be extracting each time you swap disks, but because of the large size of some of the *Air Warrior* files, this may not always be apparent – there will be long periods of disk-swapping without you being informed that much is happening.

Alternatively, if you have a hard drive, you can de-archive *Air Warrior* to that. To do so, switch to the disk that you have the copy of the Cover Disk on(either A:\ , B:\ or C:\) and type: LHARC X AIRWAR.LZH C:.(directory name) The file will then be dearchived onto the hard drive reasonably quickly.

Remember: *Air Warrior* can only be extracted to disks with a capacity of 720K upwards, so this limits you to 3.5-inch and 1.2Mb 5.25-inch floppy disks, and hard drives. Once *Air Warrior* has been de-archived, you can view the documentation for the game by typing: TYPE README.

Enter AIRWAR.EXE and the game will load. *Air Warrior* can be controlled by either a joystick, mouse or the keyboard. The controls are documented in the README file, but for your convenience we have listed the main functions in the *Air Warrior* Players Guide at the bottom of the Cover Disk pages. ■

FANCY A FLIGHT? – PART 2

Fifty lucky *Express* readers have the chance to win 1,000 hours of free flight time on the *Air Warrior* on-line system. That's 20 hours each!

Last week we ran the first part of the competition, but now PC owners have a chance of getting airborne over the phonelines, as well as any other Amiga or ST *Air Warrior* players who missed out last week.

We've arranged the free flying sessions with On-line Entertainment – this would normally cost you £1.50 an hour, excluding VAT – that's more than £1,700 worth of aerial action up for grabs!

Remember, though, that to get on the On-line system you need to have a modem as well as your *Air Warrior* program.

All you have to do to get your free flight time is send us a postcard with your name, address and phone number. We'll send the first 50 replies to On-line Entertainment, who will then organise the subscriptions and on-line accounts for each user.

Send your entries to: *Air Warrior* Competition, *New Computer Express*, 30 Monmouth Street, Bath BA1 2BW.

PC BACK-UP COPY

Be warned that because the disk is a complicated format, some of these instructions could be a bit tricky.

1 If you've only got a floppy drive-based system, format at least one blank disk. Otherwise use your hard drive.

2 Write protect the original *Express* Cover Disk (with the notch open so you can see the hole through the disk).

3 Use the XCOPY command to make the backup. If you have only one floppy drive, load XCOPY from the system disk from drive A:\ with the /S option to copy the files across. So, to copy the files across type: XCOPY A:\PC*.* B: /S.Then it is just a matter of swapping disks in and out of the drive until the Cover Disk is copied. Don't worry if you think you must have two drives – the XCOPY command will treat your single drive as both, or it will copy to the B:\ drive if, in fact, you do have two drives.

4 If you have a hard drive, put the Cover Disk in drive A:\, then type: XCOPY A:\PC*.* C: /S to copy all the subdirectories to the hard drive.

AIR WARRIOR PLAYER'S GUIDE

TOUCH KEY COMMANDS

Esc – Enter command line mode
x – Enter/Exit expert flight controls mode
w – Raise the flaps one notch
e – Lower the flaps one notch
f – Fire guns
b – Drop bombs
c – Increase throttle 10%
C – Set throttle at 100%
v – Decrease throttle 10%
V – Set throttle to 0%
; – Raise/Lower landing gear
Ctrl C – Engage/Release War Emergency Power
n – Enter/Exit cockpit view during film playback.
p, F2 – Text back buffer
a – Move rudder one notch to the left (expert mode)
s – Centre the rudder (expert mode)
d – Move the rudder one notch to the right (expert mode)
1 – Use FULL picture range (displays most terrain)
2 – Use MEDIUM picture range
3 – Use SHORT picture range
4 – Use COMBAT picture range
5 – Use ABRIDGED picture range (fastest frame rate)
6 – Line Draw mode
7 – Toggle war emergency power
9 – Start/stop gun camera recording/playback
[– Decrease view magnification
] – Increase view magnification
ALT– Hold down to brake
'–Enter command mode with intercom communication
/– Enter command mode with radio communication
<, ,, w – Raise flaps
>, ., e – Lower flaps
***, 8** – Start engine
F1 – Toggle between radar and picture display
h –Look left
l –Look right
m–Look back
k –Look up
j –Look down
g –Look front

DELUXE PAINT 4

DPAINT 4: THE BEST J

Jason Holborn takes an indepth look at Deluxe Paint 4, the latest release of Electronic Art's famous Amiga paint package

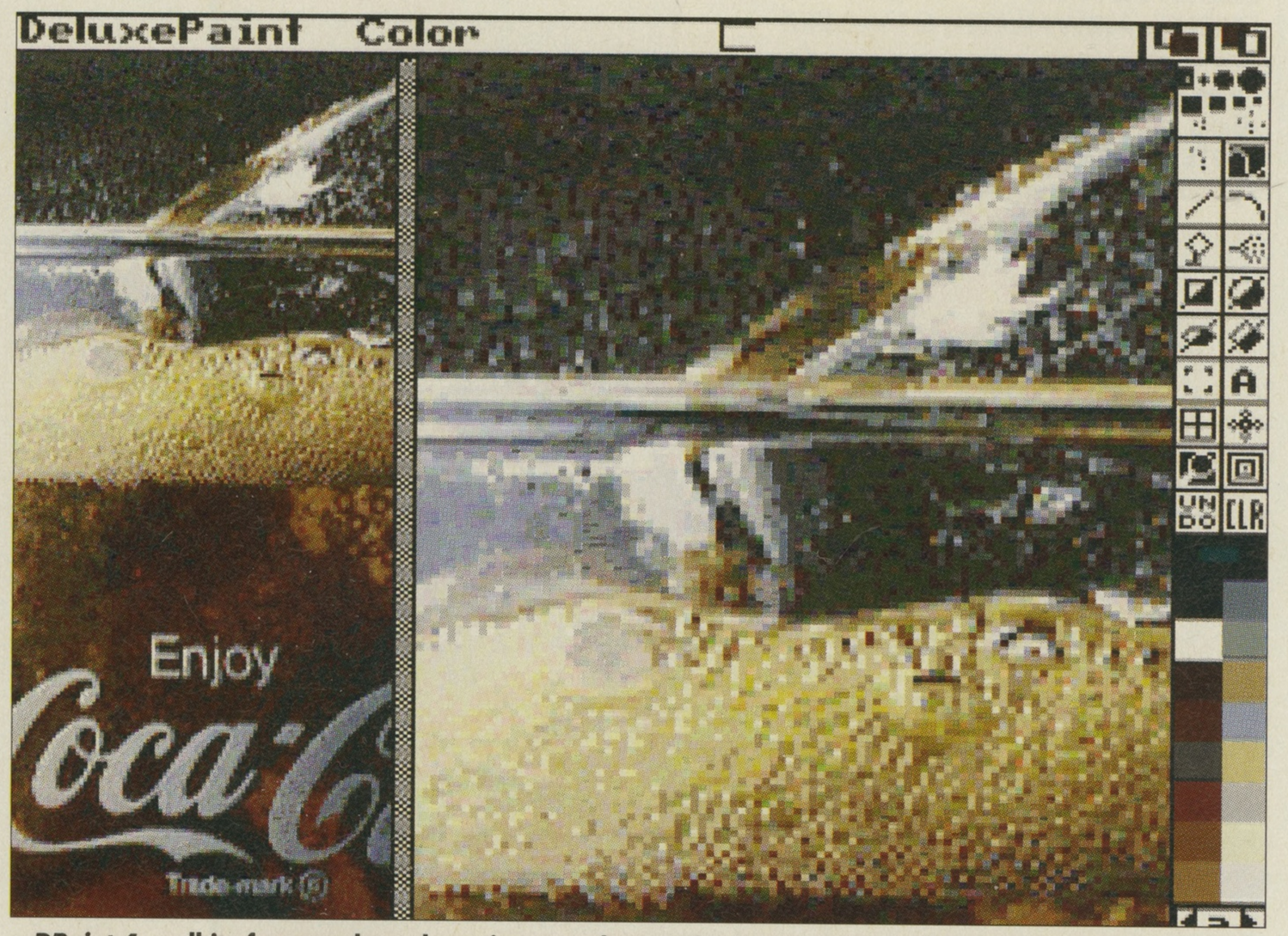
If there is a single package that everyone associates with the Amiga, it must surely be Electronic Arts' *Deluxe Paint*. During its six years of existence, *DPaint* has remained the number one choice for anyone wanting to produce high quality graphics on the Amiga. Others have tried to match it, but even today *DPaint* still reins supreme.

Despite the fact that earlier releases of *DPaint* look rather sad these days (*DPaint 1* is particularly bad), Electronic Arts (EA) has managed to keep *DPaint* at the top of the pile thanks to its policy of continual product development. Many thought that the program just couldn't get any better when EA launched *DPaint 3* back in 1989, but it's proved them all wrong with the release of *Deluxe Paint 4*.

Combining everything that made *DPaint 3* such a success with more than a handful of new tricks, *DPaint 4* looks set to continue EA's dominance of the Amiga graphics market.

EA has put a lot of work into *DPaint 4* and it really does show – if you thought *DPaint 3* was something special, then you're really in for a shock. Instead of just bolting on a few new routines (which is what most developers would have done), EA has taken *DPaint* and re-worked it totally. For starters, gone is the rather flat looking user interface that has become the trademark of *DPaint*. In its place is a very swish metallic-looking user interface that brings *DPaint* in line with the latest version of Workbench (version 2.0).

That familiar icon strip and many of the pull down menus are still there, but nearly every gadget and every requester has undergone some kind of change.



• ***DPaint 4*** **– all its features have been improved on and it has some refreshing new ones too**

BREAKING BARRIERS

Features-wise, the most major addition to *DPaint*'s armoury has to be HAM support. Up until now, *DPaint* was limited to a maximum of 64 colours on-screen at once (in HalfBrite mode), but *DPaint 4* has broken the colour barrier with its unreserved support for what is undoubtedly the Amiga's quirkiest screen mode. EA had insisted for years than HAM mode was never on the cards, but it's eaten its hat with the release of *DPaint 4*.

As a result, *DPaint* now supports all the Amiga screen modes, allowing you to create artwork in anything from 2 to 4096 colours, with every Amiga screen resolution supported including overscan. When painting in HAM mode, all the usual *DPaint* painting functions are still available, but they're made somewhat more powerful with the availability of all those extra colours. In particular, the gradient file option is totally enhanced by the presence of HAM, allowing you to create the kind of effects that even *Photon Paint* users could only dream of.

Colour control is one area of *DPaint* that has been enhanced beyond belief. Instead of the usual *DPaint* palette requester, *DPaint 4* now boasts a very powerful Quantel Paintbox-like mixing plate (an easel, if you like) which allows you to create colours by mixing others together. You can, of course, still define colours using the old and trusty method of setting up RGB or HSV values, but you'll soon grow to love this new somewhat more artistic approach.

DPaint's range controls have also been enhanced. Instead of just selecting the start and end colours within your existing palette, you can pick the start and end colours from anywhere and place them on to a range bar. What's more, you're not just restricted to just two colours – simply by placing extra colours in between the start and endcolours, *DPaint* will automatically generate rainbow-like ranges. This feature works best in HAM mode, but it's useful in other modes too.

ALL FILLED UP

DPaint has always featured very powerful gradient fill options, but *DPaint 4*'s gradient fills are miles better than those to be found within previous releases. As well as the standard horizontal, vertical and shaped gradient fills, *DPaint 4* adds contour gradients, concentric circle fills, line shading and a lot more besides. These take a little longer to work, but the results are more than worth it. *DPaint*'s gradient fills were always a little flat, but these new fills allow you to add a greater feeling of depth to your artistic creations.

Another very nice feature that works particulary well is anti-aliasing, which is a method of smoothing out the jaggies when drawing circles, etc. *DPaint* supports two levels of anti-aliasing – low and high. High gives the best results, but takes much longer. This can also be used to smooth out brushes, although it doesn't always produce favourable results. Once again, anti-aliasing works best in HAM mode.

DPaint 4 contains so many new painting tools that it would be practically impossible to list them all here. Many of them have been designed with HAM mode in mind, although some work equally well in the other Amiga screen modes.

ANIMATE!

Animation is a relatively new addition to the *DPaint* toolbox (it wasn't included until version 3), but even so EA has still managed to enhance it beyond recognition. Version 3 of *DPaint* was never really that good for creating animations from scratch, but *DPaint 4*'s new lightbox and other animation tools make the program a worthwhile alternative to dedicated animation systems like Entertainment International's (EI) *Disney Animation Studio*. For starters, animation control has been made considerably easier.

DPaint 4 now has a very handy little animation control panel that – when activated – runs along the bottom of the screen. This control panel works in a very similar fashion to the controls on a domestic video recorder, allowing you to stop, play, advance and back-track through your animation. Many of the extra animation tools can also be initiated from this control panel, making the process of creating and controlling animations far easier.

EI's *Disney Animation Studio* was the first Amiga animation program to offer true onion skin editing, but

PROVIDING THE COMPETITION

DPaint has the 32-colour paint package market practically sewn up, but there are quite a few HAM-based paint packages available.

DIGIPAINT 3 – NewTek's offering to Amiga HAM artists is a fairly capable system that has been optimised for the task of cleaning up digitised artwork. It lacks many basic painting functions, but itsease of use and powerful effects are second to none. It's also one of the fastest HAM paint system available. One thing is for sure – it certainly runs rings around *DPaint*'s HAM mode operations!

PHOTON PAINT 2 – Photon Paint has been around for more years than I dare to mention, but it still remains one of the best HAM paint packages available. Its user interface isn't quite as easy to use as either *DPaint* or *DigiPaint 3*, but it's a very capable system nonetheless. In terms of basic painting tools, it certainly gives *DPaint* a run for its money. If you can't quite stretch to *DPaint 4*, then *Photon Paint 2* may be worth investing in – these days it can be picked up for little more than £25!

T JUST GOT BETTER

DPaint too now boasts this very powerful feature. *DPaint*'s Light Table ('onion skin' is obviously a Disney trademark!) allows you to view previous frames behind the one you are working on. You just won't believe how much simpler this makes the process of drawing frames by hand – because you can actually see the previous two frames, this gives you a much better idea of how the next frame must be drawn.

Creating movement paths is also a lot simpler. Simply by holding down the ALT key and dragging your brush across the screen, *DPaint* will automatically render the movement into each frame. Very nice!

BRUSH STROKES

You may think *DPaint 3*'s AnimBrushes were something special, but *DPaint 4* still has a few tricks of its own. For starters, many of the brush operations have been tidied up considerably, making the process of using AnimBrushes so much easier. For example, you can now hold two brushes in memory at once and flick between them whenever you need to. This definitely beats having to use the sparescreen as a temporary store for brushes!

DPaint 4's answer to AnimBrushes is its new Metamorph function which – as the name suggests – can transform one brush to another over a specified number of frames. It works in a very similar fashion to the tweening process to be found within polygon-based animation programs like Broderbund's *Fantavision* and Aegis' infamous *Animator*. Simply by picking up two brushes (the first must be stored as a spare) and selecting the metamorph function, *DPaint* will automatically generate an animbrush of the transformation. This feature has some quite wonderful applications – for example, you could create some really spectacular video effects. Just imagine being able to automatically transform one page of titles to another! The mind boggles at the kind of things that this feature could create.

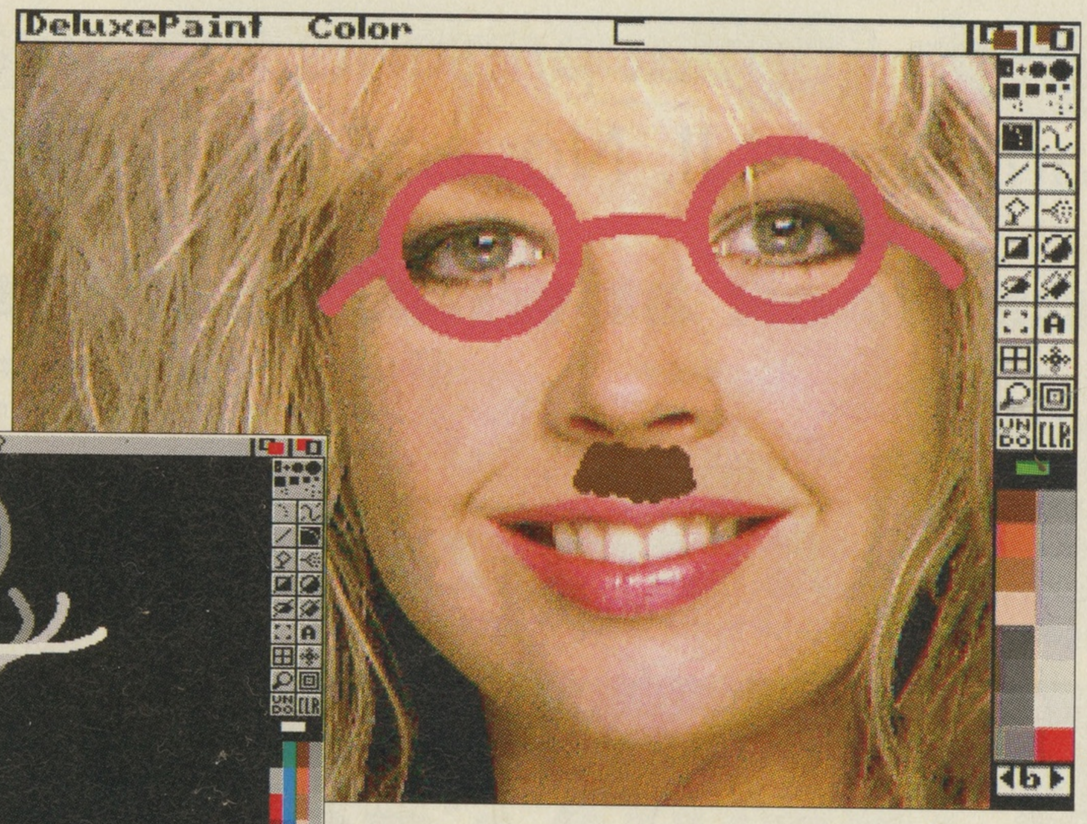
Brush metamorphosis doesn't really come into its own until you start playing around with HAM brushes. They take a very long time to generate, but boy are they worth it! When I first tried this out for myself, I picked up two different faces from a digitised image and transformed the first to the second. Creating an animation to display my animbrush, the quality of the transformation was amazing! Believe me, words really can't describe the feeling you get when you see your first HAM mode brush metamorphosis!

TOO GOOD TO MISS?

DPaint 4 certainly isn't perfect – but it's getting there. The only gripe that I could possibly level at *DPaint* is its speed of operation. Previous releases of *DPaint* were pretty swift, but HAM mode has slowed *DPaint* down considerably. This isn't a problem if you've got an accelerated Amiga, but things can really slow down terribly when *DPaint 4* is run on a standard 7.16MHz Amiga. Despite this undoubtedly quite major gripe, you'd be a fool to miss out on *DPaint 4*. If you already own *DPaint* (which, let's face it, most Amiga owners do), then upgrading to version 4 is the logical thing to do. If you don't own *DPaint*, then now is undoubtedly the time to take the plunge.

Quite simply, the new painting and animation tools that *DPaint 4* offers are just too good to miss. I for one will be sending a cheque to EA as soon as I pick my jaw back up off the floor. If you're even remotely interested in creating graphics and animations on the Amiga, *DPaint 4* is definitely the program to own. Even if you don't enjoy tinkering with graphics, it could be the program that changes your mind – it really is that good! ■

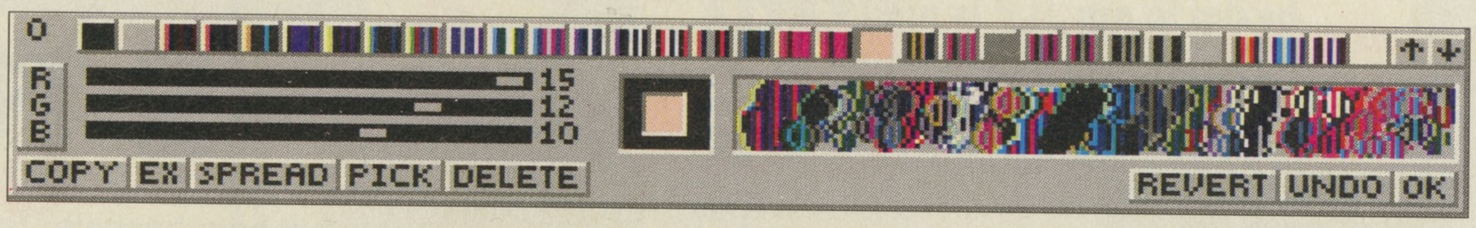
• Now you can doctor all those digitised images!

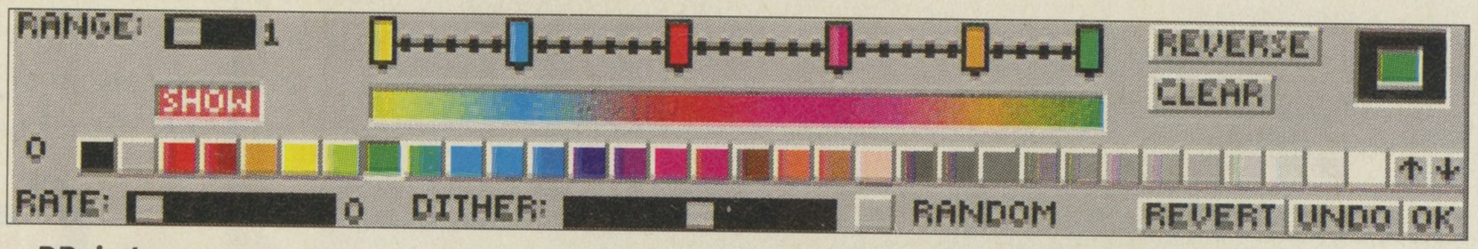


• Animations can be created far easier thanks to *DPaint*'s new light table facility and animation control panel

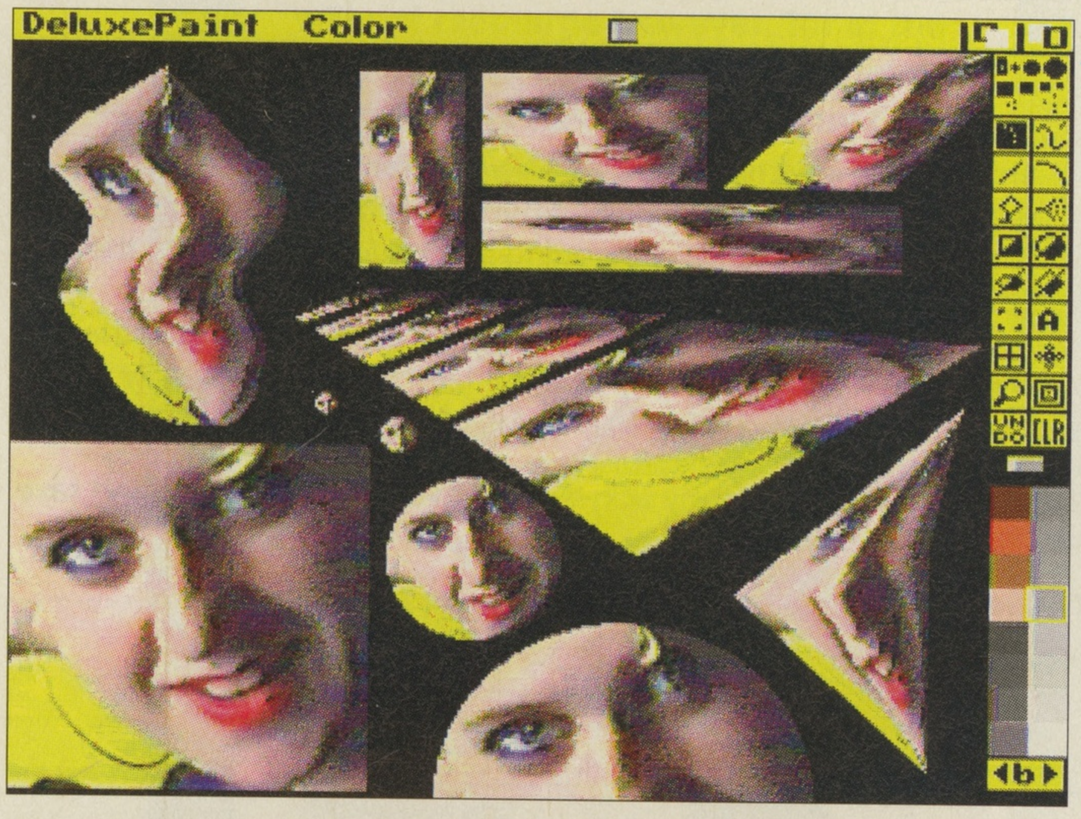


• In true Quantel Paintbox style, colours can be created by mixing others together on plate





• *DPaint*'s new range requester allows you to create ranges containing more than one colour spread



• *DPaint*'s powerful brush manipulation tools work particularly well with HAM images

VERDICT BOX

FOR

▲ New brush metamorphosis is very powerful

▲ Supports all Amiga screen modes – including HAM!

▲ Animation facilities have been enhanced considerably

AGAINST

▼ Slows down terribly when working in HAM mode

COST £89.99 **VALUE** Good



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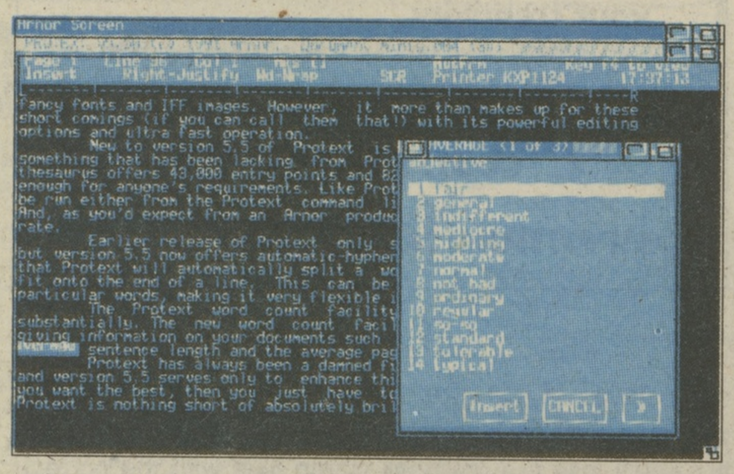
You'll think Christmas has come early!



ON A SCREEN NEAR YOU...

The latest 16-bit software and hardware reviewed in bite-sized chunks

PRODUCT: Protext 5.5
COMPATIBILITY: Amiga
FROM: Arnor Ltd
CONTACT: 0733 68909



• New to *Protext 5.5* is a powerful thesaurus, something Protext users have been crying out for

Arnor's *Protext* has been available for the Amiga for a number of years now and has established itself as the defacto standard for users looking for a fast and very powerful text processor used by professional writers worldwide.

With the release of version 5.5, *Protext* just keeps on getting better! Like *InterWord* (reviewed last week), *Protext* isn't a word publishing program. That is, it won't allow you to mess around with fancy fonts and IFF images. However, it more than makes up for it with its powerful editing options and ultra fast operation. New to *Protext 5.5* is the long awaited thesaurus, offering 43,000 entry points and 827,000 responses – more than enough for anyone's requirements.

Like *Protext*'s spell checker, it can be run either from the *Protext* command line or from pop up windows and works at a blistering rate. Version 5.5 also offers automatic-hyphenation – it will automatically split a word that will not fit on to the end of a line and can be turned on or off making it very flexible. The *Protext* word count facility has also been enhanced substantially. The new word count facility offers text analysis, giving information on your documents such as the average word, sentence and page length. *Protext* has always been a fine word processing system, and version 5.5 serves only to enhance this opinion still further. If you want the best, then you just have to buy *Protext* – put simply, *Protext* is nothing short of absolutely brilliant. ■

VALUE FOR MONEY?

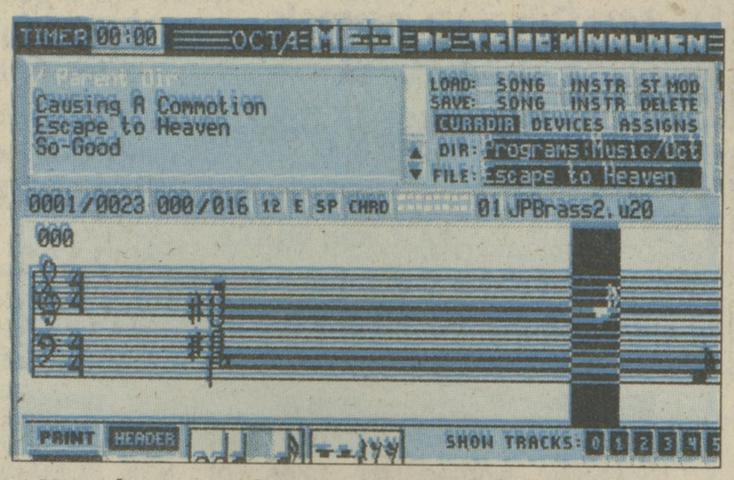
FOR
▲ New thesaurus is very useful
▲ Can be run in its own custom screen
▲ Very fast and powerful editing

AGAINST
▼ Cannot adjust screen colours on custom screen

COST: £152.75 VALUE: Good

COMPETITION: *InterWord, Excellence! 2.0, ProWrite 3.0, Transcript*

PRODUCT: OctaMed 2.0
COMPATIBILITY: Amiga
FROM: AmigaNuts United
CONTACT: 169 Dale Valley Road, Hollybrook, Southampton SO1 6QX



• You don't need a musical background to get to grips with *OctaMed 2*

Everyone knows that the Amiga is a very capable system when it comes to creating music. Whether you want to tickle the ivories via MIDI or just write a jingle or two using the Amiga's sound chip, a large number of packages are available. One of the cheapest is *OctaMed 2.0*, the latest release of Teijo Kinnunen's acclaimed Med program. Originally released as a PD program, Teijo has enhanced Med beyond belief and has turned it into a commercial release that can give any of the competition a good run for their money.

Although *OctaMed* supports MIDI, it is primarily a package designed to allow you to create fairly complex tunes using sampled or synthesised instruments played using the Amiga's internal sound chip. But what really separates *OctaMed 2.0* from the competition is its ability to play eight instruments simultaneously. Theoretically this shouldn't be possible since the Amiga only has four sound channels, but you can now create sequences (or 'patterns') using an ultra-friendly stave-based editor which is a lot easier to use than the usual hex-based editing of such programs as *Sound Tracker* and *TFMX*.

OctaMED is a great little program that is enhanced still further by its amazing price tag. The only real snag is the fact that you don't get any form of printed manual or packaging – the manual is held on disk as a text file, so it's worth printing this out if you've got access to a printer. In reality, *OctaMed* is just so easy to use that you really don't even need the manual.

In all, *OctaMed* is one of the few bargains around at the moment. If you're feeling musical, then why not check it out for yourself! ■

IS IT A BARGAIN?

FOR
▲ Very cheap for what it does
▲ Comprehensive editing tools
▲ You can play eight samples at once

AGAINST
▼ MIDI implementation is a little weak

COST: £10 VALUE: Super

COMPETITION: *Quartet, Sound Tracker*

PRODUCT: Personal Pro
COMPATIBILITY: PC
FROM: Audiogenic
CONTACT: 081-861 1166



• Is it your swing, your slice or your putt that is losing you the game? Personal Pro helps you out

PC users who are avid golfers might be able to improve their skills by using a new golf instruction program from MicroLeague. *Personal Pro* is not a game like *Links* or *PGA Tour Golf*, it is serious attempt to provide useful golf tuition on a PC.

After entering a personal profile – including age, handicap and experience – you are prompted to select the problem which is the scourge of your game. 12 ailments are catered for, from slicing to hooking, and shanking to skying, and 10 or more questions are asked about the problem, before revealing the cause and what corrective action must be taken.

Personal Pro is very thorough in its analysis. An overwhelming number of do's and don'ts are produced for each problem. It gives so many that you'd end up missing the ball altogether trying to anchor the swing, clear the left hip and maintain a constant spine angle.

A much clearer illustration of both problem and solution follows the initial barrage of instruction. An animated golfer emulates the problem – showing a simple cause and a simple remedy before your eyes. This is the best part of the program as it provides plain advice which can be easily followed.

Personal Pro is too complicated for beginners because the questions and solutions are so involved and I doubt if experienced players would cart a laptop around the course, but *Personal Pro* is a useful tool for the inevitable post-mortem on why you lost – again. ■

THE PRICE OF ADVICE

FOR
▲ Simple animated diagrams provide easy-to-follow advice
▲ Solutions are tailored to meet your requirements – and it's cheaper than consulting your pro

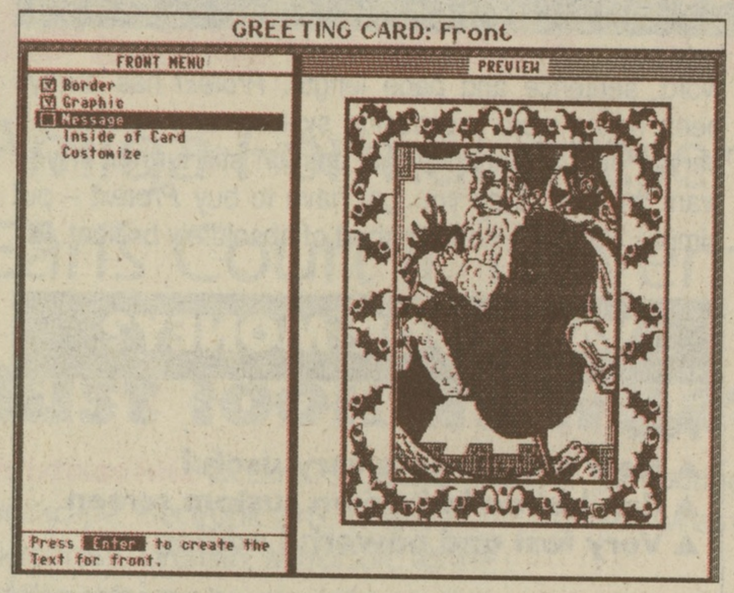
AGAINST
▼ In-depth analysis too complicated for inexperienced golfers

COST: £39.99 VALUE: Fair

COMPETITION: None known

REVIEWS

PRODUCT: The New Print Shop
COMPATIBILITY: PC
FROM: Domark
CONTACT: 081-780 2222



• **Create your own Christmas cards, invitations or even posters on your PC with *The New Print Shop***

Anyone who has a creative urge to turn their PC into a miniature design studio is well provided for with a new release from Domark. *The New Print Shop*, funnily enough, is an updated version of *The Print Shop*, and is a versatile program which can create greeting cards, signs, posters, invitations, certificates and stationery.

It is extremely easy to use because the same procedure is followed whether you are producing a birthday card, a wedding invitation or a poster. As Christmas will soon be upon us I tried creating a Christmas Card.

The design method is simple – select a border style (holly), choose and place some graphics (a jovial Santa Claus), and enter the message. A library of graphics, borders and letterheads is included, so you will soon be producing elaborate creations.

The more serious users can use the graphics editor to design their own pictures. The editor is rather basic, and requires a great deal of perseverance if worthwhile pictures are to be produced. However, graphics can be imported from earlier versions of *The Print Shop* or purchased from a *The Print Shop* graphics library.

The quality of output from *The New Print Shop* ultimately depends on your printer – over 150 printers are supported, including colour.

At £39.99 *The New Print Shop* is a good buy if you have the necessary hardware to produce quality output – but there is no point buying this program just to draw pretty pictures. ■

CREATIVE COSTS

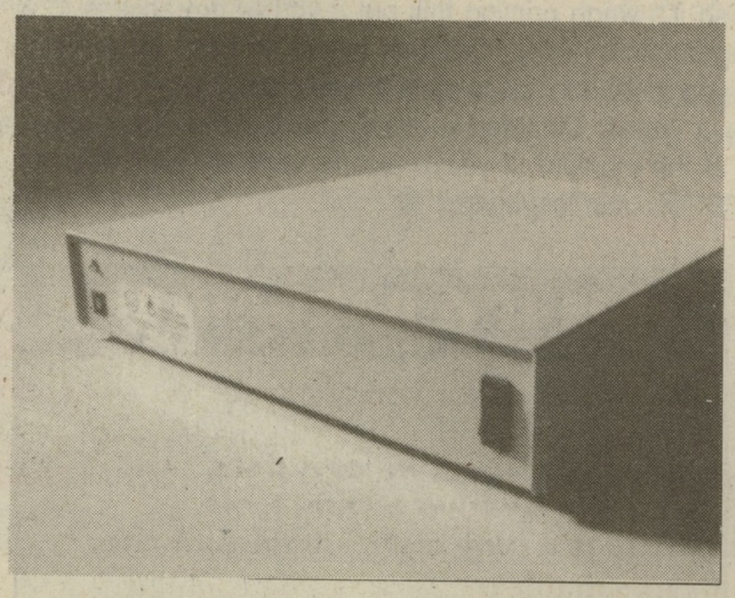
FOR
▲ **Standard design method makes the program easy to use**
▲ **Library of graphics and borders is original and very useful**

AGAINST
▼ **Limited graphics editor may restrict your creativity**
▼ **A quality printer is required to reap the full benefits of the program**

COST: £39.99 VALUE: Good

COMPETITION: None Known

PRODUCT: 52Mb hard drive
COMPATIBILITY: ST
FROM: Ladbroke Computing Intl
CONTACT: 0772 203166



• **The Ladbroke 52 Mb hard drive – fast, reliable and easily tailored to your needs**

Ladbroke's 52Mb hard drive is a real workhorse. It's neatly packed away in a sturdy grey case which is tough enough to take a Mega and its monitor stacked on top. Mounted on the front of the case are the all-important drive switches – one to turn the beast on, and another to change the SCSI ID, so that you can link extra drives to the system. Round the back you find two DMA ports – one to link directly to the ST and another for connection to the extra drives. Ladbroke has made light work of the job of expanding your hard drive system (one's never enough once you've started!) by providing these two features in easy-to-access positions.

Inside the case is a Quantum drive which interfaces to the ST via the near-industry-standard ICD host-adaptor. Ladbroke supplies the full ICD *Advantage* software, plus a copy of *Turtle*, the hard-drive backup program. The drive can be set up to utilise a 64K RAM cache to speed up accessing and it also has the ability to auto-boot and auto-park.

In operation, the Ladbroke 52Mb drive is very quiet and extremely reliable. It can work with most emulator boards (like AT-speed, Spectre GCR) without problems and can even be reconfigured to hold Macintosh, IBM and ST partitions.

On the price front, it compares very favourably with other drives of this size, at £429. If you wish, you can opt for a version without a clock, saving yourself £20, but you'll lose the ability to stamp files with the correct date and time.

If you're thinking of buying a hard drive and you intend it to form part of a larger system, you should look at the Ladbroke drive very seriously. It's fast, reliable and you can tailor it to your needs very easily. ■

DRIVING A HARD BARGAIN

FOR
▲ **2 year warranty**
▲ **Good set of utilities included**
▲ **Fast Quantum internals**

AGAINST
▼ **Large, if space is a problem**

COST: £429 VALUE: Good

COMPETITION: Gasteiner 85Mb, Vortex 40Mb, Protar 40DC

PRODUCT: Atari Megafile 30Mb
COMPATIBILITY: ST
FROM: Silica Systems
CONTACT: 081-309 1111



• **The Atari Megafile 30Mb hard drive is compatible with your ST, but can be a problem if you want to expand your system later**

Atari's Megafile is the original ST hard drive. Designed by Atari itself, it fits in neatly with the range of ST Mega equipment. It comes in a grey, plastic case which can be placed underneath the Mega's system unit.

Unlike most other hard drives, the Megafile is a custom-built unit, which can only be interfaced to an ST – there's no SCSI. While this guarantees compatibility with your ST, it can be a problem if you want to expand your system later. The drive is supplied with ports for DMA input and output for connection to the ST and another drive, but you need to change the Megafile's ID numbers if you link it with other drives. This is a job which Atari recommends you leave to an authorised dealer.

Even if you're only thinking of owning one hard drive, it may still be worth looking further than the Megafile. It's probably the noisiest hard drive available for the ST – largely due to the internal cooling fan, but partially due to noisy drive heads. It's also one of the slowest drives too – this is much more likely to cause annoyance.

Installing the Megafile is a tedious job, which Atari doesn't seem to have realised – the enclosed documentation and software doesn't exactly make the job much easier. There's just enough data and instructions to get the drive up and running, but not much to help you customise it, or back any of it up later.

If you're worried by tales of STE DMA incompatibilities, or you just want to remain Atari-loyal, think twice. There are plenty of drives which offer more features, are much faster and quieter, and are 100 per cent compatible. It's really not worth the £369 price tag to get stuck with a system which is outdated and only gives you 30 megabytes. ■

IS IT WORTH BUYING?

FOR
▲ **100 per cent compatible with STs**
▲ **Same case design as Mega STs**

AGAINST
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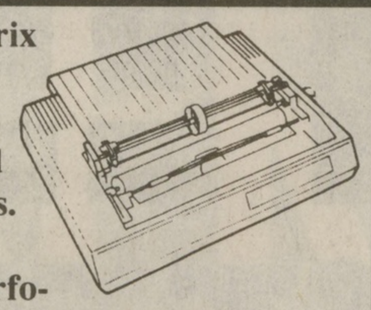

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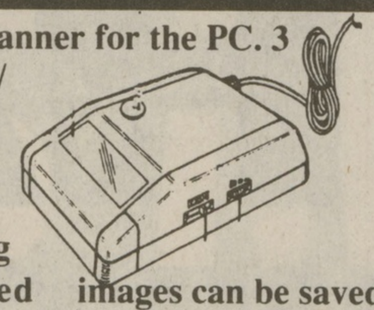

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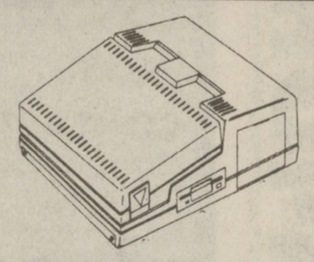



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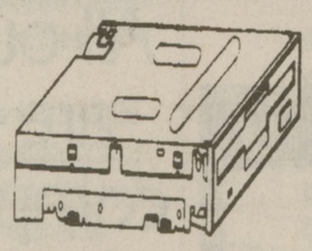

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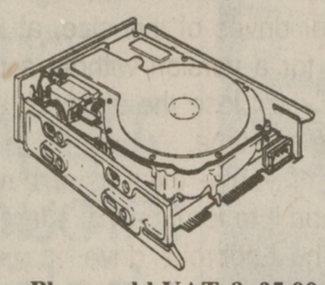

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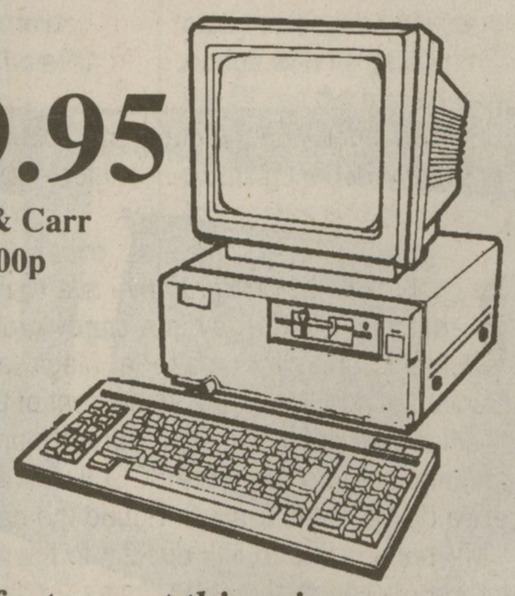

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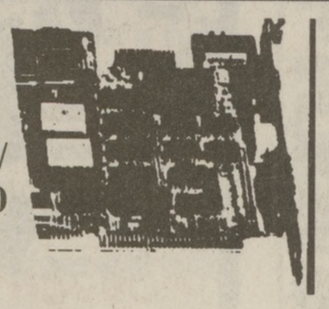

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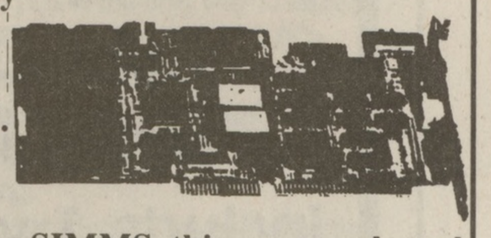

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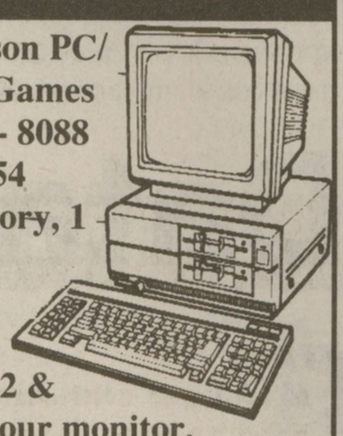

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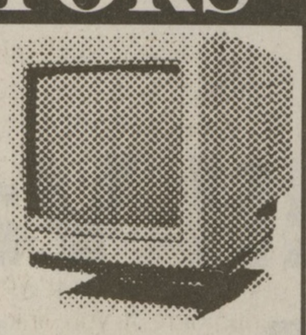

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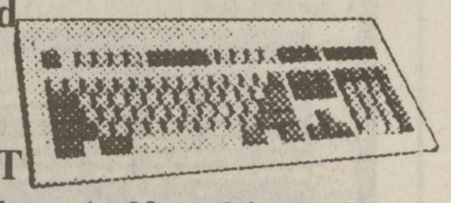

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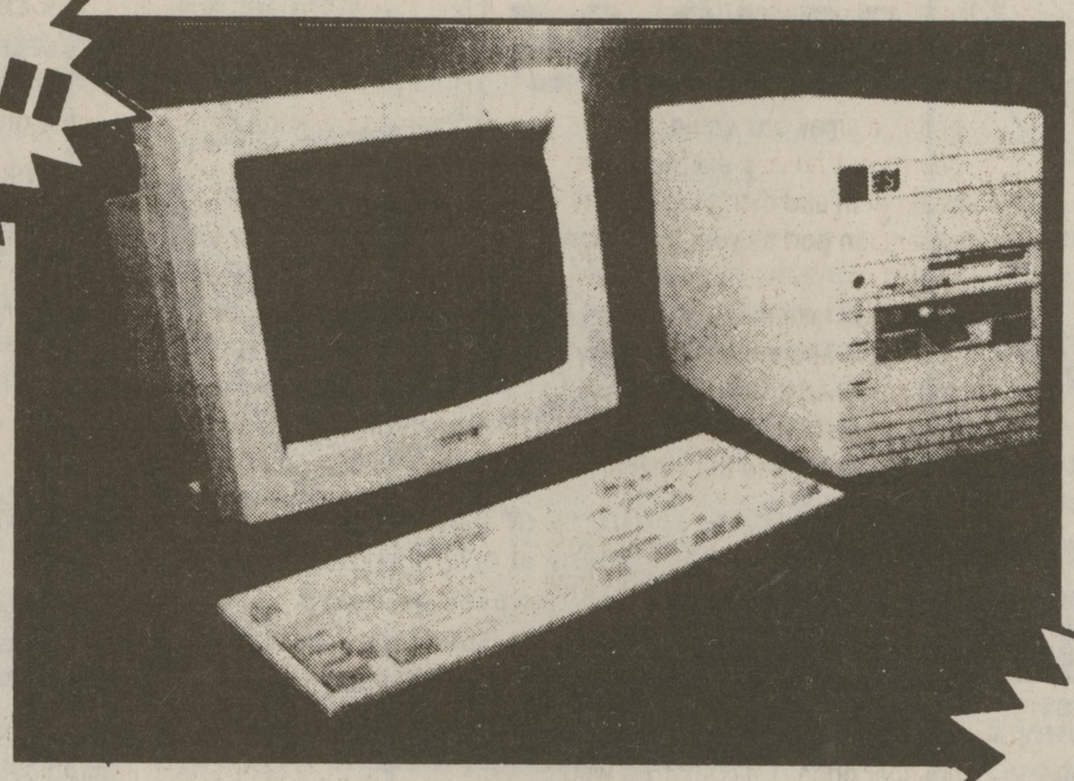

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EXPRESS MAIL

Is Amstrad really setting out to take on the PC and ST? You voice your views. And the great Cover Disk debate starts this week – what would you like to see on it? Haydn Fitzwilliams prints your points

Sugar baby 1

Concerning the new Amstrad games PC reviewed in *Express* 148. I think that Amstrad has cocked it up again. It doesn't seem to be very good at the games market, does it?

I mean, Amstrad's CPCs and console were not the greatest and most influential, were they? And to top if off it is now trying to flog what must be the most expensive games machine on the market.

I realise that your comparison of similar packages for the Amiga and ST were useful in showing that the PC would actually be the cheapest, but let's face it, how many STE/Amiga A500 gamers do you know with a 40Mb hard drive, or even a monitor for that matter?

I realise that the PC starts off with a disadvantage in that any game worth its salt (or price tag), needs at least 640K to run. Therefore it makes sense to put 1Mb as standard.

I think that Amstrad should have designed a TV modulator that would save £100-200 off of the price for the monitor. The hard disk is probably essential (even though a 20Mb drive would have been almost as good), because of the other handicap in that 99.9999 per cent of PCs have got hard drives and therefore most games would be written to run on a hard drive and not a floppy. But if this PC was going to have a big effect on the market, then I do not suppose that it would take much to write for both hard drive and single (1.44Mb) floppy.

I also think that Amstrad should have designed a non-PC case and designed a 16-bit/AMIGA/STE case and for hard drives (which are usually internal units), a small box could have been made so as a 3.5-inch drive could fit in and then plug into an expansion port as with the Amiga and ST.

If you take the price of the hard drive and the monitor away and designed a 16-bit case, then I think it would be a viable alternative even to the almighty Amiga.

Another point I would like to make is that you can probably buy a PC with a 386SX motherboard and exactly the same specifications (except for the sound card) for the same if not cheaper price. This other PC would even have expansion slots and room for a coprocessor.

Just think, if Amstrad were to cut out the hard drive and monitor it might be viable to fit a 386SX motherboard and sell it with Windows 3. That would really give the competition a run for its money and I bet the games PC would end up winning. But in the end, I honestly think that any other £1,000 PC would do just as good, if not a better job, than the Amstrad effort.

Simon Dullingham, Bracknell

I PERSONALLY DON'T think Amstrad is really setting out to take on the ST and Amiga with its games PC. It's identified the PC as the fastest growing sector of the games market and as such is pitching the new machine against other PC games packages that may come on the market.

It's even dropping rumours now that it intends to bring out a CD-PC early next year to further consolidate this position. I agree though – no one in their right mind will pay £1,000 for a PC that they can't upgrade. Having set out his stall, Mr. Sugar will probably find other market traders radically undercutting him

Sugar baby 2

It was with great interest that I read the front page article in *Express* 148 about 'Amstrad Attacks Amiga and ST'!! However, I think Amstrad and yourselves have missed the point somewhat.

Yes, Amstrad's machine is a real bargain when you notice that it is twice as fast as the other two, has more colours on screen, good sound, etc. Yes, the PC has a massive software base, but in the end it all comes down to price.

There is a direct comparison in your article which makes Amstrad's offering extremely attractive, that is if you were intending to buy a monitor and a hard drive with your Amiga or ST.

However, the reason the ST and Amiga are so popular is that you can enter the world of power computing for between £300 – £400. £1056.32 for Amstrad's machine may be good value, but there are not many parents who'll but them as Christmas or birthday presents.

To really take on the Amiga and ST someone needs to build a PC without the hard drive and monitor. It would have to be a similar shape to the Atari and Commodore machines and house a TV modulater, soundcard, joystick ports, MIDI, etc, and be released for a maximum of £450. Kids and parents could then add a hard drive or monitor when finances allow, as they do with other machines.

This is the only way to attack the home market and with PCs being so popular in America, Amstrad or any other ambitious company would really make a killing.

Let's face it, anyone who can afford over £1,000 for their machine would have had no trouble getting a similar bundle to Amstrad's at a similar price. Also, with the PC market being so huge, it is quite simple to pick up a better specified machine at auctions, at a lesser price. An auction I recently attended had a Compaq 386 with VGA card, 100Mb hard drive and 2Mb memory and this was sold for £950. It was almost brand new!

So, come on, Amstrad, if you really want to challenge the ST and Amiga, compete on an equal footing and throw it all into a single box. Let the customer pay his £400, plug into the TV and *go*!!

Adrian Gannan, Wigan

YES I THINK you're probably right Adrian. I'd only add that I reckon many more parents will buy a PC for their kids knowing they can also use it – for serious software. I'd also like to think that games are changing anyway – to the point where they need hard disks and 1Mb of memory as standard. People will buy a machine on the strength of software – look at what *Starglider* and *Defender of the Crown* did for the ST and Amiga back in '87. I reckon we could see the same thing happen with *Wing Commander* 2 for the PC

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ON THE COUCH



This week's victim er...amiably innocent young chappie with a thirst for self-enlightenment – is the one and only JOHN GOLDSMITH of BURY ST. EDMONDS, SUFFOLK.

John owns every Acorn machine ever made in the entire history of er..Acorn computing. But has he got an Archimedes? Has he...Luckily, Dr. Clare Anthony is here to help out – all she did was open the letter addressed to Leather Couch Clare, *NCE*, 30 Monmouth Street, Bath BA1 2BW to find the name of the machine John owns, what his favourite software is and the machine he most desires. She then invited him on to her virtual couch and...

Jeez – pass me that bottle of Bourbon will ya?! Whoa!!! – this guy is well kinda screwy...Steadyyyyyeee!!

- **MACHINE OWNED: 3 Acorn Atoms (2 dead), Oric Atmos, Dragon 32 (dead), Acorn Electron(dead), Acorn BBC B**
- **FAVE SOFTWARE: *AMX Superart***
- **DESIRED MACHINE: Archimedes**

Acorns, acorns, acorns... Or as we Freudians conclude -'From little acorns...grow dead acorns'. Oh, you poor, poor, poor, poor, poor boy.

What we have here is a serious case of Octitis – a morbid obession with 8-bit machines. So morbid in fact that you no doubt keep their lifeless little hulks in cardboard boxes in your wardrobe. Didn't your mother ever tell you that all you should ever keep in your wardrobe are revealing photographs of the Queen of Silicon – Brigitte Nielson?

But then I expect – as a pro-active psychological modeller – that your death fixation leads to problems with the opposite sex. After all, you referred to me in your letter as LC-Clare/JG3. Now, is that any way to talk to a woman? I think not...it's hardly going to entice me into asking just how big your acorn really does grow – is it? No.

Art packages are fine as favourite software as long as you're not limited by your system. After all, where would Vincent Van Gogh be now if he'd used a BBC B? Dead that's what!

PROGNOSIS: Sell everything you own immediately. You will shortly realise that money is all it takes to buy that Archimedes. Then, rent a market stall and start selling those crummy corpses as valuable antiques. You'll make a mint and become a famous artist overnight.

No show!

My wife and I went to Leeds yesterday, to visit the heavily publicised Leeds Computer Extravaganza show – only to discover that it had been cancelled! No explanation was given and (to our knowledge) no warnings given in the computer press – indeed, the familiar half page advertisement was present in last week's issue of *New Computer Express*!

To say that we were annoyed at this cancellation is putting it mildly! Not to mention all of the (thousands?) of other visitors from all over the North, who will have turned up for this supposedly three day event! I can hear the lynch mobs baying for somebody's blood ....Why was the show cancelled without notice?

Richard Jibson, Stockport

I PHONED THE organisers of the Extravaganza on your behalf and unfortunately what happened was that three days before it was to go ahead the contractors responsible for building the stands pulled out! Adverts were placed in *The Yorkshire Evening Post* and on the local BBC radio, but there was too little time for other media to pick up the story.

The organisers wish to point out they are 'dreadfully, dreadfully sorry and will try and get another one up and running soon.

Cover disks!

So I guess that *New Computer Express* is going to cost £1.50 from now on. Well that's not so bad after all I do get a most outstanding Cover Disk with every issue.

I'm lucky because I have a Commodore Amiga. But wait, what if I didn't have an Amiga or an Atari ST or a PC/MS DOS computer? Well, I'd be a bit upset if I had to pay an extra 62p each week for a disk that was of no use to me at all.

I think that you should include the disk every two weeks and include a Spectrum/C64/Amstrad format cassette with every other issue. If other 8-bit owners feel that way too they should write in, right?

Why am I saying this? Because there are a lot of 8-bit computer owners (I too have a C64 and Spectrum) and those that read your mag may not want to read it anymore if they think that you're not doing anything for them.

If you can't include a cassette for 8-bits then at least throw a competition called: 'Ten uses for a 3.5-inch disk'

Lastly, the magazine itself

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Pedant's Point
(strictly not a point but a subset of two-dimensional space)

Did you ever pass English? Do you know what a question looks like? Do you get sexual gratification from sleeping with your Amiga? Have you tried a dolphin?

When was the last time you saw a great Amiga demo using less than 64k? Never? Well neither have I. It has to be said that programmers of large computers waste memory when coding their programs.

Also, you haven't even had the decency to answer my question in issue 148 – have you ever seen any of the demos for the XL/XE?

Everyone knows that the XL/XE cannot compete in terms of specifications with the Amiga but the XE can be upgraded to 16-bit and still remain compatible with 8-bit software.

Chris Roberts,Clwyd.

Err...sorry?

I think I remember asking you to send in a video of the demos as we don't have an XI/XLE here. also, where can you get a 16-bit upgrade from - we've never heard of one.

looks better than ever. Thanks for a good magazine.

Daniel Walker, Reigate

COULD THIS BE the letter that starts the ball rolling? To be honest we've had more letters criticising us for the disk than letters of support – but then I guess since the total of both only amounts to a couple of dozen, I reckon that means a big OK. Next week though I'll run a special section on 'That Disk' with highlights from both sides of the argument.

In the meantime though – given that the disk is here to stay – how about writing in with suggestions as to the sort of programs you'd like more of? This needn't be just lists of your favourite PD either. Let's talk general here – do you fancy more commercial demos, productivity software, graphics animations and clip art? Or are you just games fiends looking for a weekly blast? Or would you prefer tutorials and screenshots to go with features and reviews? And how about us swapping databases?

I'm sure we can get the pace of this thing whacked up beyond the norm. Drop me a line and tell me what you'd put on the disk – I'll be clutching my wad of fivers as I open letters addressed to 'Yo! Pace!', NCE, 30 Monmouth St, Bath BA1 2BW.

Aaaaarghh!

Did you see the horror film *Chiller* on BBC1, on Tuesday? They were using a CBM 64 to control the cryonics chamber and it was even plugged in as you could see the leads out the back, no wonder when one poor guy woke up, he got fed up with CBM BASIC !!

Also, did you know that in the re-make of *Night of the Living Dead* which has just been released in the USA, that they used an Amiga to design the make-up and faces of the Zombies?

Julian Smith, Sheffield

NO AND NO. But thanks all the same. On the Tuesday in question I returned home from a 'prolonged liquid interfacing session' down the pub, turned on BBCTV, failed to recognise meaning of disparate coloured shapes with intermittent audio inserts and fell asleep. Coincidentally, for me it was very much a case of *Night of the Living Dead*.

STE problems

Aiden Heritage's letter in 7 September Issue – just to clear up your clarification of Aidan's offer: Compunet is on 071-267-7677 and is very definitely not to be confused with the very expensive Compuserve.

Any readers who'd like to try it out, can do so by logging in to 071-284-4068 (8-bits no parity, one stop bit) and typing in *New-user* when prompted for an ID and *Intro* when asked for a password.

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Jason Gold, Compunet

AND WITH THAT clarification ends this week's one and only free plug..seriously though check it out! ■

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Go on!,give it a go - you might win a fiver

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Own a modem? Then squirt us a letter. *Express* has its own area on Aspects bulletin board (061 792 0260) where you can leave mail and upload/ download files.

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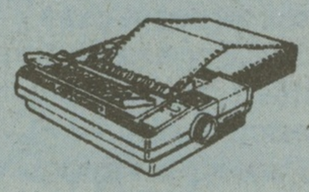

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MODE 32

Users of System 7 on the Macintosh II, IIx, IIcx and SE/30 have been somewhat disappointed to learn that their ROMs are not '32-bit clean'. What this means is that they cannot run System 7 in 32-bit mode – they will only work in 24-bit mode, which means that they are limited to 8Mb of RAM and about 12 or 13Mb of virtual RAM.

The Mac IIsi, IIci and IIfx have newer, 32-bit clean ROMs so they are not affected by the problem, while other Macs don't have the 68851 PMMU (Paged Memory Management Unit) and so can't run virtual memory anyway.

To get around the problems for those Macs which should be able to run in 32-bit mode but can't, American company Connectix has been marketing a program called *Mode32*, which comes in the form of a Control Panel Device and System Extension and which patches the System code to 'clean up' the ROMs and allows them to access the full 128Mb of physical RAM and 1 Gigabyte of virtual RAM.

Of course, many Macintosh owners have asked why Apple itself hasn't addressed this problem – so many Mac owners, in fact, that Apple has actually licensed *Mode32* from Connectix, and will now distribute it to all Mac users via AppleCentres and bulletin boards.

In the USA, people who purchased the Connectix product before 5 September will be eligible for their money back, as long as they can produce a receipt; anyone who just returns the main program disk will automatically get a $100 refund.

There is no news as yet as to what arrangements Apple UK will make regarding any refund procedures – for up-to-date information, dial 100 and ask the operator for FreeFone Apple.

WHAT IS QUICKTIME?

We've had a number of letters from people asking what, exactly, Apple's new *QuickTime* system extension is. Since its announcement a few weeks ago, the computer press has been full of praise, but many users have been left wondering just what it is and what advantages it will offer.

Essentially, *QuickTime* is an extension to System software which allows you to have speech and movies integrated seamlessly into documents which you produce with applications such as word processors.

For some years, third-party companies have been manufacturing add-in boards which allow the Mac to display moving video on-screen, but the great advantage of *QuickTime* is that it is a totally software-based solution. Just as you can presently copy and paste

POSTCARD FROM AMERICA

The productivity of Macintosh users worldwide took a sharp nose-dive in August. This was directly attributable to the release of the *More After Dark* (*MAD*) collection of display software for Berkeley Systems' popular screen saver, *After Dark*.

***After Dark* is not just one screen saver, but is an ever growing assortment – a candybox of fun programs. It's infinitely extendible through add-on modules. The modules are simply placed in a folder, and are instantly available for selection through its Control Panel Device.**

The best of the bunch is *Lunatic Fringe*, an arcade game by Ben Haller, author of the fantastic shareware game, *Solarian II*. You command a little spaceship, fighting nasty Puffers, Hammerheads, and other beasties, while dodging meteorites. It's irresistible, and relentless

Berkeley Systems holds a contest every year for innovative screen-savers, and some of the 1990 winners are featured in this set. For compulsive users, afraid of any hint of viral infection, there's the *Virex-D* module that scans for viruses when you're off washing your hands. Another add-on of note in the package is *GraphStat* which creates random and hilarious labels for graphs thrown on the screen.

The Berkeley MacUsers Group has come out with its own set of *After Dark* modules. The five-disk set includes 40 modules of varying quality. Some are runners up from the contest. I took a perverse liking to *Off the Air*, which simulates a television that's been left on after the station has stopped broadcasting. *TerrainMaker* draws a 3-D map of mountains and lakes. There's a disk of colour pictures for the slide show module, and three disks of PICS files – flip-book-style animations.

David Morgenstern

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PICTs, text and so on between applications, the clipboard and the scrapbook, so *QuickTime* will allow you to do the same with sounds and video clips. When you copy a clip, a small control panel will be present which allows you to run it, select a specific frame or whatever.

Unlike some of the dedicated boards, *QuickTime* cannot play back video in real-time – that would be too much to expect. However, it will allow 'movies', as it calls these clips, to be replayed at between 10 and 15 frames per second – depending on the Mac used – which is perfectly adequate for most applications.

To save disk space, the extension comes complete with software to perform image compression according to the JPEG (Joint Photographic Experts Group) standard – which has the bonus effect that you will be able to use it to compress any still images (TIFFs and so on) which are presently cluttering up your hard disk. Image compression and expansion is done in real-time.

Although no applications (other than a few demonstrations) yet take advantage of *QuickTime*, we can expect the first to appear in the near future. For instance, it is highly possible that the new version of Microsoft *Word*, 5.0, which is due sometime around the end of the year, will have support for *QuickTime* movies. CE Software's *QuickMail* e-mail system is also likely to build in support soon – making it possible to e-mail someone with a short movie of you reciting your message.

A little more work from developers and people will never have to congregate in the same room for meetings ever again – they'll just watch movies of each other on their Macintosh desktops!

PORTABLE TAX

The US government has put a tax of around 63 per cent on the Active Matrix LCD screens which Apple uses for its Macintosh Portable. This is because they are imported from Japan, whereas an American company also makes a similar product. However, the Japanese version is rather less expensive, which is why Apple chose to use it.

The American government took exception to this, saying that Apple should buy American rather than foreign products, and has imposed a 62.7 per cent import tax on the Japanese screens.

What the government doesn't seem to realise, though, is that Apple has manufacturing plants in other parts of the world – including one in Cork, Ireland. So unless Apple can persuade Congress to change its mind – a procedure which could take up to 18 months – the company is very likely to simply switch the manufacture of any products which use the Active Matrix screen out of the States, and thus reduce the amount of work for staff in the factories.

Perhaps the US government should have thought a little longer about that one...

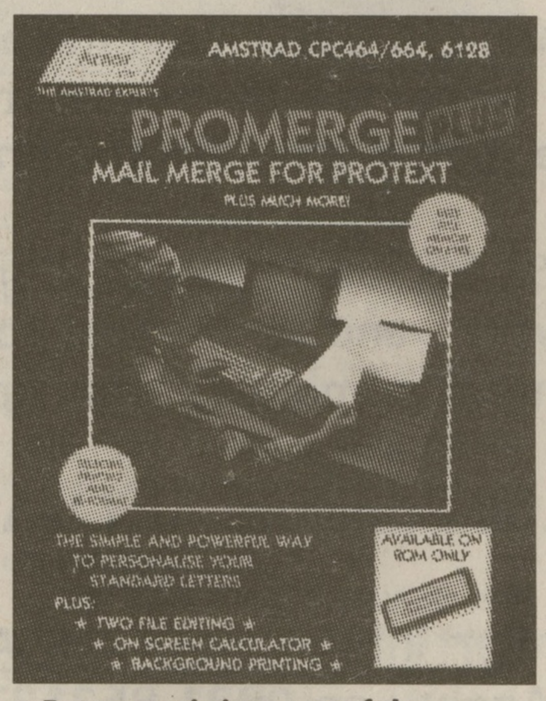
Ian Wrigley

CPC

- **Which top magazine is produced on CPCs?**
- **Will the CPC ride out the software slump?**
- **Blast your way to the president in *Mercs***

WHO NEEDS AN IBM?

Would you believe that the upmarket *Performance Car* magazine was produced using CPCs? I found that little gem in the *Amstrad Action* archives, from 1988. It seems that *Performance Car* editor, Jesse Crosse, was so impressed with the CPC and *Protext* he badgered parent company AGB Specialist Publications to buy 50 of the Amstrad machines!



• Promerge is just one of the *Protext* add-ons that make it such a powerful suite of programs

"There are things you can do on it and with it 10 times better than with the 16-bit business machines everyone's always raving about – and they cost 10 times the price!"

The CPCs were used for everything from writing copy to typing letters and database handling. Jesse Crosse himself wrote several routines to use within *Protext*, including a memory-resident pop-up phonebook!

"It's a fantastically powerful machine for the price, and it's tragic that everyone's underestimated what it can do. With a CPC and *Protext* you can run a ridiculously cheap operation – actually I would say it's superior to something like *WordStar* on an IBM, but no-one would believe me!"

Quite true. I've tried on a number of

Continued on next page ➤

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The *UnMouse* is 100% Microsoft Mouse Compatible and comes complete with drivers for DOS and Windows 3, and is suitable for IBM Compatible PCs with RS232 serial interface and all Macintosh computers with Apple Desktop Bus. (All trademarks acknowledged.)

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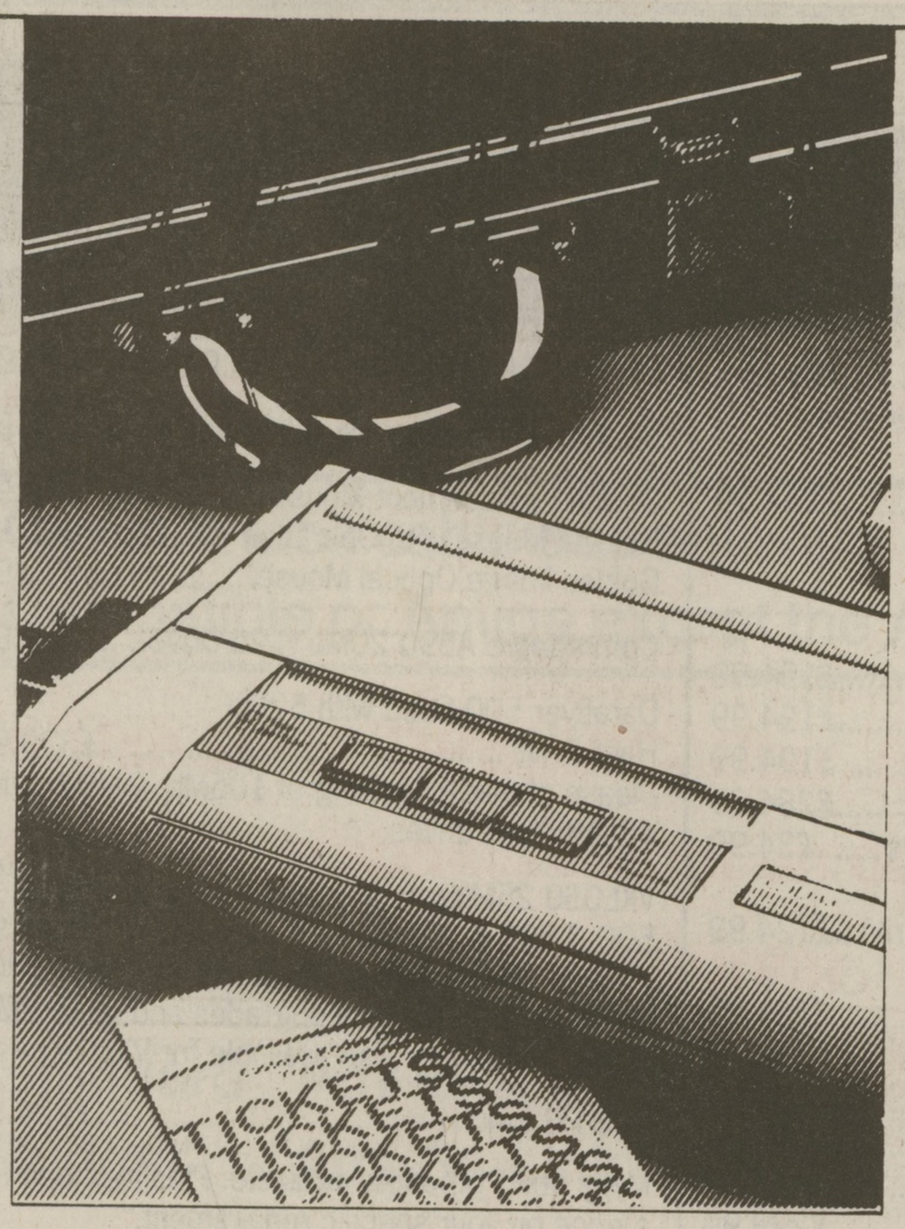

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◀ occasions to convince PC owners that their word processors (which cost more than a CPC itself, by the way) don't actually do anything you can't do on the Amstrad. The trouble is, you see, that the PC market is incredibly snobby. No-one believes that a machine can be any good unless it uses the latest Intel mega-chip, or that software can be any use to anyone unless it costs as much as a return air flight to New York!

CPC IN DECLINE?

Latest sales figures from the software industry (see the news story this ish) show a depressing decline of a whopping 45 per cent in Amstrad sales over the past year. Ouch!

The figures are not definitive, and – importantly – don't include information from Ocean, but they're still cause for concern, to say the least! Both the Speccy and the C64 did better, according to the figures available, but not much.

The strange thing is, there are still plenty of games coming out on the Amstrad. Although gloomy industry pundits are giving the CPC a thumbs-down, software houses are nevertheless continuing to support it. The proof of the pudding, as they say, is in the eating. There's a large and active CPC user base out there, and it's not going to go away overnight.

MERCS

Mercs was (is?) quite a hit in the arcades, what with its simple principle of relentless, mindless violence... but what's US Gold's CPC conversion like?

Well, as a conversion it's actually extremely good. It retains the arcade machine's seen-from-above-and-behind pseudo 3-D view, and you can play either a one-player or simultaneous two-player game.

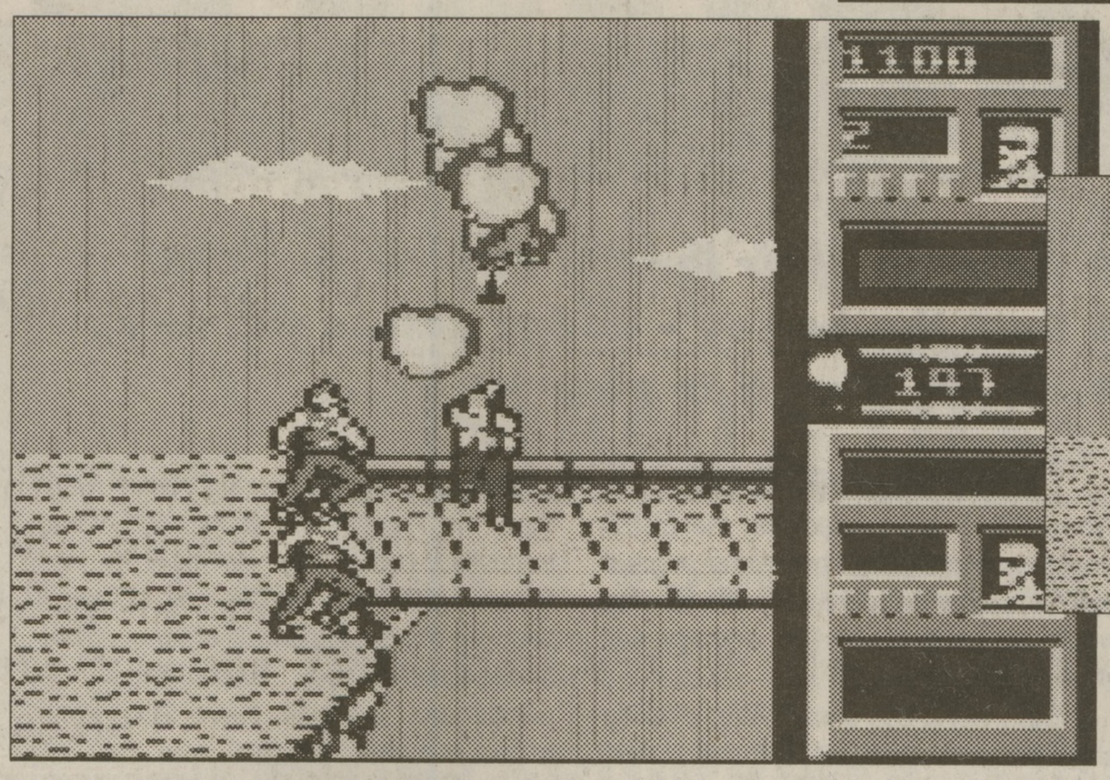
The plot's a pretty simple one. The American president has been kidnapped while on safari in Africa (in the bush... ho ho...), and the American government has decided that the best chance of getting him out lies with sending in a couple of highly-trained mercenaries.

The action is a lot like *Ikari Warriors*, but with some really nice, colourful graphics. You trot along exploring each of the eight levels (but generally heading up the screen) shooting the bad guys full of holes and picking up supplies as you go. At the end of each level there is an extremely nasty guardian to get past – a helicopter or a tank for example. Well, that's the theory. In fact, the guardians aren't terribly hard to do away with. You simply hold down Fire, pumping them full of lead, until either you or they turn up their toes. Not very scientific, unfortunately.

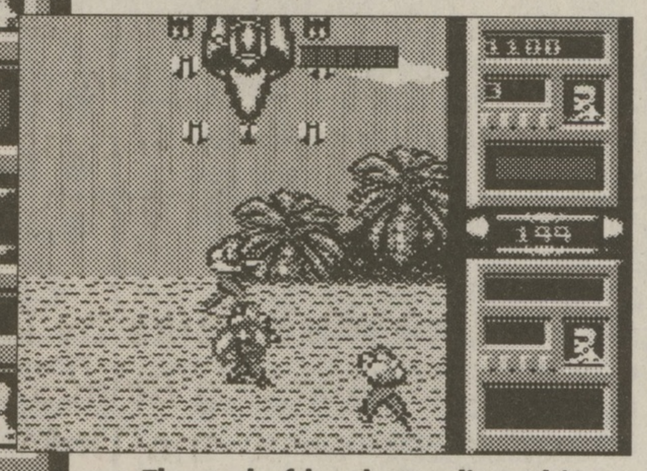
And that's really the problem with the whole game. There's plenty of action, to be sure, with swarms of enemy piling on to the screen all the time. The trouble is, there are so many of them that you're bound to take hits. It's a question of quantity, really. Getting good at the game merely means learning to take fewer hits, not avoiding them altogether (it can't be done). That takes away a lot of a game's immediacy.

Mercs really is a great conversion of the coin-op. But then the coin-op didn't really exude depth, and there's no way the CPC can produce the same level of graphics and smoothness.

If you want to rescue Bush from the bush, it'll cost you £11.99 on tape or £16.99 on disk. Not much to save the world from chaos and a Mercs nutter would soon wipe that sum out playing their fave game in the arcades. Anyone else would be better off saving their loot.



• *Mercs*: lots of running, shooting, killing and then... well some more running, shooting and killing...



• The end-of-level guardians' bites are a lot worse than their barks. Just keep pumping 'em full of lead...

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CP/M TIPS

CP/M may be as old as the hills, but it's still a decent operating system – as owners of disk-based machines will know. What they may not know, unless they've done a bit of delving into the various CP/M commands, is that you can list any ASCII file on-screen with the following:

```
TYPE <filename>
```

Cool, eh? Of course, you've got a bit of a problem if your ASCII file is more than one screenful, since unless you're an extremely fast reader the whole lot's going to have scrolled past before you can study it. In which case, you want to use:

```
TYPE <filename> PAGE
```

CP/M 2.2 users (those with 64K machines) can use three keyboard commands to control that scrolling:

- **control+s – pauses scrolling**
- **control+q – resumes scrolling**
- **control+c – quits**

You can print an ASCII file from CP/M by pressing control+p before you use the TYPE command.

Rod Lawton

Rod Lawton is editor of Amstrad Action, *packed full of information, new and reviews of all things CPC-related .*

C64

- **Little on offer for the C64 at the ECES**
- **Spot the turkey – dodgy games round-up**
- ***IO, IO*, it's off to play we go...**

SHOWING OUT

When EMAP announced that the ECES would be trade only, there was a great deal of reluctance to actually attend what would almost probably be a pretty dull show.

Did I say a *dull* show? After strolling around for a mere five minutes, I had already seen everything the show had to offer... *twice*. Except, that is, for the already bulging bar area – which was subsequently the most crowded part of Earl's Court 2.

The real sadness was that many members of the public were still unaware that the consumer show had been cancelled, and duly travelled to the venue. I didn't actually see any, but show security on the Saturday afternoon was unnecessarily tight. And without the consumers, it would seem that every software house present now has an unwanted stockpile of freebies.

Most of the larger companies declined to appear at the show, and instead occupied suites at nearby hotels. However, many of these were good opportunities to be bored senseless by the industry bigwigs.

The highlights of the weekend were the parties thrown by Mirrorsoft in the Kensington Park Hotel, mostly attended by programmers and journalists seeking consolation after the appalling show.

As soon as the free drinks started flowing, the horror stories began to leak out – subsequently there are very few software companies which I consider to have any scruples whatsoever.

I spotted countless celebrities from the world of computer gaming, as John and Steve Rowlands, Genesis Software (CJ's *Elephant Antics*), Andrew Braybrook and Steve Turner (*Graftgold*), Stavros Fasoulas (*Sanxion*, *Delta*, *Quedex*), Jason Perkins (*Deflektor*, *Dominator*), Carl Muller (*Speedball 2*), and indeed I had some very interesting conversations.

We can only hope that the World of Commodore Show in November improves on the ECES... I was very disappointed indeed.

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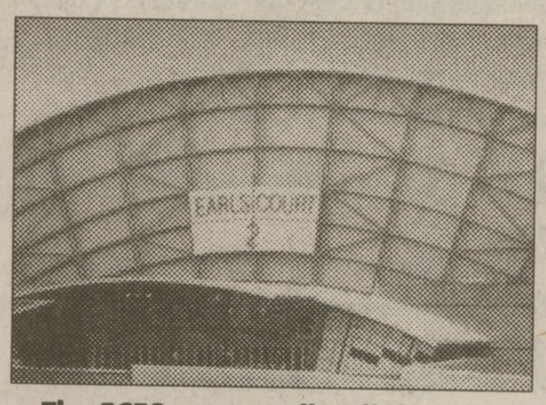

• The ECES – not really all the fun of the Earl's Court fair

FROM THE CRYPT

Yet another listing for the brilliant *Virtual Worlds* compilation, this time for *The Crypt*. As usual enter the listing, SAVE for any future use, then RUN for infinite strength (thanks to Martin Pugh).

```
0 REM *THE CRYPT TAPE CHEAT*
1 FOR X=533 TO 565:
    READ Y:C=C+Y:POKE
X,Y:NEXT
2 IF C=3363 THEN POKE
    157,128:SYS 533
3 PRINT "DATA ERROR"
4 DATA 169,34,141,40,3,169,
    2,141,41,3,32,86
5 DATA 245,169,11,141,206,1,
    96,72,77,80,169,173
6 DATA 141,124,118,141,95,
    130,76,235,2
```


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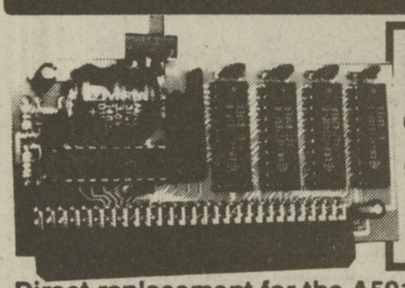

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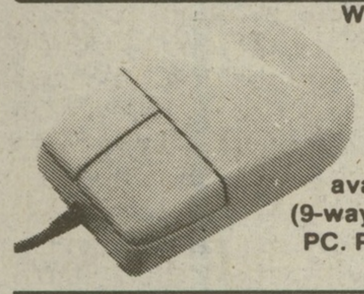

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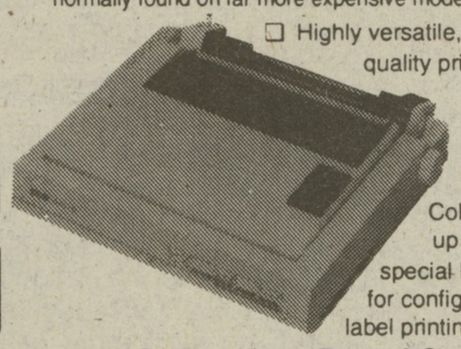

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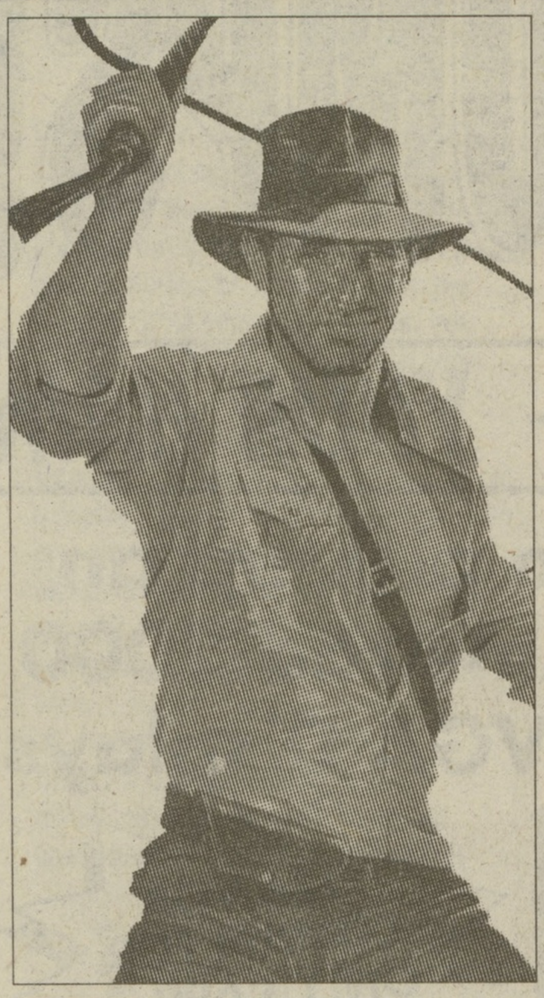


• This *Indie*, no matter how hard it tries, doesn't keep up with the Jones'

◄ TACKY SOFTWARE

I always try to cover the most innovative and original games in this column, avoiding poor licences and arcade re-hashes as much as possible. But here is a quick glimpse at some of the 'turkeys' currently available, along with a couple of reasons *not* to buy them.

● *Galaxy Force* (Hit Squad) – A dreadful conversion of the awesome coin-op, where you have to guide your spacecraft along the surface of a planet and ultimately destroy the core. Mediocre 3-D graphics, no playability whatsoever, hideous multi-load.

● *Indiana Jones and the Last Crusade* (KIXX) – The Lucasfilm adventure of the same name was wonderful, but this arcade version is a wasted licence indeed. Gaudy and sluggish graphics, repetitive and unremarkable gameplay.

● *Chase HQ* (Hit Squad) – Covered in my review of '*Power Up*' in *Express* 127, this is one of the worst racing games ever. Abysmal mono graphics, sluggish car control, tedious from the word 'go'.

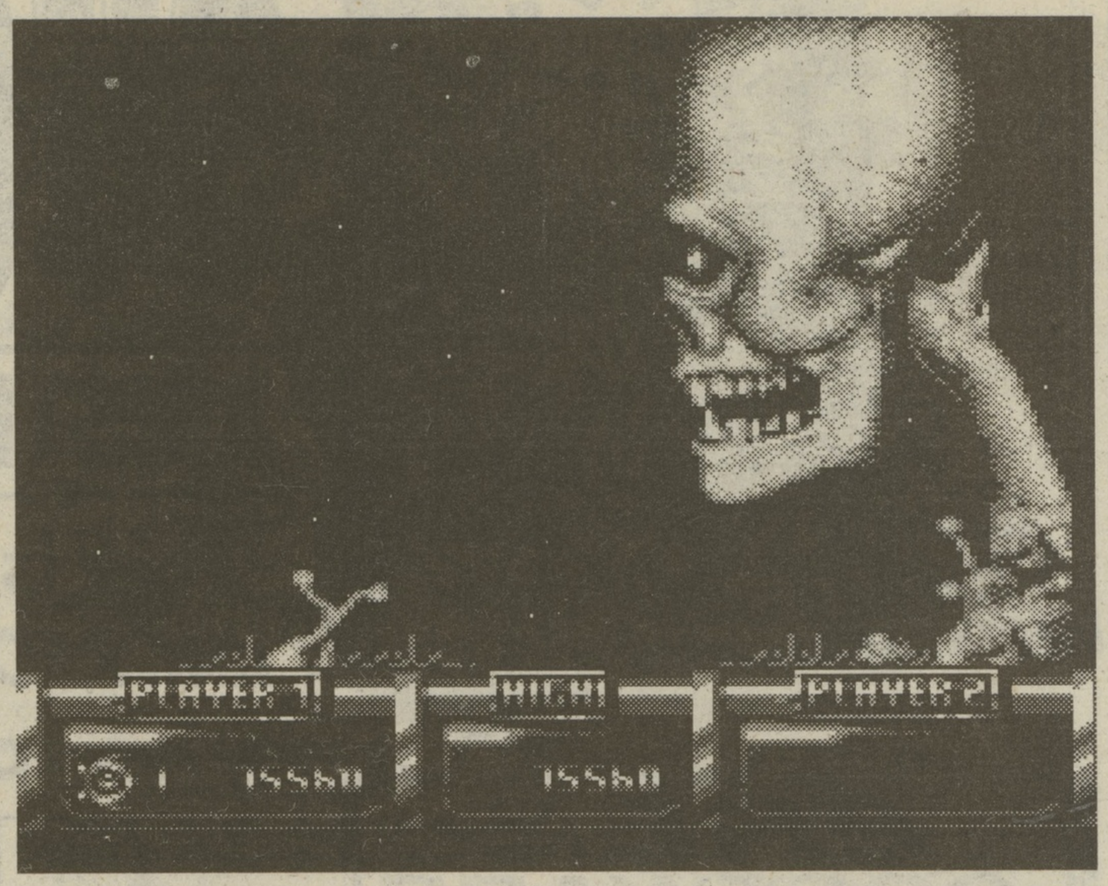
BUDGET BLASTING

Good shoot-'em-ups on the C64 are few and far between, and very few of those manage to combine great aesthetics with playable action.

That's what Bob Stevenson and Doug Hare set out to change in late 1988 with *IO*. The duo, collectively known as Kinetic Design, had been working on CNET demos for many years, so *IO* promised to be something special.

Indeed it was, and now the game is available for a budget price courtesy of Zeppelin. It is based around four levels, each one becoming more difficult than the last, and the aim of each one is to survive the alien onslaught and destroy the mother-alien at the level's climax.

As far as extra weapons are concerned, there are very few; extra speed, rapid fire and remote orbs (of which you can obtain just two). Not exactly spoilt for choice, but the gameplay doesn't really suffer as a result – if anything, it makes for more interesting play.



• One of the amazing end-of-level aliens to be found in the re-released *IO*. Stunning graphics complement some of the toughest gameplay ever

Simple yes, easy no. *IO* is incredibly tough, especially without any weaponry enhancements, presenting what appears to be an impossible challenge. What's more, you'll be lucky to get past some of the mother ships unscathed as most of them occupy nearly half a screen.

The highlight of *IO* is the graphics – simply gorgeous in every respect. The landscapes are colourful and intricately detailed, the alien sprites superbly animated, and the motherships totally breathtaking.

Sound effects are clear and crisp, and there is some rousing David Whittaker music at various points.

If you fancy a decent challenge and have the will power to persist, then grab a copy of *IO* – you won't regret it.

IO, from Zeppelin, costs £3.99.

Andrew Roberts



DIVISION ONE '92

"Hugely enjoyable, but dangerously addictive"
Dr. Trevor Harley, psychologist

THE GAME. At last, a game that takes the world of soccer seriously. You take over a struggling side in the English 1st Division and set about building a squad to win the 1st Division title. Success in domestic competitions (League, FA and League cups) will lead to the 3 European competitions. Maybe a double, maybe a treble.

SQUADS/TRANSFER MARKET. There are 3 squads, 1st Team, Reserve team and Youth Team. 45 players in all. You control the 1st squad and the movement of players between them. You also decide the transfer options (the board handle finance). The transfer market and youth policy will determine your future teams and playing style.

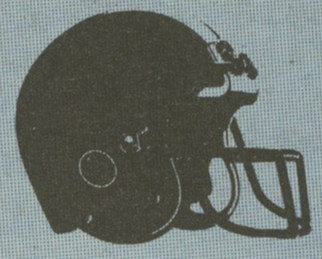
TRAINING. You have a weekly training schedule for the squad as a whole and for individual players. You will need to set your schedule to develop those skills that will support your team style. Young players in particular can have their skills enhanced.

THE MATCH. Usually sacrificed in a management game. The match serves 3 purposes. First, it is the measure of your team, and therefore your, performance. Secondly it is the only reliable source of information about your players. Thirdly, it allows you to make in-match tactical adjustments demanded by the state of the game. Our unique 4 minute match simulation gives you all this.

WHAT IS DIFFERENT ABOUT THIS GAME?

Division One '92 is a genuine soccer management simulation. No mental arithmetic, no "skill levels". It's all about your judgement of skills, and your understanding of what blend will produce a side to beat the very best in the country and in Europe. Our Division One 85 was used by two league clubs in their youth training scheme.

THIS REALLY IS A GENUINE MANAGEMENT SIMULATION!



HEADCOACH V3

"It's a pity to call this just a game"
A & B Computing

THE GAME. HeadCoach is the complete American Football simulation. You take charge of the latest recruit to the NFL, and through skillful design of gameplans and the use of the college draft, build up a 45 man squad to keep your fans happy and win the SuperBowl. Unlimited seasons and ageing players produce a realistic game of fluctuating fortunes.

THE MATCH. The match is a game in itself taking about 40 minutes to complete. With 26 offensive plays and 21 defensive plays, there is ample scope to match your game-plan to the skills of your squad, and exploit the weaknesses of the opposition. It's here where the strengths and weaknesses of your players are highlighted.

TRAINING CAMP. An opportunity to assess your players before they take the field. The appropriate coach will give you his view of the current form of any of the players and how they are performing in training. A 40 yard timed run will reveal their sharpness. Wide receivers, running backs, linebackers, cornerbacks and safeties need to shine here.

COLLEGE DRAFT. During the 16 match season, plus whatever playoff matches you achieve, you will find yourself praying for a second classy running back or wide receiver, or need to beef up your offensive line (too many sacks). The college draft should be used to find those stars of the future and make sure they're playing for you.

STATISTICS. The statistics centre will encapsulate your team's and your player's season. Total yards, rushing yards, passing yards, kick-off returns, punt returns (and averages for all these), interceptions, sacks....all these are kept for each match, the whole season, for the team and for each player. American Football is a game of stats and we retain that.

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SPECTRUM

- ***Dice Mania* - a Public Domain bargain**
- **The Spectrum lives and that's official!**
- ***Impossamole* hack gives you infinite Montys**

PD DISCOVERY

It's easy to think of public domain software as being the exclusive preserve of those smug 16 bit owning types, but the Speccy has a sack load of PD and some of it is very good indeed.

Particularly welcome around these parts are PD games and I've recently played one that would be a pretty good buy at ú2.99 and for free(ish) represents a bright flashing neon sign bargain!

Dice Mania is a simple but frustratingly addictive puzzle affair from the well worn keyboard of fabulously talented tech-head musician Dave Gosnall, an old friend of this column, I'll have you know.

I'm not sure if he's such a pal any more though because *Dice Mania* has been causing tense, nervous headaches and development of a facial twitch after prolonged play. Five or so lines of instructions are all you need to read before play as you place dice of different values on a five by five grid in order to make complete lines of the same number.

If you manage this the line disappears, Tetris style, leaving space for more dice.

You also have three bombs, which let you place a die on an already occupied square. These soon run out and the game itself finishes when you fill up all 25 squares, something which happens with poll tax bill-like regularity.

Crisp monochrome graphics do the job in hand admirably, as you desperately try to avoid inevitable failure and pay respect to the game design which makes you look several moves ahead, like all good games of strategy.

Dice Mania is an excellent puzzle game, a lethal combination of Yahzee, Tetris and noughts and crosses which could well reduce your brain to a steaming pool of sludge in a frighteningly short space of time.

It's well worth getting hold of a copy from 8-Bit Public Domain, 1 Northolme close, Grays, Essex RM16 2NX.

Send 10p and an SAE for prices and a list of currently available software. Make sure you write to the above address rather than Dave himself, who barely finds time for luxury pursuits like eating and sleeping as it is, he's so busy.

SPECTRUM LIVES

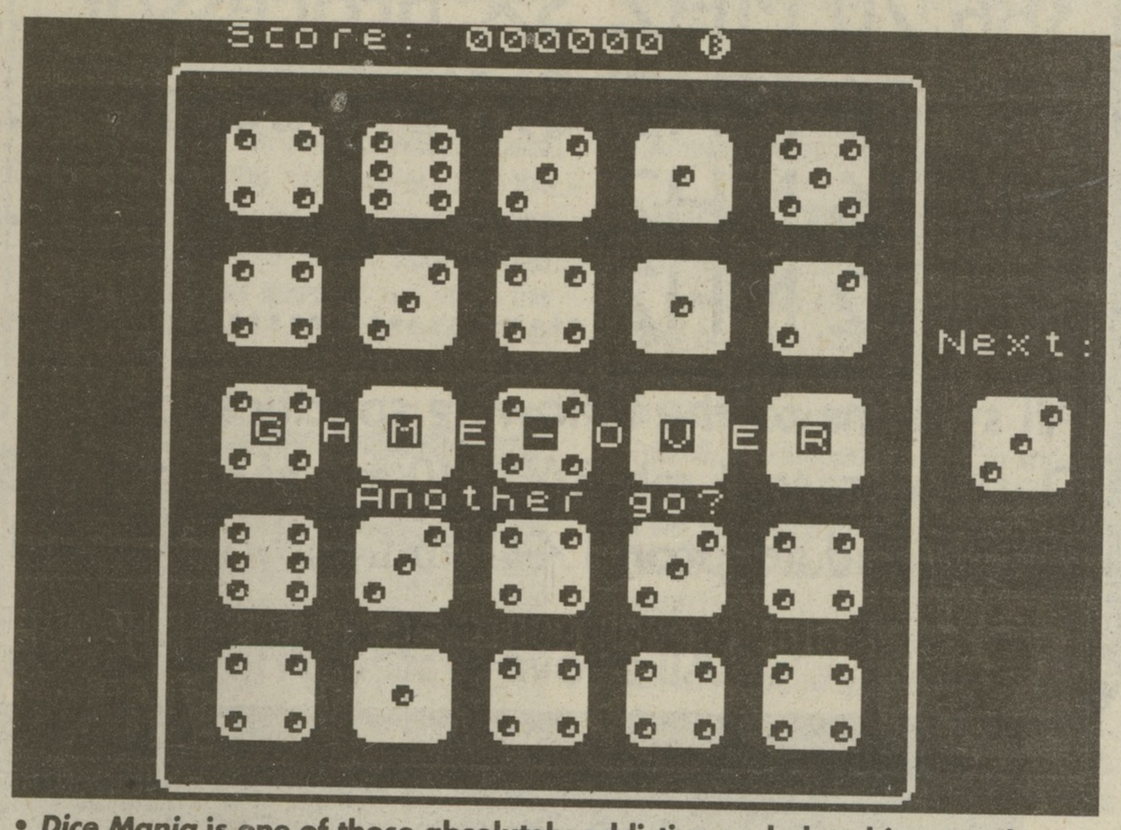
Hah! Wave this fact in the face of any who (cue doomy music) suggests the Spectrum is dead, dying, seriously ill or even tucked up in bed with a hot milky drink. Top Future magazine *Your Sinclair* has had an increase in readership of a colossal, tumultuous 5,076 people!

Cue trumpets, three gun salute and celebratory firework display! With an official readership of 65,444 it's amongst the best selling computer mags of any format.

All rumours of the Speccys demise are not so much exaggerated as a patent load of old cobblers. Add to that the fact that games like *Treasure Island Dizzy* are recording Spectrum sales of over 100,000 and it looks like our gracefully ageing friend will reach it's tenth birthday next year in style!

CABAL RELEASE

I've just spotted a good quality rerelease that you might like to invest in. *Cabal* is an Ocean arcade conversion which



• ***Dice Mania* is one of those absolutely addictive and absorbing puzzles and a Public Domain bargain**

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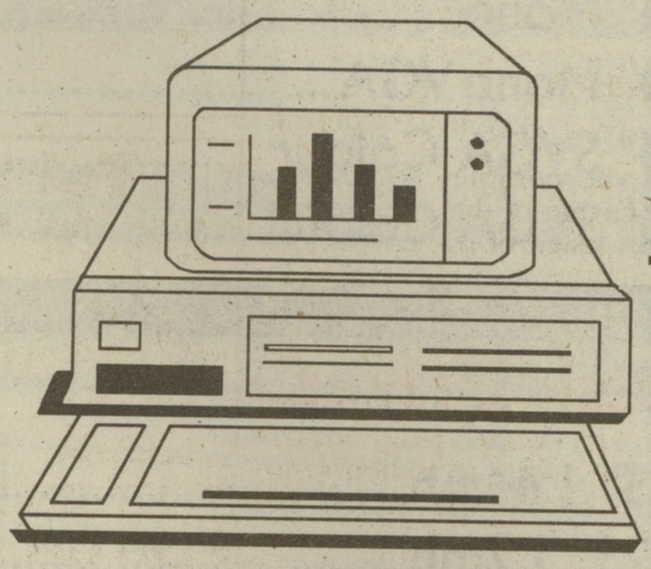

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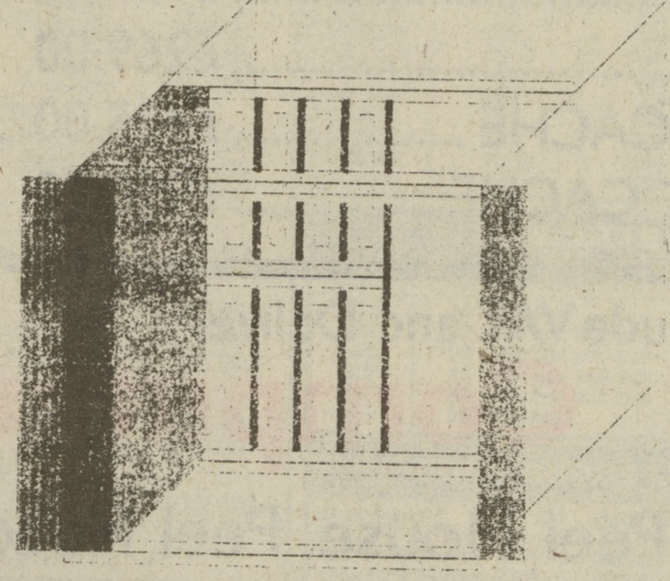

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offers a sizeable quantity of *Operation Wolf* style gameplay for a £3.99 outlay.

Rather than just moving your gunsight around the enemy infested landscape, in this one, you can also run about, taking cover behind bits of scenery as you shoot your way through 20 odd levels. Probably not something Perez de Cuellar would load on a regular basis but mindless fun for a while at least.

PROBLEM PAGE

I don't ask much from you but if you could see your way clear to responding to either or both of these problems I'd be a friend for life. But don't let that stop you.

Firstly, can anyone remind me how you access the +3's built in sound to light generator?

Steve Anderson of *The Mix* fanzine wants to know and I can't remember what arcane sequence of keys you have to press. Answers on a postcard or in a letter to me at the usual *Express* address.

Problem number two belongs to Dave Gosnall, the author of *Dice Mania* reviewed above.

After years of burning rubber, bashing away at his faithful old Speccy the keyboard finally broke. What Dave is after is a "new keyboard, like, say the old DK-Tronics one."

He tells me it's got to be "compatible with the standard old Sinclair 48k Speccy" and that he'll pay around £20 for a half-decent one.

I hope someone out there can help Dave out because if he can get hold of one, he promises, Cubs honour and everything, to release some more of his wonderous public domain software.

Do the Speccy owning world a favour and send all offers of keyboards to me immediately. Thanking you.

LIVE FOREVER

Regular column fixture, Alan Johns, the place wouldn't look the same without him, has come up with the game help goods again.

Here's his hack for Gremlin's *Impossamole*.

```
10 REM IMPOSSAMOLE
20 REM WRITTEN BY ALAN JOHNS (FOZ)
30 CLEAR 24063: LOAD "" SCREEN$ : LOAD ""CODE 24064
40 POKE 53471,201: REM INFINITE ENERGY CAN ALSO BE USED AS MULTIFACE POKE
50 RANDOMIZE USR 52261
```

Thanks again Alan!

Any hints, pokes, cheats or wrinkles for the Speccy? I'm interested in getting tips relating to any area of Spectrum owning, be they for games, serious use or just general messing around.

Send anything and everything to me, Robin Alway at Spectrum column, New Computer Express, 30 Monmouth street, Bath BA1 2BW. Hope to hear from you soon.

Robin Alway

CONSOLES

- **Play your Lynx games on a big screen**
- **Smashing *Super Tennis* for the Super Famicom**
- **What's the most pointless console tip?**

ON SHOW

As you might expect, there wasn't a great deal of console gear at the Computer Entertainment Show, but top Japanese license company, Imagineer, was present showing off its conversion of *Kick Off II – Pro Soccer* for the Super Famicom.

The game is really awesome and captures all the playability of the computer version. Although it isn't as fast as the original this is not such a bad thing, as it's a lot easier to run down the line, cross the ball in and hammer it in to the back of the net.

STRANGE TIP

Here's a really stupid tip for you. On *Target Earth* or *Assault Suit Leynos*, when you move to the right, the second player can take control of the first green enemy robot that comes on screen by pressing START on the second pad, Unfortunately, he's no help, as he can only shoot your men, and vice versa!

However, playing the game on a joypad is more tricky!

Another surprise was the Game Boy version of *Turrican*... yes! Everything about the conversion is top notch; ace detailed graphics, superb sound, and exciting gameplay... nearly as good as the Amiga version! I can't wait.

BIG SCREEN LYNX

One of the main problems of portables, is that, it would be nice to play some of the games on a full size TV when you're at home, as some of them are a lot better than table top console ones.

Well, you'll soon be able to with the Lynx, as Atari has come up with a gadget that will take audio/video signals from the machine and send them to a normal monitor/TV.

As the Lynx doesn't have an expansion slot, where exactly the little black box plugs into is beyond me... probably into the comlynx socket. Another thing is, the TV picture from the Lynx will sure look blocky!

Continued on next page ➤

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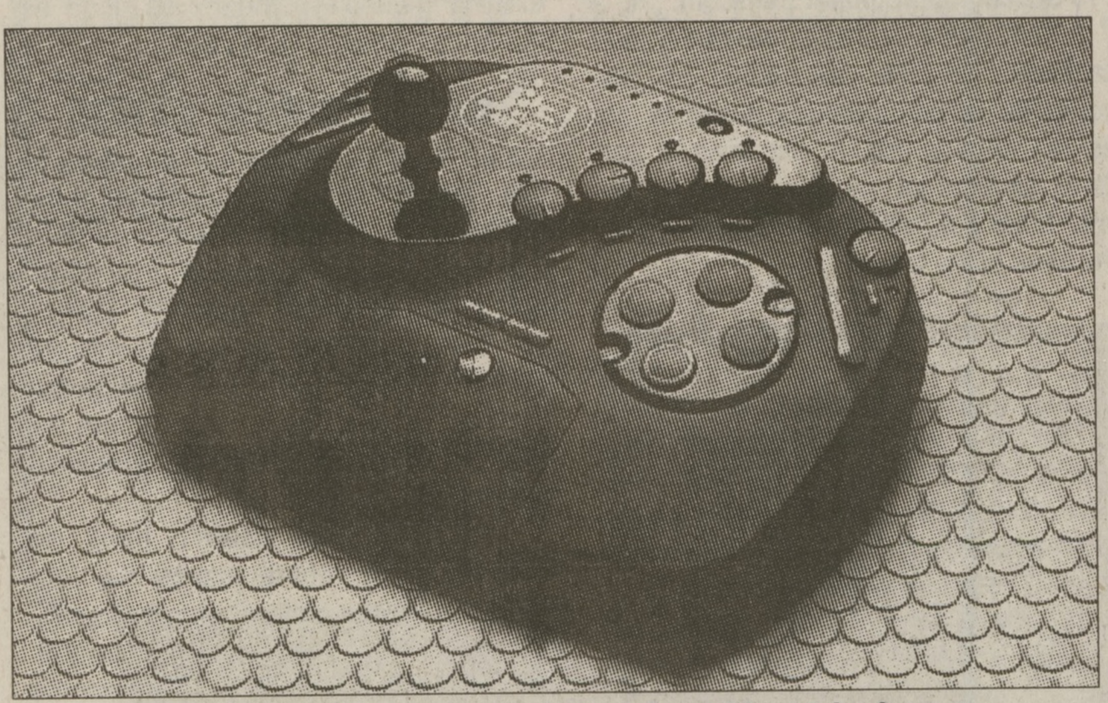
MACHINE SPECIFICS

SF STICKS

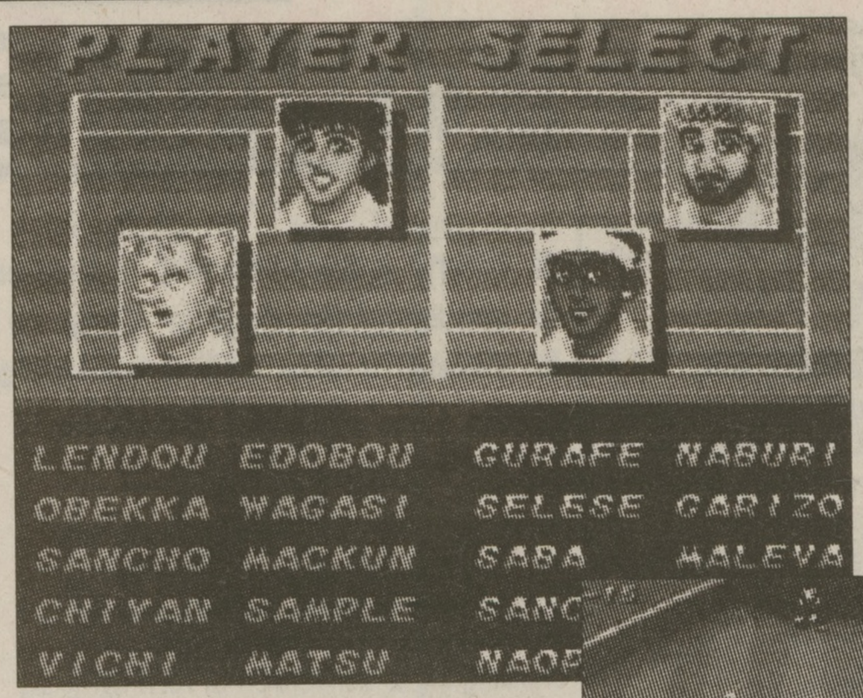
As mentioned, the Super Famicom's pad is not the most easiest device to use on games, but help is at hand as a number of joysticks have been released for the machine in Japan.

Because of the number of buttons on the controller, most of the joysticks are equipped with configuration controls. Not only can you configure the buttons, but also the stick itself, so Up can be Down, and Button A can be Button C. As well as this, all sticks have the usual turbo and auto fire switches, and are mirco switched for added performance.

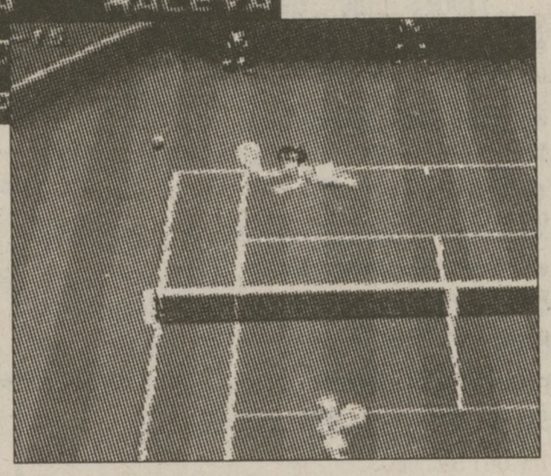
Expect to see some of these sticks available from your local importers soon.



• The JB King from HAL is just one of a number of joysticks from Japan that are designed to make using the Super Famicom joypad easier to use



• A well animated game, *Super Tennis* lets you pit your wits against some strangely familiar top-name stars



SUPER TENNIS

Top game this week is *Super Tennis* for the Super Famicom by Tonkin House.

I'm a great fan of computer tennis, and before this ace game, *World Court Tennis* regularly appeared in my PC Engine. The Super Famicom version is very similar to *World Court*, as it's viewed down the court in the same manner and you can play singles or doubles, different surfaces and pick different players with strange names like Lendou, Wagasi, Edobou, Gurafe, Selese and Capria.

The game plays exceptionally well with great animation as you can lob the ball, perform drop shots, smashes, back hands, and so forth.

If you're into Tennis, then *Super Tennis* is certainly a must... then again, until *Pro Soccer* appears, it's the only sports game on the Super Famicom worth getting!

Onn lee

PASSWORDS

Here are some password codes for a variety of games.

- On *Parasol Stars* for the PC Engine, enter 'BOM' in the high score. Then after the stage one boss is dead, go to the door. In there will be a ring which gives you 100,000 points, and there after, you can get extra points by your umbrella or walking.
- To play level 129 on *Bombuzal* for the Super Famicom, enter 'ENDS'.
- To play the last level on *Blue Lighting* for the Lynx, enter 'LIFE'.
- To play the last stage on *Pilot Wings* on the Super Famicom, enter '882943' for the helicopter night mission.

And here are some passwords for the Super Famicom version of *Populous*: HOBPEUL, SADTPIL, LOWQAZLUG, CORDIEHILL, BINUSORD.

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◆ ST

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● **ATARI STFM** for sale, including meg memory, external drive, monitor, sound cartridge (stereo), software, manuals and magazines, £300 or nearest offer. Also Commodore 64C with disk drive, loads of software, cartridges, £200. Ring 0942 33605 (Paul).

● **65MB** hard disk for Atari ST, plus hundreds of PD programs, £300 o.n.o. Phone Steve on 0923 265539 (Watford/Hemel area).

● **SUPERCHARGER**, external PC Emulator, with RAM and DOS, wanted for Atari 520 STFM, must be reasonably priced, would also consider PC Ditto. Stuart Miller, 53 Albert Street, Edinburgh, EH7 5LN.

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● **STANZINE,** the ST Diskzine, requires writers. People who can review and write articles, plus any one who is willing to write technical columns. Stanzine, 5 Hemstead Mews, Chapel Break, Bowthorpe, Norwich, Norfolk, NR5 9NL.

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● **ATARI 520STE,** includes over £270 worth of original software, including SWIV, loads of magaznes and demos, 2 joysticks, all boxed, £230. Phone York (0904) 642056. Phone after 5.30pm, ask for Cliff.

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● **SEIKOSHA** SP180AI 9Pin printer with stand in very good condition and comes with Parallel Interface cable and manual. Contact: Daniel Fuller on 0850 341568.

● **EPSON LQ550** 24Pin printer, excellent condition, home use only. £200. Also Epson/Mac connectivity pack and Serial Interface, £25. Contact Ben (071) 275 8402.

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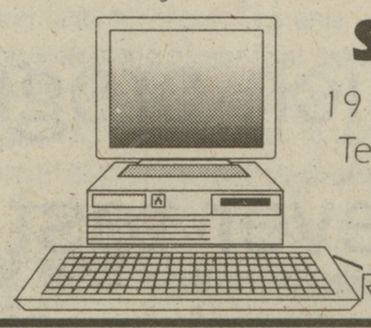

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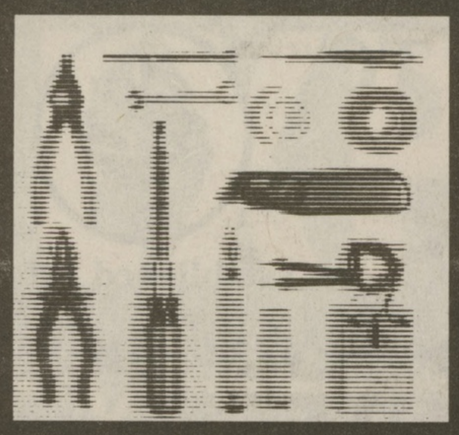

TECH TIPS

Do you want hi-fi quality sound on your STE? Not sure if the Amiga is the right machine for you? Getting in a dilemma over DOS commands?

WP Directories

I do a lot of work with my word processor on my 1040STF and I produce a lot of small files. I find that my .DOC and .BAK files clutter up my directories, making it difficult to find a particular file.

Is there a way of hiding files I don't need to see so that they don't appear in desktop windows? Can I change the order files appear in the file selector box?

Peter Phillips, Lyme Regis, Dorset

THERE ARE SEVERAL WAYS to hide files on an ST system. The first and most dangerous method is to use a sector editor to change the file attribute byte. This is not recommended as it is very easy to destroy vital data. Another option is to use KnifeST from HiSoft. This is a sector editor amongst other things, but there is a very good option which allows you to hide files.

These files are revealed by the Knife ST program, so you can recover them. The safest method is to use FSELECT6.PRG, the PD replacement file selector. This is a small program which sits in the AUTO folder on your boot disk. This has a very useful option within it which allows you to change the file attributes.

You call up the file selector from within the word processor by selecting Load from the File menu. You then highlight the file in the normal way as if you were going to load it. You then click on the ? icon on the file mask bar. This brings up a sub-menu which allows you to change the file name, date and time, and change the file attribute to Read Only, Hidden, System or Archive.

The file selector also allows you to list files in Date, Size, Name, Extender and unsorted. HiSoft is on 0525 718181.

FSELECT6.PRG is available from the Goodman Enterprises on disk GD95 Utility disk 7. Tel: 0782 335650.

Amiga answers

I own an Amstrad CPC6128 and I plan to replace it with an Amiga A500. Please answer the following:
1) Has Commodore any plans for an new Amiga that will replace the A500?
2) Are colour ribbons available for the Star LC24-10?
3) Which is the best 3.5-inch external disk drive available for the A500, and how much is it?
4) Is the Philips CM8833 MkII monitor the best you can obtain for the A500?

Andrew Gauton, Warrington, Cheshire

1) COMMODORE has no plans that I know of to replace the A500. The company is introducing a new version of the operating system (Workbench 2.0), and there is still some speculation as to whether this will be made available for the A500. The chances are that it will, so it might be an idea to wait until A500s start appearing with the new version before buying.

2) No, it's a mono printer.

3) The best drive is probably Power Computing's (telephone 0234 843388) PC880B Power Drive at £65. It has an anti-click facility, a virus blocker and a built-in hardware copier.

4) Yes and no. It is the best monitor in its price range, but you will experience some problems when displaying high resolution images. This is because of the 'interlace' graphics mode on the Amiga in which the vertical resolution is doubled by halving the rate at which the frames are updated. This results in a flicker common to all monitors. The only solution is to buy a flicker-fixer card, at over £100. You will also need an expensive multi-sync monitor to take advantage of your flicker-free display.

DOS commands

I would like to call AmigaDOS commands from an Amiga Basic program. So far, I have had no luck, with the machine Guru-ing after every attempt. Can you help me by showing an example using the AmigaDOS 'list' command?

C Cutler, St Helens, Merseyside

THERE IS AN AMIGA library function which can be used to call AmigaDOS commands. Fortunately, a facility exists within Amiga Basic to call external library routines.But first, you must get the library into a fit shape to be called. The interfaces to the libraries are all stored on the Extras disk in the FD1.3 directory. The file of interest is called 'dos_lib.fd'. This has to be converted to a form suitable for Amiga Basic. To do this, run the 'ConvertFD' program in the BasicDemos directory of the Extras disk. Place the output file, 'dos.bmap', in the libs directory of your Workbench disk.

Now you can write a program to access the library. An example looks like this:

```
DECLARE FUNCTION Execute&
LIBRARY
LIBRARY "dos.library"
x=Execute&(SADD("list"+CHR$(0))
,0,0)
LIBRARY CLOSE
```

The Execute& function is the part of the dos.library which enables you to call AmigaDOS commands. The 'SADD' function returns the address of a string (in this case the address of "list"). The trailing zeros in the Execute call refer to the input and output channels to be used by the call: in this case they are the standard input and output channels.

Note that this will only work if run from the CLI or Shell. If you try to run this program from the Workbench, it will crash. ■

Hi-Fi Output from STFM

I have a 520STFM and I was wondering if there is any way to boost the sound output as my portable TVs speaker is a bit tinny. I know that the STE has phono sockets, can I hook up the STFM to my stereo system?

Jonathon Kirkpatrick, Hastings, East Sussex

YES YOU CAN CONNECT your STFM to a hi-fi. You can make up a lead to run from the monitor port to the AUX input on most stereo systems. These inputs are usually Phono sockets, and these instructions assume this. You will need a 13-pin DIN plug, some twin individually screened cable about two metres long, and two Phono plugs (also known as RCA plugs). You also need access to a soldering iron or know somebody who can solder.

At one end of the cable, strip back and tin the two cores and the screening. Solder each of the cores to the centre connection of a Phono plug (fig 2). Then solder the screening of each core to the outer connection of each phono plug. At the other end of the cable, strip back the cores and twist them together before tinning, in effect creating a single core. Twist the screening of each core together and then tin that to create a single conductor.

The cores now need to be be soldered to pin no.1 of the 13-pin DIN plug (fig 1), and the screening soldered to pin no. 13 (ground). Make sure that there are no stray strands of copper wire touching other pins or between the cores and the screening. The cable is now complete.

All the parts are available from Maplins Electronics, either from their mail order catalogue or from their local stores. Tel. 0702 552911. Part nos. 13-pin DIN plug JW95D approx 1.00, Phono Plug x 2 HQ54J approx 0.20 each, Cable x 2 Metres XR21X approx 0.60.

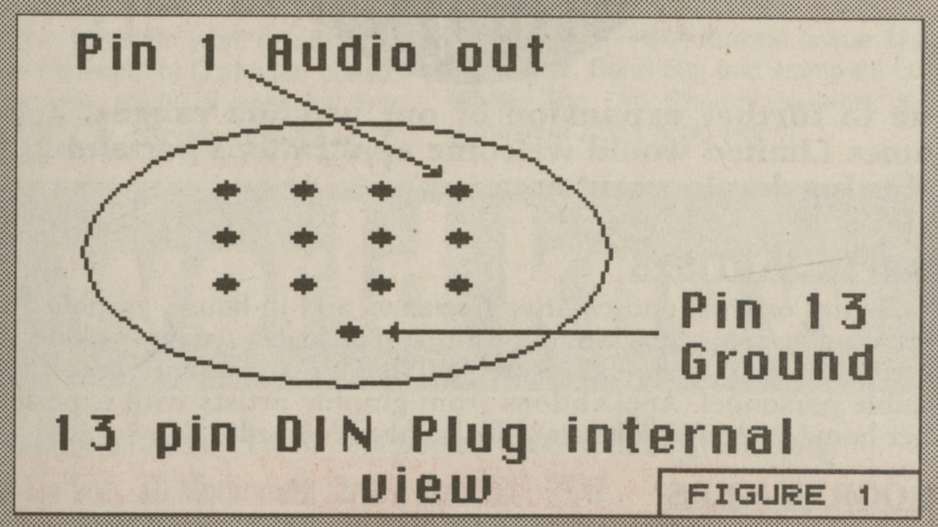

FIGURE 1

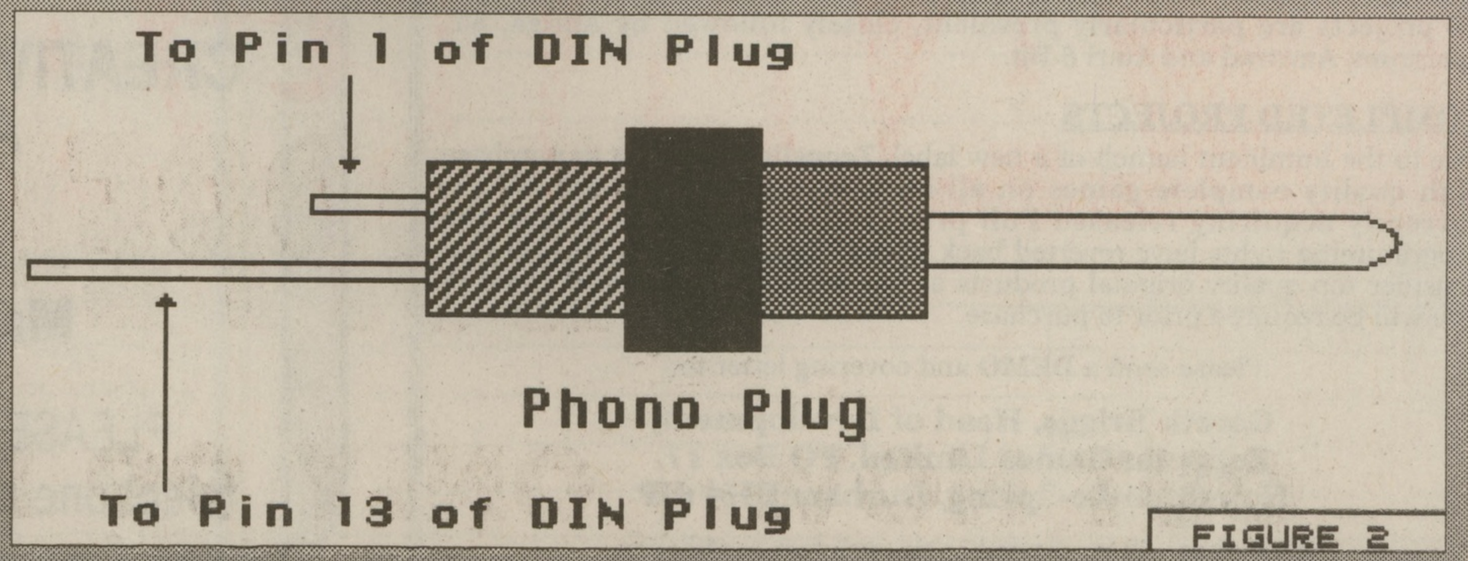

FIGURE 2

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AMIGA PD - £1 per disk (50p P+P) Demos, Music, Utilities: 10 Valentine Way, Chalfont, St Giles, Bucks HP8 4JB

AMOEBA QUARTERLY - Amiga fanzine with coverdisk. SAE to: 369 Wanstead Park Road, Ilford, Essex IG1 3TT

HIDDEN MOVEMENT - Exclusively for ST wargamers. Send £1 an issue to Peter Raeburn, 360 windmill Road, Ealing, London W5 4UR

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FANZINES

A

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ASTAC – a new Atari ST and console mag. For details send an SAE to Astac, 383A Drayton High Road, Hellesdon, Norwich, Norfolk, NR6 5BG.

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C

C LANGUAGE – Bi-monthly newsletter, C source library and BBS. £14pa. Contact Francis Glassborow, 64 Southfield Road, Oxford, OX4 1PA.

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CVu – The journal of the C Users Group (UK), Volume Three, Issue four (May) out now. Price £2 for 60 pages. Write to Francis Glassborow, 63 Southfield Road, Oxford 0X4 1PA.

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THE DISK – Issue 4 for Amiga users, includes – typing tutor, Tron '90, Label Print, Pop info, plus plenty more. Send £1 for 24 hr despatch or phone 0422 844215.

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At Birmingham NEC. Info: 081-868 4466.

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Wed 30 – Thu 31 Oct
At Sandown Exhibition Centre, Esher, Surrey. Info: 0822 614671.

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Thu 31 Oct – Fri 1 Nov
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Wed 6 – Fri 8 Nov
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World of Commodore Show
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The Next Generation: Computing with Light
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Thu 28 – Fri 29 Nov
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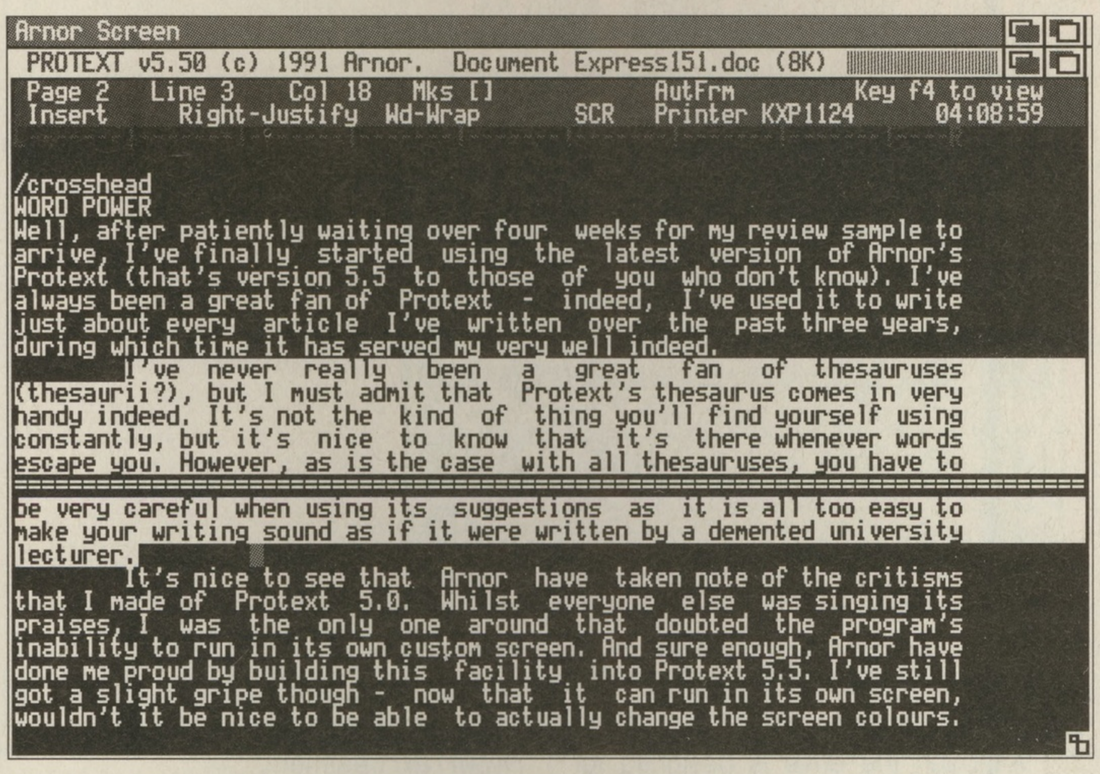
VISA

AMIGA

- ***Protext 5.5*: can the best get any better?**
- **Get the highest quality 24-bit colour output from your Amiga with Impact Vision**
- **How to install all three major operating systems inside your Amiga at once**



• If you need to do some serious word processing, then look no further than Arnor's *Protext*

Having patiently waited over four weeks for my review sample to arrive, I've finally started using the latest version of Arnor's *Protext* (that's version 5.5 to those of you who don't know). I've always been a great fan of *Protext* – indeed, I've used it to write just about every article I've written over the past three years, during which time it has served my needs very well indeed.

I've never really been a great fan of thesauruses(thesaurii?), but I must admit that *Protext*'s thesaurus comes in very handy indeed. It's not the kind of thing you'll find yourself using constantly, but it's nice to know that it's there whenever words escape you. However, as is the case with all thesauruses, you have to be very careful when using its suggestions as it is all too easy to make your writing sound as if it were written by a demented university lecturer.

It's nice to see that Arnor has taken note of the criticisms that I made of *Protext 5.0*. While everyone else was singing its praises, I was the only one around that doubted the program's inability to run in its own custom screen. And sure enough, Arnor has done me proud by building this facility into *Protext 5.5*.

I've still got a slight gripe though – now that it can run in its own screen, wouldn't it be nice to be able to actually change the screen colours. For some insane reason known only to the chaps at Arnor, *Protext* reads its colour information from the 'system-configuration' file. I don't know about you, but I like fiddling around with the colour palettes of programs!

Despite these minor gripes, I must admit that I'm very impressed by *Protext*. I won't go into too much detail about its features as you can read all about this new release in the reviews section of *Express*. But if the excitement is too much to bear, then give Arnor a bell on ☎ 0733 68909.

GVP GOES 24-BIT

If you thought that the Amiga Centre Scotland's Harlequin board was the best in Amiga 24-bit graphics, then GVP's new Impact Vision 24card will come as something of a shock.

It's a powerful 24-bit multi-functional colour enhancement card for the Amiga 2000 and upwards which will allow video professionals to create broadcast quality video images and even animations in true 24-bit colour resolution.

The enhanced 24-bit colour resolution of the Impact Vision 24 offers a maximum colour palette of over 16 million colours, making it ideal for applications that require high quality ray-traced and digitised images. The unit also comes complete with a number of extra features, including a built-in digital keyer, flicker fixer, frame buffer and genlocks for both RGB analog and Composite video signals.

The board comes complete with a number of software packages which have been specifically written to take advantage of the Impact Vision's obvious talents. These include a powerful 3-D rendering package and (best of all) a much-needed 16 million colour paint package. The Harlequin doesn't come with either of these, so Impact Vision looks set to steal more than a few sales.

Built specifically to work with the Amiga 3000, the board will only work with the Amiga 2000 (and 1500) when used in conjunction with a special video adaptor board.

The price of this little beauty is going to be very, very close to that of the Harlequin, so we can all sit back and watch the pixels fly when these two clash. Personally, my money's on the GVP card!

You can find out more about the GVP Impact Vision 24 and the whole range of GVP products by phoning its UK distributor SilicaSystems. ☎ 081-309 1111.

In the meantime, you can expect a full review as soon as those nice people at Silica get around to sending me one (pretty please?).



• With the release of the GVP Impact Vision 24, it looks as if the fabled Harlequin board has finally met its match. For just £1,700, you too can produce broadcast quality images on your Amiga

BLITSOFT BLITZ

BlitSoft, the company which is soon to launch the much talked about 'Sybil' onto the Amiga scene (read last week's *Express* for more), has taken on a range of extra bits and pieces which may be of interest to Amiga owners.

First up is its new KickStart board which will allow you to have all three major Amiga operating system versions installed inside your Amiga – 1.2, 1.3 and 2.0 – when it is finally released. For game players everywhere, this card could be the answer to your dreams.

Unless you've got an autobooting hard drive installed on your system, the Amiga's internal drive is a lifeline which will render your Amiga useless if it ever becomes faulty. If this does happen, then it may well be a good idea to be prepared by purchasing BlitSoft's new Boot Drive Board.

When installed, this board will allow you to boot your Amiga from your external drive. Not only that, but it has an added advantage – it removes that terribly annoying 'click' sound that all Amiga drives make.

For Super-Card owners, BlitSoft has taken on a new software package that enhances this excellent utility device beyond recognition. Among its well hung list of features is a drive alignment checker, a disk analyser (displays the format and structure information of tracks), drive speed checker and a few enhancements to Super-Card's disk back-up capabilities. To find out more, give BlitSoft a call on ☎ 0908 666265. As always, don't forget to tell them that *Express* sent you.

Jason Holborn

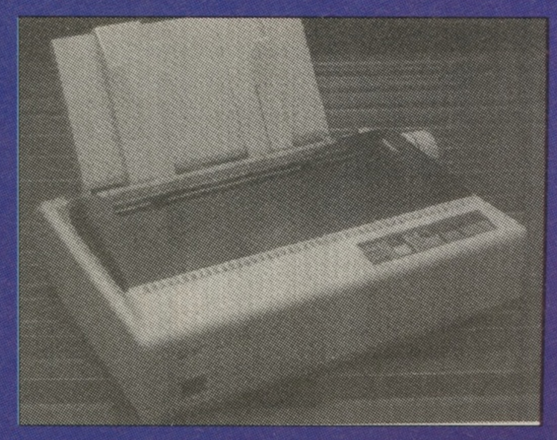
NEW STAR MAKES ITS DEBUT

A large number of printers are available for the Amiga from a wide range of manufacturers, but by far the most popular model has to be the Star LC-10.

If you're a Star fan, then you may well be interested to learn that the company has launched a successor to the LC-10 in the shape of the new LC-20, a printer which Star is flagging as the 'LC-10 for the 90s'.

The new printer (which is still a 9-pin – boo, hiss!) offers a draft printing speed of 180 characters per second (cps) and comes complete with eight Near Letter Quality (NLQ) fonts which are built in as standard. The new printer also boasts a 4K printer buffer, push tractor feed with short form tear off, paper parking and full Epson and IBM emulation. Sounds impressive enough.

The Star LC-20 costs £233.83 and is available from all good computer retailers. Alternatively, you can cut out the middle man by phoning Star on 0494 471111.



• Star's popular LC-10 printer has a successor – the LC-20 – the 'LC-10 for the 90s', offering impressive features

INSIDE INFO

ST

- **CyberDOS: ST/Amiga conversions made easy**
- ***HyperLINK*, a powerful multimedia relational database arrives on the ST**
- **Need some samples for your keyboard? Desktop Designs could have what you want**

After last week's glut of games news (well, it was the CES after all) this week it's time to concentrate on the more serious side of the ST.

CYBER MEN RETURN

Very rarely does a completely new product appear for the ST but Supa Nova Developments seem to have come up with just that. Its new gadget is known as CyberDOS and is a host-slave system for linking STs to STs or STs to Amigas.

The system consists of a lead and several software utilities and is designed to allow the high-speed transfer of files and programs from one micro to the other.

This is not so great in itself – an RS232 lead can be made to do the same – but it's the package's extras that make it really useful. For instance, it will automatically convert any assembled program to run on the slave machine. So, if you've written a database on the ST you can run it through the link and it'll end up as a usable application on the Amiga.

You also get two sets of utilities. A standard DOS on each machine allows the transfer of programs and data, and facilitates the execution of any program. But there's another operating system that is written specifically for writing games under. It contains a complete set of disk operations, such as reading, writing and erasing files, music-playing routines, keyboard/joystick reading routines and all the other bits you need to write any game.

This replacement operating system does not use the ST's normal TOS/GEMDOS at all and only takes up around 30K, leaving about 500K free for your programs and data. There's a built-in monitor to display the state of registers should a crash occur and provide any other information you may need to correct it.

Together with all this there's a CLI (Command Line Interface, such as the PD program *Gulam*) and its source so that it can be modified to your heart's content. The DOS comes in two versions: the development version which you actually use to write any programs and which includes all the error-trapping routines and extras; and a run-time version which you can be released with any games you write with no extra charge payable to Supa Nova.

The only thing that's missing from the package is a text editor and assembler, but this is a deliberate move so that you can use your own particular packages (such as Devpac) instead of learning a new one.

CyberDOS is aimed specifically at games programmers to make porting games between the ST and that other games machine – the name of which escapes me – simpler; D & H Software is already supposed to be using it for that very purpose.

The system costs £99 including postage/packing. For more information write to Supa Nova Developments at 6 Scotts Avenue, Shortlands, Bromley, Kent BR2 0LQ.

PORTABLE STEREO

Sound Technology continues to push out musical goodies for the better-off ST owner. This time it's a removable magneto-optical disk drive designed specifically for direct-to-hard-disk recording systems.

As the company points out, with the amount of data that direct-to-disk recording generates hanging about on your hard drive, it's imperative to have a back-up. But backing-up in real time can take ages, and if done regularly as recommended it can seriously impinge on your time.

To this end developer Digidesign has come up with a drive that uses a removable double-sided 630Mb cartridge specifically designed for direct-to-disk recording. 630Mb will hold around 25 minutes of stereo audio on each side at a sample rate of 44.1 kHz. That means you could comfortably fit most albums on one single cartridge.

Although the drive is designed for use with the Mac (why?) a simple convertor is available to enable it to be used with the ST. It uses the 3U format, accepts standard (standard?) 630Mb magneto-optical disks and like most hard drives has a standard SCSI interface.

The price has yet to be announced but going by previous magneto-optical removable hard drives for the ST (all one of them) it should be around £3,000. But then, if you're using a direct-to-disk recording system in the first place you should be used to splashing out that sort of amount.

For more info contact Sound Technology at Letchworth Point, Letchworth, Hertfordshire SG6 1ND. ☎ 0462 480000.

DON'T BELIEVE THE HYPER(LINK)

Ask a PC owner about *HyperText* and he'll know immediately what you're talking about, but to ST owners it's a less familiar subject.

HyperText is a visual management system that allows topics to be linked in a non-linear way, so you can simply click on any idea that interests you and skip between topics rather than ploughing through in a straight line. Any subject that can be broken down into small chunks of information is suitable for the *HyperText* treatment.

HyperLINK is a *HyperText*-style database/manager program for the ST. The system is composed of Applications, which can be anything from a message pad to a specific database or a map. The information stored need not necessarily be text; it could be a graphic, a sound or literally anything else you could store on a disk.

In an animal database, for instance, you could access a description of a duck as well as seeing a digitised image of it and hearing the noise it makes. The trendy term for this sort of tool is a Multi-Media application and it opens up huge possibilities. With enough memory and storage capacity you could hold the entire *Encyclopedia Britannica* on a hard disk and access any part of it with reference to any other part; anyone who's used a relational database will know how useful that sort of facility is.

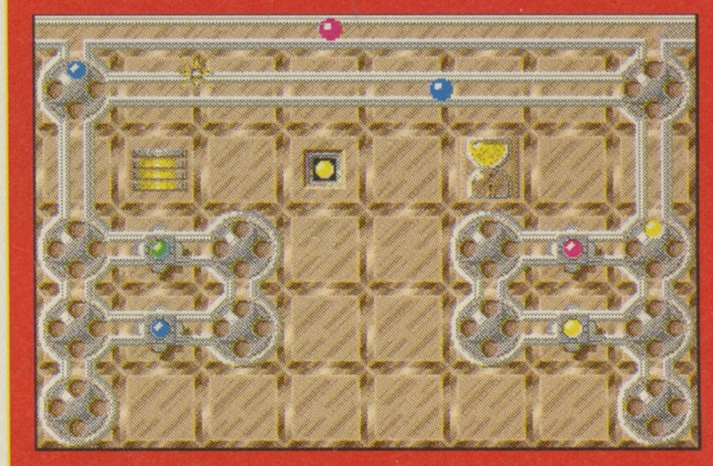
HyperLINK has many features and programs included to allow you to build any sort of multi-media application. It's a complex program that requires 1Mb and preferably a hard drive, and deserves much more space than I've given it here.

For more info contact its publishers JMG Software International Inc at 892 Upper James Street, Hamilton, Ontario, Canada L9C 3A5.
☎ Canada 416 575 3201.

Ed Ricketts

Ed Ricketts is the games guru on Express's *sister magazine* ST Format, *which is packed to bursting point with ST news, information and reviews every month.*

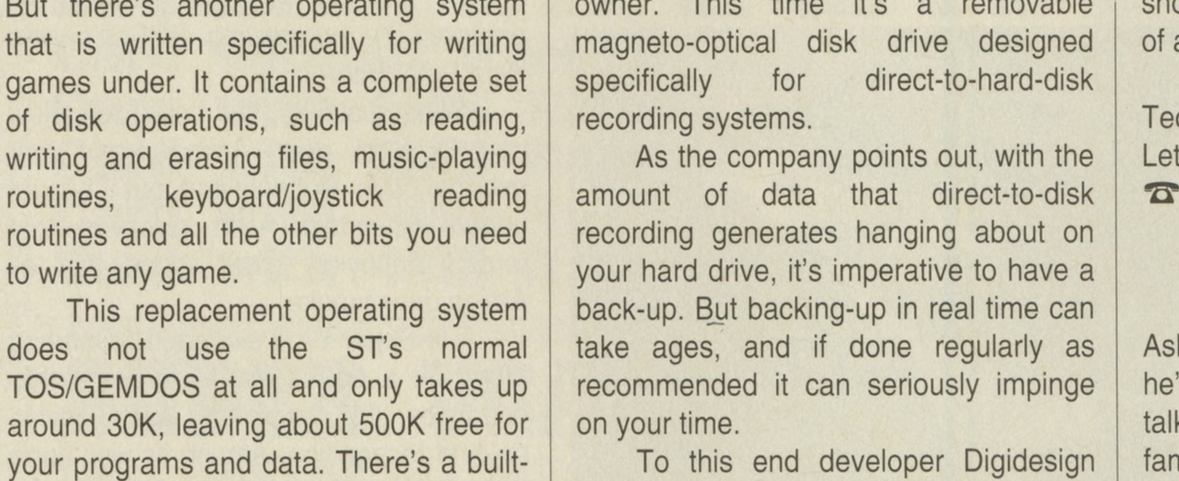
LOGICAL TIPS



Rainbow Arts' puzzle game is fun but a bugger when you can't get past a level. Try this:
Type ELOWANTS followed by the level number on to the loading screen and you will be able to go there.

Also THE FINAL CUT or ABRAKADABRA will get you into the construction kit.

DIGITISED SOUND MOVE



• A total of 365 different sounds can be produced on Korg's Wavestation

More music miscellany. Owners of a Kawai K1 or a Roland MT32 may be interested in a new company called Desktop Designs. It is dedicated to producing collections of synth sounds and these two machines are the first to get the treatment.

Each collection has over 600 sounds and comes on an ST disk with a free desk accessory loader. Due in mid-October are collections for the Korg Wavestation, the Yamaha SY/TG77 and the Roland D70/D50.

The disks cost £10 each (inclusive of everything) and are available from Desktop Designs, 4 Queens Road, Garden City, Deeside, Clywyd CH5 2JN.

TALK TO ME!

If anyone's got any dead sexy new products, startling news or downright brilliant gossip on all things ST, I'd love to hear it. Drop me a line here at the usual address:

Ed Ricketts, *New Computer Express*, 30 Monmouth St, Bath, Avon BA1 2BW.

PC XT NOTEBOOK

- **BUILT-IN CGA DISPLAY**
- **WEIGHS ONLY 3¾lbs**
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SPECIFICATIONS

- *80C86 10MHz PROCESSOR*
- *BUILT-IN 3½" 1.44Mb DISK DRIVE*
- *1Mb RAM*
- *SOFTWARE - RESIDENT: MS-DOS 3.3 IN ROM*
- *SOFTWARE - SUPPLIED: GW-BASIC 3.22, MICROSOFT WORKS 2.0*
- *REAL-TIME BATTERY BACKED CLOCK*
- *80 KEYS - EMULATING 101/102 KEY ENHANCED KEYBOARD*
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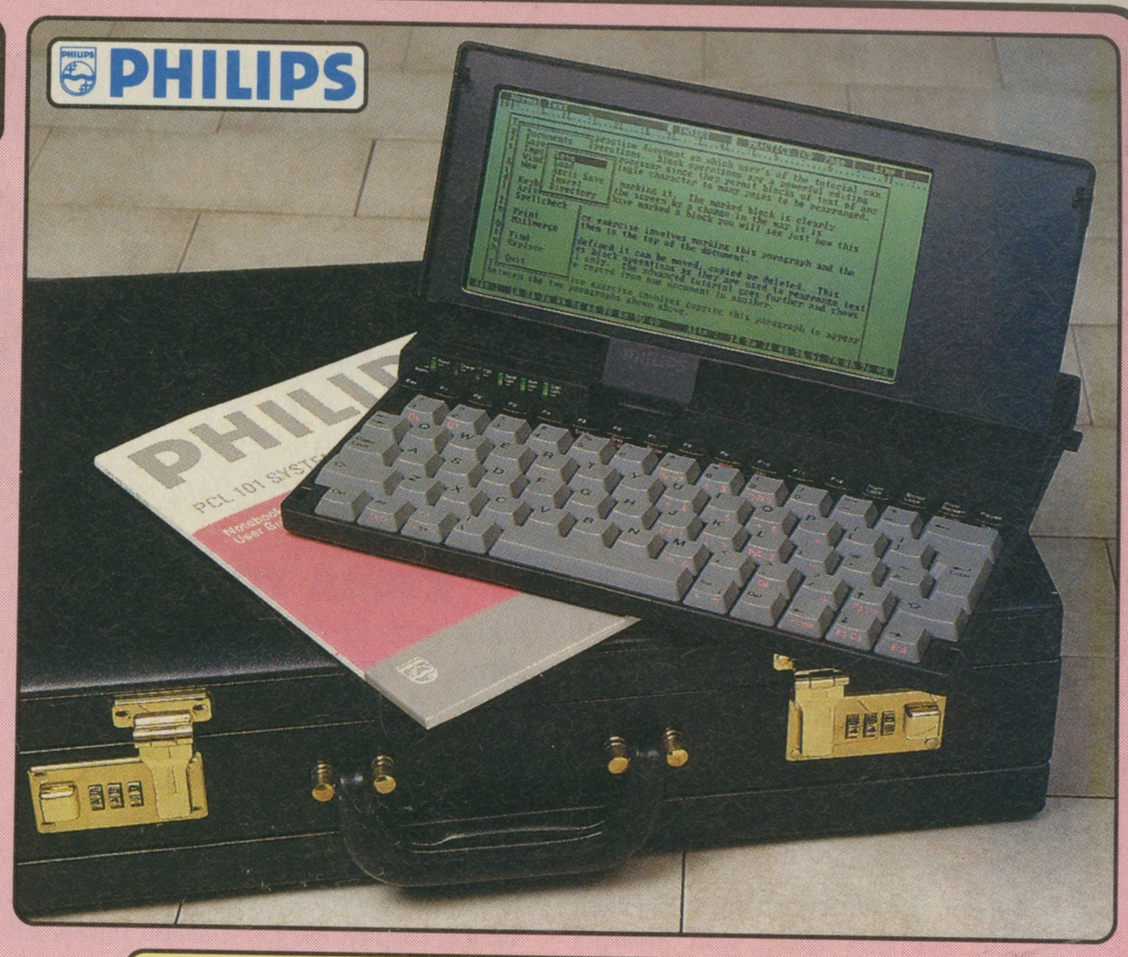
- *RESOLUTION: 640×200 PIXELS*
- *SERIAL, PARALLEL & VIDEO PORTS*
- *LED INDICATORS FOR POWER, FLOPPY DISK & BATTERY LOW*
- *POWER - MAINS & BATTERY: 4 RECHARGEABLE NI-CAD CELLS. POWER MANAGEMENT GIVES APPROX 3 HOURS OPERATING TIME*
- *DIMENSIONS (W×D×H): 11"×8⅔"×1"*
- *WEIGHT: 3¾lbs*
- *OPTIONAL: ADDITIONAL RECHARGEABLE BATTERY PACKS*

The super-compact Philips PCL 101 Notebook, takes up less surface area than an A4 page, weighs just 3¾lbs, is just over 1" thick, yet only costs £449+VAT. The PCL 101 is fast (10MHz CPU) with 1Mb RAM and a 1.44Mb, 3½" standard floppy disk drive.

The easy to read LCD CGA screen measures just 3½"×7½" and displays crisp, clear characters and sharp graphics at CGA resolution (640×200 pixels). The keyboard has 80 full size, full travel keys with 12 separate function keys, emulating a full-size industry standard keyboard.

Industry standard serial, parallel and external monitor ports, are all included. Power can be supplied from the mains via an auto-sensing, multi-voltage adaptor and charger, or by a Ni-Cad battery pack that snaps flush into the main body case. With its sophisticated power management, the battery lasts for about 3 hours (and takes 4 hours to recharge). The PCL 101 offers automatic audio 'battery low' warnings, to help ensure that you never lose any valuable data.



PACKAGE INCLUDES

- *MS-DOS 3.3*
- *GW-Basic 3.22*
- *Microsoft Works 2.0*
- *PSU/Battery Charger*
- *Protective Pouch*
- *1 Year On-Site Warranty*

£449

REF: NBC 7101 +VAT = £527.58

286 + 386 PC AT NOTEBOOKS



- **BUILT-IN VGA DISPLAY**
- **20Mb HARD DRIVE**
- **6 HOUR BATTERY LIFE**
- **1Yr ON-SITE WARRANTY**
- **WINDOWS 3 + MOUSE**
- **TEXTURED CASING**

In stylish grey casing with a non-slip, textured finish and using the very latest technology, Commodore's 286-LT and 386sx-LT Notebooks are available from Silica at incredibly low prices.

Both models have a 20Mb hard disk, 1Mb RAM, expandable to 5Mb RAM using two 2Mb RAM cards, a 3½" 1.44Mb floppy disk drive and industry standard parallel and serial ports to allow connection to a wide range of printers, mice, modems and LAN adaptors.

Bright, backlit LCD screens display VGA graphics at 640×480 resolution, with a port to plug in a colour VGA monitor to show the graphics full potential.

These compact Notebooks weigh just over 5.9 lbs (7 lbs with battery) and measure 12¼"×10"×2". They can be powered from the mains, via the multi-voltage mains adaptor, or by their own batteries, which can be recharged while in use, or independently in approximately one hour. Commodore's Powersave feature increases battery life to up to 6 hours and, along with optional rechargeable battery packs, gives you continuous PC power on the move!

SPECIFICATIONS

	286	386
PROCESSOR	286	386sx
CLOCK SPEED	12MHz	16MHz
LANDMARK (MHz)	11.5	21
1Mb RAM EXPANDABLE TO 5Mb	●	●
2Mb RAM UPGRADE	£299	£299
20Mb 23ms HARD DISK DRIVE	●	●
VGA GRAPHICS - Res: 640×480	●	●
3½" 1.44Mb FLOPPY DISK DRIVE	●	●
PARALLEL, SERIAL & VGA PORTS	●	●
UP TO 6 HOURS BATTERY LIFE	●	●
1 YEAR ON-SITE WARRANTY	●	●
WINDOWS 3.0 + MOUSE	●	●
MS-DOS 4.01 + GW-BASIC	●	●
80387sx CO-PROCESSOR UPGRADE	—	£279

286 WITH 20Mb HDD

£999

+VAT = £1173.83

40Mb HARD DRIVE VERSION - £1199

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Before you decide when to buy your new Notebook computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Notebook, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for over 12 years and, with our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest FREE LITERATURE and begin to experience the "Silica Systems Service".

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Opening Hours: Mon-Sat 9.30am-6.00pm	Late Night: Thursday until 8pm	Fax No: 071-323 4737	
LONDON (SELFRIDGES):	1st Floor, 369 Oxford Street, London, W1A 1AB	**Tel: 071-629 1234**	
Opening Hours: Mon-Sat 9.30am-6.00pm	Late Night: Thursday until 8pm	Ask for extension 3914	
SIDCUP SHOP:	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	**Tel: 081-302 8811**	
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Which computer(s), if any, do you own? 70A

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PC

● The operating systems war hots up as Digital Research launches DR DOS 6.0
● IBM and Apple like Sweet Peas in a pod
● Sierra's *Police Quest 3* – a game with some arresting graphics and music

Digital Research recently made the latest move in its game of technological leapfrog with Microsoft by introducing a version of DR DOS that the company says features better memory management, a task switcher and more efficient disk management.

Version 6.0 automatically loads itself into high memory, along with network drivers and memory-resident programs, giving you as much as 628K of memory for applications on 80286 and 80386 machines, the company claims.

Running even on 8088-based machines, DR DOS 6.0 gives you as much as 612K for applications. However, for the 8088 and 80286 you will need to have a LIM-compatible add-in board to take advantage of the added memory.

Version 6.0 of DR DOS has an optional compression system that in many cases doubles hard disk storage space. The new operating system's task switcher lets you load as many as 20 applications at once and cut and paste information from one application to another.

The advantage Version 6.0 has over DOS 5.0's task switcher is that you can operate it both from the system's graphical shell and the command line, according to company officials. A new disk cache, based on *Super PC Kwick* from Multisoft, is capable of running applications significantly faster than the previous version.

Like MS-DOS 5.0, DR DOS 6.0 includes an Undelete feature that lets you recover deleted files.

Available now, the package costs £79. Existing users can upgrade for $30 [plus postage] directly from Digital Research. Those who bought DOS 5.0 after 1 August can upgrade for £9.95.

☎ Contact Digital Research on 0635 35304.

KUMA TOOLKIT

Kuma recently announced a new utility called, fanfare please, *Disk & Directory Toolkit*. According to Kuma's Tim Moore *D&DT* is positioned, "Halfway between the public domain and *Norton*."

Priced at £29.95 *D&DT* is available for the curious among you who want to see what is lurking on their disks without having to pay *Norton Utilities* prices for the privilege.

Features include: read root and sub directories (which gives file info on sector usage and file status including hidden and deleted files), detailed bios parameter block information and a feature that follows a chain of sectors used in a given file.

Kuma says that it welcomes written suggestions from users for incorporation into future versions.

☎ Contact Kuma on 0734 844335.

SWEET PEA

IBM and Apple will form a second subsidiary to develop hardware, software, and multimedia services separately from their joint operating system and RISC workstation efforts.

The first project the two will work on is a favourite of Apple chairman and CEO John Sculley's, a palm-size system with a CD-ROM drive and miniature display that can access data from any computer or telephone.

Code-named Sweet Pea, the product is modelled after Sony's Data Disk Man, currently sold in Japan to the education market and in limited quantities to the business market. Sweet Pea, described by some as a, "personal communicator," could be used for such applications as electronic mail, file transfers, and remote order entry. It would initially be able to handle text and graphics, with sound and full-motion video capabilities added later.

Another project championed by Sculley, the P3-TV project, enables you to download a variety of products and services to a computer or television using a standard television broadcasting medium. Described by some as a cross between pay TV, cable and record and video stores, the technology would allow you to download movies, videos, and music, as well as information services, sources said.

As part of that effort, IBM and Apple would have to obtain the rights to the products' content and establish a system of royalty payments. The multimedia plans are just part of the wide-ranging development agreements that IBM and Apple are finalising.

XGA ON COURSE

IBM recently made good its promise to make its XGA graphics technology available to third-party developers by licensing UK-based Inmos to develop and manufacture XGA chip sets.

Inmos, a member of the SGS-Thomson Microelectronics Group, will have exclusive rights to manufacture and market versions of the XGA chip sets for both IBM's Micro Channel Architecture and Personal Computer AT bus architectures for the next 18 months.

The MCA version from Inmos is available now, with the PC AT bus version expected to be delivered by the end of 1992. Both versions will be sold primarily to board makers and not to IBM's hardware competitors such as Compaq. SGS will also do an interlaced version of the technology, also expected sometime next year.

IBM believes the agreement will significantly shorten the development time as well as minimise the expense of bringing third-party XGA products to market.

Paul Rigby

WINDOWS SHAREWARE

Aye, 'tis that time of the column when we get to grips with a bit of Shareware. This week I'm starting a new series - Windows 3! Five glorious disks full of utilities for that ever popular GUI.

● First up is the *Definitive Icon Selection* (disk 2736). This is a huge collection of icons for just about any program and occasion. If you cannot cover your program with an icon from this selection then I'll be... well, surprised at any rate.

● *Windows Toolbook Misc VOL3* (disk 2735) is a collection of Toolbook applications. Requiring a runtime version of Toolbook to work it includes a CD database collection, sound generator, a Rolodex for names, addresses, etc. Very handy.

● Next is *Winovelties 2* (disk 2734) containing games and graphic utilities including:

Ants: uurrgh, all over the screen.
Gravity: a simulator.
Winfern: a fractal fern generator.

● *Wintamers 6* (disk 2733) includes many handy control utilities such as:

Grabit: Windows screen capture program.
Mem: a free memory display utility.
Cleanup: a rapid file deletion utility

● *QVT for Windows* (disk 2722) is a DEC VT220/102/52 terminal emulator and comms program that provides complete VT emulation including many emulations and a special EGA font file.

Contact: PD & Shareware Library, Winscombe House, Beacon Road., Crowborough, E Sussex, TN6 1UL.
☎ 0892 663298.

ON THE CASE

Ready to burst through your door, guns blazing, is Sierra's latest cop drama – *Police Quest 3* (*PQ3*). Displayed in glorious 256-colours, *PQ3* will include many photo-quality digitised screens as well as top quality artwork.

Designed by ex-police officer Jim Walls, *PQ3* continues to offer true-to-life police forensic, crime lab and investigative procedure.

On the track of a series of bizarre ritual killings – including a serious attack on his own wife – hero, Sonny Bonds is also on the trail of a cocaine ring. Featuring music from Jan Hammer – who wrote the sound track for Miami Vice – *PQ3* will set you back £44.99 [VGA] and £39.99 [EGA].



•If you like a really good, ripping police yarn then Police *Quest 3* should be up your street. It features some stunning graphics and music by Jan Hammer of Miami Vice fame





• Sony Bonds, guns blazing and cop car racing, continues his quest to clamp down on drug smugglers

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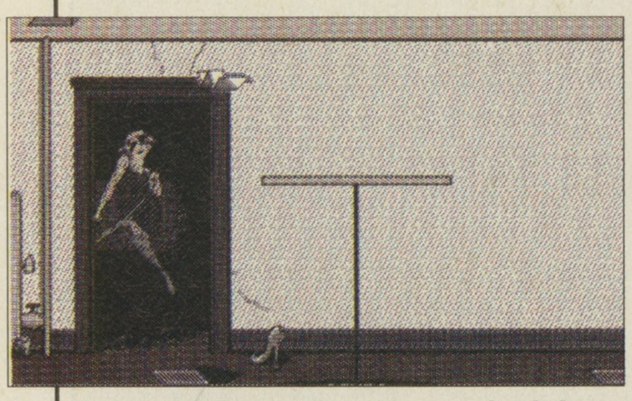
PUBLIC DOMAIN

THE PD COLUMN

From the weirdest of games to the most serious of software – James Leach puts you in touch with this week's new releases for your machine from Public Domain libraries all over the country

The Apple Macintosh range of computers seems to have more than its fair share of Public Domain. Especially when you consider how relatively few Macs there are in this country, and that most of the ones that do exist are tucked away in offices where they should be doing serious jobs and not running PD games at all.

But there still seems to be tons of Mac software available for the price of a disk. And Wizbit Public Domain are just the people to deliver it to you.



• Have fun with a Mac and *Glider* from Wizbit

Wizbit has recently released five disks, called ***Wizbit Wonders 1*** to ***5***. These have all manner of games, desk accessories, puzzles and general time-wasters crammed on to them. Most useful are the desk accessories. Disk ***2*** is the best in this respect; it contains clocks (both analogue and digital), calendars and disk checking utilities in abundance. If you've just got a Mac and you're looking for trendy 'time-saving' applications, then you'll find them here.

There are games aplenty (nearly all working in monochrome of Mac Classics, Pluses and SEs). Glider, in which you must keep a paper plane aloft by flying it over the hot air vents in a house, must be one of the weirdest. It gets to you, though, and before you realise it an hour or two has drifted past. Other classics, such as ***Breakout*** or ***Tetris***-style block manipulating games are also on the disks (Disks One and Three are filled with these).

More and more Mac PD must be going to that growing band of people with 16-bit home computers and Mac emulators such as Spectre GCR for the Atari ST, so Wizbit could be on to a real winner here as well.

AMIGA EXCERCISES

Essex Computer Systems (formerly called Digital Applications) has just released two very useful Amiga disks. One is called ***System Exerciser*** which checks your entire computer system (along with any disk drives you're added to it). It keeps a careful eye on disk accuracy and speed. If the access times aren't exactly right it'll notify you. It also reports any faulty operating procedures and basically watches out for faults within your set-up. Getting hold of ***System Exerciser*** when your Amiga seems to be working fine might be a bit pessimistic, but it's definitely a useful disk to have.

ECS has also put out ***Super "C"***. The idea is that it replaces both the CLI and the Workbench, and it's one disk which contains the existing C: directory. It contains all the old DOS commands plus a truck-load of new ones.

Everything is explained from a user-friendly system of menus. The disk is flagged as being "as near to a hard drive as you can get using floppies". Incidentially, both these disks are for the

ON-LINE IDIOTS

Amiganuts, purveyor of all manner of Amiga PD has asked me to point out that it is withdrawing its telephone service owing to the non-stop flow of enquiries they're receiving.

Also, Amiganuts is concerned at the number of calls from what it refers to as "filthy-minded idiots" clogging up its phonelines. You can still fax Amiganuts on 0703 78568.

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D128) Sleeping Bag Demo
D130) System 5 Demo
D132) Alpha Flight Megademo 2
D134) Share And Enjoy 46
D136) Thames TV Demo
D138) Vision Megademo
D140) Fast Cars Slideshow
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U015) The Magicians Utilities
U017) Steel Moon Utilities
U019) CADV
U021) Super C Disk
U024) Red Devil Utils 4
U026) Amibase V3.76
U031) Bootbench
U033) C-Light 1+2
U035) System Checker
U037) Tetra Copier
U053) Text Plus Wordprocessor
U056) Wordwright Wordprocessor
U058) Running Man Update
U060) Mag Media Disk Utilities
U062) New Age Utilities
U063) Pendle Europa Utils
U065) Fonts
U067) ICPUG Printer Utilities
U069) XLS Best Of PD 3

GAMES

G004) Breakout Construction Set
G006) Star Trek (2)
G008) Drip *
G010) Quiz Master 2
G012) Popeye
G014) Tennis *
G016) Flaschbier
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G026) Movie Games
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more techically-minded user, but the quality of the programs and the instructions on them are superb.

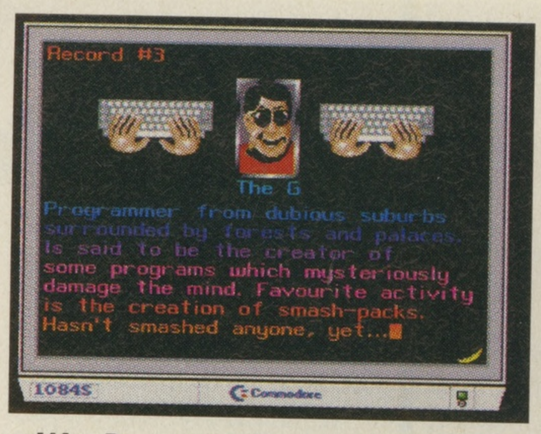
Kicking off into the Amiga PD world is Shieldsoft PD of Clwyd. As well as providing the excellent ***Vector Designer*** (which perfectly complements the ***Red Sector Demo Maker*** reviewed in issue 149), Shieldsoft is appealing for new Amiga programmers to contact them with potential PD releases. It also runs a helpline for programmers trying to get to grips with the machine (the number is 0745 343044). Shieldsoft is also one of the cheapest organisations I've found, so it deserves a mention on that score.

WORM OPPRESSING

If you're looking for a decent PD word processor for your Amiga, Software Expressions has just the thing. it's called ***Transcript*** and quite simply, it does everything a decent word processor should do. There are a lot of functions such as search, replace, save as ASCII



• Word processing for next to nowt on the Amiga with *Transcript*



• *Wet Beaver* comes courtesy of Singer PD. And boy, is it weird

and so on, and the on-disk instructions go through all the possibilities with a gratifying degree of clarity.

Protext it isn't, but ***Transcript*** certainly is quality PD, so if you're into words (and you don't want to part with huge wadges of cash), it's got to be high on your list.

Also from Software Expressions is ***Cabaret Asteroids***. Weird name, familiar game. It's a perfect ***Asteroids*** clone, even down to the wiry writing on the high-score tables. For those who aren't familiar with this venerable old classic, you control a spaceship which can rotate and thrust, but as there's no gravity you sail on blithely in the direction you last moved. Also flying round the screen are huge asteroids which you'll have to blast into bits if you're to survive. It's a great game, and ***Cabaret Asteroids*** is *the* implementation to get.

A strange Amiga game has also surfaced from Singer Public Domain Library. It's called ***Wet Beaver***, but don't let that put you off (or, indeed encourage you). It takes the form of an interactive (tap-into-a-security-computer) style game and there's a lot of humour and a fair degree of brain-twistiness needed to play. It's great for whiling away a few spare hours, that's for sure.

ON-SCREEN MAGAZINE UPDATE

Telescan has released another Scanner magazine on disk. Or rather two disks, as there is such a lot of information it wants to impart to you.

It's not strictly PD, it's actually Licenceware (see *Which Ware is What?* box on page 60), but for £2.50 you get several games, a letters page, lots of news and gossip about the Amiga world and even full applications like *Spectrapaint v 3.4* and a mouse pointer animator.

Also, there's a comprehensive guide called *AmigaDos Helper*, which tells you everything you need to know about your machine.

Scanner, like *The Disk* (the other Amiga mag on a floppy) is a very well put-together piece of software, and if you haven't seen either, you should.

DINKY DEMOS

Demos are getting better and better, but occasionally you find one which is, well, silly. ***Edd The Duck*** comes courtesy of Singer PD. Edd achieved minor cult status on Children's BBC for a while by squeaking instead of making proper noises. And here he is, large as life on your Amiga, accompanied by the sampled soundtrack of his single (which sank without trace). If you have children who are fans of the green duck (and I'm not talking about Orville), it'll keep them mildly happy for a while.

In the same vein, the South West Software Library has now released a ***Tom And Jerry*** cartoon for the ST. It uses graphical representations of the Warner Bros show and is an animated episode in its own right. Briefly, Tom sees Jerry, chases him, Jerry runs and hides under Spike. Tom beats Spike about the face and neck with a shovel, then the maid returns and scolds him. It's not shortlisted for the Nobel prize for



• *Tom And Jerry* create mayhem on your Atari thanks to SWSL

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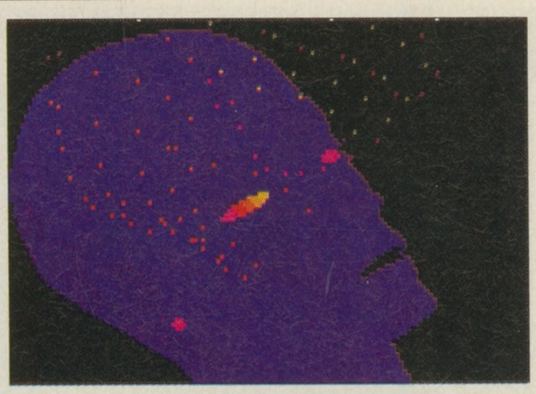
PUBLIC DOMAIN

Literature and It's not particularly long, but is very enjoyable and impressive in its execution. Oh, and the soundtrack is excellent as well.

The big release from the South West Software Library (also on ST) is the Shareware version of ***Colourspace***. This is a light-synthesiser from Jeff Minter of Llamasoft. With the program you can manipulate various pulsating light sources to create what can only be described as psychedelic colours and patterns flowing in peaceful harmony across the untroubled surface of your monitor (*that's enough. Ed*). ***Colourspace*** is the predecessor to ***Trip-A-Tron***, and they both have a great deal in common. Both can be linked to hi-fis to produce patterns that actually harmonise with the music.



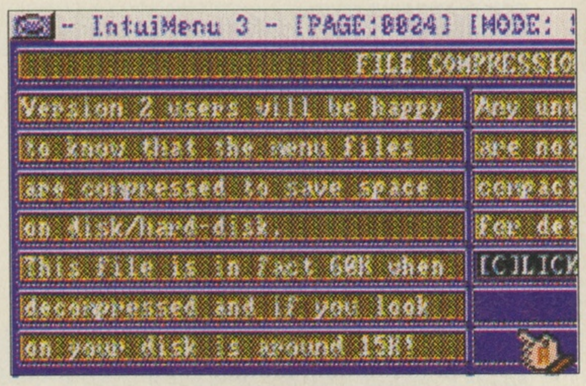
• *Colourspace* for the ST could well blow your mind

After the relative success of ***Llamatron*** for the Amiga and ST as Shareware, ***Colourspace*** is Jeff's way of saying thanks (and trying to make a bit more dosh). So when you get hold of the program, send him a fiver and he'll send you the ***Colourspace*** manual and details of other stuff he'll be releasing. ***Colourspace*** is a lot of fun and Shareware deserves to be encouraged, so get those £5 notes out now.

FRONT END FROLICS

Intuimenu III is for the Amiga. It's a replacement for both the Command Line Interface and the Workbench and allows you to manipulate the 'front end' of your machine (in other words, get things done) much more easily and quickly.

The author has taken the best features of the CLI and combined it with the best bits of the Workbench. The results will please both experienced users and newcomers alike (once they understand how it all works).



• Simplify your Amiga's menu system with *Intuimenu*

Technically, ***Intuimenu*** is Licenceware, so it costs £4.50 from Amiganuts, which passes on a substantial amount of that to the author. But even at that price, it's worth it. ■

YOUR GUIDE TO WHICH WARE IS WHAT

The world of Public Domain isn't as straightforward as it's often made out to be. Everything isn't totally free and unrestricted by copyright and so on. So here's the *New Computer Express* guide to the classification of the various types of cheap software.

SHAREWARE

The program is completely free, but is sometimes a reduced, incomplete version of the program. The idea is to send the author (whose name and address will appear in the program) a fee, usually £5 or $5. He will then send you an updated, complete version of whatever program you originally got.

If the program is complete anyway, he could well send you another similar prog he might have done. Either way, you're honesty and generosity get rewarded. Jeff Minter released *Llamatron* (and now *Colourspace*) as Shareware and, since it appeared on the *ST Format* coverdisk, 20 to 30 fivers from honest folk have been rolling in every day.

FREEWARE

You can copy this, distribute it, give it away or do whatever you want with it. There is no fee for the program and there is no copyright. Most PD is therefore Freeware, and the price you pay for it is to cover post and packaging, the disk it's on and the overheads of the PD library (plus a little profit to enable them to carry on).

LICENCEWARE

You pay more to the PD library because it passes on a fee to the programmer, whose copyright remains intact. You cannot pass Licenceware on to friends.

PUBLIC DOMAIN

A generic term covering every program you can get for nothing or for a small fee (this includes Licenceware, Shareware and Freeware).

WETWARE

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D111 The Wall (6)
D112 Sgt Pepper (2)
D105 Star Trek Megademo (2)
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M013 Amigadeus

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Office Choice, Suite 14, Avon House, Town Centre, Cumbernauld G67 1EJ

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PD LIBRARIES A-Z

You've read the column, so now you want to know where you can get hold of the software. That's where the *Express* PD library listing steps in...

8-BIT PUBLIC DOMAIN – Spectrum, BBC, Amstrad CPC and ZX81 public domain software. Send stamp and 10p for list. Public Domain, 1 Northolme Close, Grays, Essex, RM16 2NX.

17-BIT SOFTWARE – PO Box 97, Wakefield, West Yorks WF1 1XX. Tel: 0924 366982.

ADES PD LIBRARY – Where all PD is less than £1. Some free. Send SAE for great details. Address 15 Deanes Close Dovercourt Essex C012 4SH.

ADPD – For the cheapest Amiga PD around, some even free. Send SAE for details or disk for lists. 15 Deanes Close, Dovercourt, Essex CO12 4JH.

ADVANTAGE – 54 Bath Road, Cheltenham, GL53 7HJ. Tel: 0242 224340.

AKORE SHAREWARE – 7 Fishergate Point, Lower Parliament Street, Nottingham NG1 1GD. Tel: 0800 252221.

AMIGA ANSWERS – The first integrated programmers PD library and problem solving service £1.50 for catalogue and programmers utility disk. Amiga Answers, 11 Mill Hill Road, Norwich.

AMIGA NON-RIP OFF PD – For good Demos send disks, return postage to Mark, 50 Victoria Avenue, Sleaford, Lincolnshire NG34 7LN. Most demos: not allowed in profitable libraries.

AMIGA PD BREAKTHROUGH – You've tried the rest, now try the best! PD from 18p per disk. Swift dispatch of all orders. Contact Darryl, 12 Kent Avenue, Ross-on-Wye, HFDS HR9 5AQ, NOW!!

AMIGANUTS UNITED – 169 Dale Valley Road, Hollybrook, Southampton SO1 6QX.

AMOS PD – 0942 495261.

ANDRIKKOS PC LIBRARY – PC Megapack: 14Mb compacted Shareware, £16 . Cheque/PO or SAE for list : Andy Kyriacou, 17 Parkhurst Rd, London N22 4JQ.

ANGLO AMERICAN SHAREWARE – £1 a disk. Over 2,000Mb of top Anglo-American titles. Send two first class stamps for menu driven catalogue disk to 37 Deven Place, Newport, Gwent. Tel 0633 259847.

ARCH ANGEL PD – Over 230 disks of Archimedes software. Send 75p for catalogue/demo disk to 9 Chancel Court, Pinhoe, Exeter, EX4 8QE.

ARCH PD – Over 200 disks of Archimedes PD. SEnd £1 or SAE and disk to Arch, PO 109, Ferry Road, Hullbridge, Essex, S55 6EL.

ATARI ST DEMO SPECIALIST – Range of POV , megademos,singles, music modules, slideshows, uilities. £1 for catalogue disk. Unit 1, Johnson's Shopping Centre, 29/31 Bond St, Blackpool FY4 1QB.[3]

BASOFT PD – Original PD plus the best of the rest. SAE to BASOFT, 357 Church Rd, Basildon, Essex SS14 2EV. £1 per disk. New disk catalogue in exchange for blank disk.

BEGINNERS' PD – ST PD starter disks. Two available. Over ten programs. £3 the lot. Write to James Thoroughgood, 114 Sandrigham Way, Frimley, Surrey, GU16 5YF. Also send suitable SAE.No cheques.

BBB (BIG BAD BRIAN'S) PD library. 3.5-inch only from £1. Send formatted disk and SAE for catalogue to BBB, 35 Grangeside Ave, Hull HU6 8LP.

BENETECH – PC PD. 21 Loughborough Road, Leicester LE4 5JL.

BOOT UP PUBLIC DOMAIN – Amiga Public Domain. Only £1 per disk Send 75p for catalogue disk to Carol Wellington, 30 Sunnings Lane, Upminster, Essex RM14 2DQ.

BROADSWORD PUBLIC DOMAIN – Atari ST PD. 70p per disk. Send disk plus SAE to Flat 4, Moreton Court, 212 Dover Road, Walmer, Deal, Kent CT14 7NB. Over 350 disks.[2]

BUDGIE UK – 5 Minster Close, Rayleigh, Essex SS6 8SF

BURMAN'S PD – Amiga PD for 40p. For a catalogue on disk, a few demos and a game send a stamp and disk to Burman's PD, 41 Pinner Park Gardens, Harrow, Middlesex, MA2 6LQ

BYTEBACK – 6 Mumby Close, Newark, Notts NG24 1JE. Tel: 0636 79097.

CALEDONIA PDL – 250 Oldtown Road, Hilton, Inverness IV2 4PT. Tel: 0463 225736.

CAPRICORN COMPUTERS – 35 Warwick Road, Olton, Solihull, West Midlands B92 7HS.

CHEZRON SOFTWARE – 605 Loughborough Road, Birstall, Leicester LE4 4NJ.

CHRISTIAN COMPUTER CONCEPTS – Christian PD/shareware. 5.25-inch. Ian Hurst, 7 Perrybrook Walk, Ashton in Makerfield, Wigan WN4 8TR.

CIRCULAR PD LIBRARY – 14 Morrison Drive, Lennoxtown, Glasgow G65 7BA

COLONIA PDL – PD swap shop! Amiga and ST. Over 350 titles. One for one. Swap free. For list write to 4 Eastfield Street, Lincoln LN2 5ES.[2]

CRAZY DIAMOND PD – For the ST. Send SAE and blank disk for catalogue and free PD to 58 Hillside Road, Sudbury, Suffolk CO10 6SA.[2]

DATA PD – For Amigas and Amstrad CPCs. For a disk-based catalogue and sample programs send £1 (Amiga) or £2.50 (CPC). Cheques/POs to T Kingsmill, 202 Park Street Lane, Park Street, St Albans, Herts AL2 2AQ.[3]

DELTA C64/128 PUBLIC DOMAIN – Send SAE for details to Delta PD, 39 Station Road, Claydon, Ipswich, Suffolk IP6 OHS.[2]

DELUXE AMIGA – Exclusive review of Terminator 2 in issue 1. Send a £1 cheque/PO to Antony Grace, 2, Furzefield Crescent, Reigate, Surrey RHZ 7HQ.

DISCOVERY PD – Coming soon. For Atari ST. Wide selection and excellent after sales help. Disks £1-1.50. Disk catalogue 50p. Write to J Thoroughgood, 114 Sandringham Way, Frimley, Surrey GU76 [2]

THE DISK – Stephen Lord, 6 Stubbington Brink, Hebden Bridge, West Yorkshire HX7 6LR.

DRAGON PD – Programmers wanted for Amstrad, CPC 6128 PD library. For more info, write to: Dragon Road, 415 (flat) Whitehall Road, Bristol, BS5 73P.

DYNAMIX PD – PC, Amiga and C64 Public Domain. All new and best titles. For free detals contact 132 Springwood, Llanedeyrn, Cardiff CF2 6UF. (SAE)

ENTERING THE DOMAIN

New libraries open up every week, and *Express* is the best way to tell the world that you have arrived on the scene. If you want to be included in the list fill in the form below. New entries are highlighted in this box.

PD library entries will only be included in the listing for eight weeks. If you want to keep your library in the list, just send us a note to say you're still operating.

- DIGITAL APPLICATIONS - have changed their name to Essex Computer Systems, 118 Middle Crockerford, Basildon, Essex SS16 4JA[4]
- GENERAL AMIGA - A comprehensive Amiga PD Library. All disks. Only £1. Monthly catalogue/magazine £1.50. Cheque or P.O. General Amiga, 19 Earn Court, Alloa. FK10 1PT[4]
- PC SHAREWARE/PD - £1 Disk + P&P. 2000 MB/AVA. Top titles. Choose programs to/fill disk. Send 2 f/class stamps for menu catalogue disk, 37 Devon Place, Newport, Gwent.[4]
- PD for the ST – the best catalogue, the best service. No connection with 'South West PD', or anyone else. The South West Software Library, PO Box 562, Wimborne, Dorset, BH21 2YD[4]
- THE BEST PD at the best prices. All software checked and virus free. Send £1.50 for demo disk, catalogue, and membership card. Chris Bayliss, 38 Grantham Drive, Bury, Lancashire BL8 1XW[4]
- PD SOFTWARE for the ST. Only the best programs. Get into our library. Send 50p. or blank disk + SAE 95, Elton Road, Sandbach, Cheshire CW11 9NF[4]
- ALDRO AMIGA PD SWAP CLUB SAE and blank disk for details. Lists growing every day. Send to: 24 Water Meadow, Quepgeley, Gloucester GL2 6XR[4]
- IMAGE ART ST PD LIBARY Hundreds IMG Picts. Calamus Fonts and more. Send SAE £1.50 for catalogue. Image Art, 19 Brenda Rd. Tooting Bec SW17 7DD[4]
- C˜S PD LIBRARY Sam Coupe PD Software. Send SAE and disk (or 80p) for disk catalogue to: CMS PDL, Donald Drive, Chadwell Heath, Romford, Essex[4]

EAST MIDLAND PUBLIC DOMAIN LIBRARY – 54 Watnall Road, Hucknall, Nottingham NG15 7LE.

ED's FREE PDL – Public Domain for the Atari ST. Send your list for mine. 1-4-1 basis. EJ Carter, 184 Hatters Lane, High Wycombe, Bucks HP13 7LY.

EDLIB – Interactive, educational and productivity compilations of PD for Amiga. £1.50. All regular PD only 89p. Graphics Master 1 and 2, graphic image manipulation PD software at £3. Contact Edlib, Scotland Farm, Stockwood Rd, Brislington, Bristol BS4 5LU.

ELMSOFT – PO Box 17, Loughton, Essex IG10 2EE.

ESSEX SHAREWARE LIBRARY – Beginners pack of the best of PC Shareware. Ten disks £14.99. Cheques/PO to Essex Shareware, 221 Branksome Avenue, Stanford-Le-Hope, Essex.

FORTISS PD – Amiga PD. Watch the magazines for our advert or send £1 for catalogue disk to Fortiss PD, PO Box 2, Earl, Shilton, Leicester LE9 8LU.[2]

FREAKS PUBLIC DOMAIN LIBRARY – Disks filled with programs from a huge range. Ribbons re-inked, recycled packaging, send stamp for catalogue to Freaks, 29 Leap Valley Crescent, Downend, Bristol BS16 6TQ.

FREEWAY PD – For the Amiga. Loads of titles for only 99p including p&p. Send disk for list. Freeway PD, 11 Elizabeth Place, Somting, Sussex BN15 9U3.

GARNER DESIGNS – Spectrum PD. 57 Lovers Walk, Dunstable, Bedfordshire LU5 4BG.

GOODMAN PDL – 16 Conrad Close, Meir Hay Estate, Longton, Stoke-on-Trent, Staffs ST3 1SW. Tel: 0782 335650.

IMG CLIP ART – GDOS fonts for sale or swap. For catalogue send blank disk plus SAE or £1 to E Renner, 62 Broxholme Lane, Doncaster.

JACKSON'S PD SPECTACULAR – Amiga PD. D Jackson, 22 Victoria Court, Clifton Road, Worthing, Sussex.

JAMES & JAMES PD – Atari PD from £1 disk. Bristol 668137. PD swapped and sold.

JASE PD LIBRARY – utilities, games, demos etc. £1.25 per disk. Write to 9 Broadfield Squ, Enfield, Middx EN1 3PA for catalogue or send £1 for catalogue disk.

JAY-DEE'S PUBLC DOMAIN SOFTWARE – Jay-Dee's PD Amiga disks only 40p each for catalogue send SAE and disk to Jay-Dee, 389 Scalby Road, Newby, Scarborough, North Yorkshire. Catalogue updated monthly.

JENNIX PD – Celebrating our second birthday in style. For the best ST PD around, the most competitive prices and the best service talk to us. Send 50p for catalogue disk to Jennix PD, 66 Abbey Road, Strood, Kent. Tel: 0634 723659.[3]

JPDL – Atari ST PD. Double-sided disks supplied if possible. Blank disk and SAE or 70p to: J Kilner, 120 Wiggington Road, Tamworth, Staffs B79 8RW.

KEANSOFT PD – ST PD for sale. Send SAE and blank disk for copy of latest catalogue. Write to Keansoft PD, 42 Lords Croft, Clayton-Le-Woods, Nr Chorley, Lancs PR6 7TP.

KEV'S PD – Amiga £1 disk. K Larkin, 12 Hathaway Court, Cheriton Rd, Gillingham, Kent ME8 0ES.

L & D PD – Amiga PD from 35p per disk. Monthly competition to win PD of your choice. Also a new digitising service is available. For info send SAE and disk to L & D PD, 10 Hornbean Green, Pontefract, West Yorks WF8 2DX.

LAPD – Worldwide reputation for quality PD for the ST. Thousands of programs available. Disk catalogue only £1.00. Credit cards accepted. Telephone 0773 605010 or 0773 761944.

LARD PD – Only 95p per disk. Amiga only. For catalogue write to Lard PD, 41 Craven Road, Hemsworth, West Yorks WF9 4SB. Enclose SAE.

LEMMING SOFT – Amiga demos to swap. over 300 disks, List keeps growing by day also want two meg demos write to ;- John Simmons, Flat 45, 2 Silvermere Road, Sheldon, Birmingham, B26 3XA.

MASTER PD – Amiga PD to swap and sell. Send SAE and list to A Hines, 44 School Lane, Easton Bray, Bedfordshire, LU6 2DT 100 per cent reply.

MERSEY SHAREWARE – PC Shareware. £1.50 per disk. (3.5/5.25). SAE for list. Any title obtained. Phone with details of requirements. 17 Ullet Road, Liverpool L17 3BL. Tel: 051-733 1178.[3]

MERTON PD – Cheap ST PD. Send £1 or blank disk for catalogue with SAE (cheques payable to T Huq) to: 10 Grasmere Avenue, London SW19 3DX.

MONSTER CABLE – Free ST PD, honest! Just the price of a stamp. Puts all others ST PD libraries to shame. Send SAE for more info to M Sandhu, 25 Welbeck Road, Maidenhead, Berkshire SL6 4EB.[2]

NEURAL IMAGES PD – Send an SAE to4, Flint Walk, Throston Grange, Hartlepool, Cleveland. TS26 DTE for your free PD Disk. No catches!

NIGHTSHIFT – 8 Bertelin Road, Beaconside, Stafford ST16 3JJ.

OWN PC CLUB 7 SHAREWARE – 73A East Street, Blandford Forum, Dorset DT11 7DX. Send blank disk plus stamp for catalogue. 25p each prog.

PAD PD AND SHAREWARE LIBRARY – For the Amiga user. Send SAE for details to: PAD Public Domain Library, 41a Saint Augustine Street, Norwich, Norfolk, NR3 3HF.

PARADISE COMPUTERS (GLOBAL) – 9 Westfiled Crescent, Brighton, East Sussex BN1 8JB.

PAWS PD – Lichfields only PD library. Disks £1. Swaps welcome. Send a SAE for list to: Anthony Cooper, 14 Purcell Ave, Lichfield, Staffs WS13 7PJ.

PROPHECY PDL –ST PD. Send SAE and disk or a cheque for £4.50 to Prophecy PD, 390 Coulsdon Rd, Old Coulsdon, Surrey, CRS 1EF. Competitive prices.

REAL PD – Amiga PD libraries – wanna join real PD? For more info write to Mark, 50 Victoria Avenue, Sleaford, Lincolnshire NG34 7CN.[2]

RICHARD KIRK PD – Atari ST PD just £1 or 45p per disk. Send disk plus SAE for catalogue to R Kirk PD, Copes Farm, Withington, Leigh, S-O-T, Staffs ST10 4PN.

RIVERDENE PDL – 30a School Road, Tilehurst, Reading, Berks RG3 5AN.

ROBOT PD – 2 Trent Road, Oakham, Rutland LE15 6HF.

SAINT JOHN'S SCHOOL LIBRARY PDL – ST PD software - sale or swap. Write to St John's School Library PDL, c/o Mark Ash, 54 Beaconsfield Road, Sittingbourne, Kent ME10 3BB Tel:0795 425653 after 4pm.

SCOTBASE PDL ASSOCIATION – Affordable Shareware for PC users. Blank disk and SAE for catalogue and details to: Rosie, 63 Springboig Road, Glasgow G32 0DB.

SELECT PD – For the ST. From 35p a disk. Send £1 coin for disk catalogue to RC Newman, 22 Hall Road, Leckinghampton, Cheltenham, Glos GL53 OHW.[2]

SHAREWARE ELITE – Over 1,300 shareware disks for PCs. Send blank disk and SAE for catalogue to 25 Cades Parc, Helston, Cornwall. Tel: 0326 564164.

SHAREWARE KING – 3,000 items of shareware for PC, plus support, membership, plus discounts. SAE and blank disk for details to C Smith, 10 Penwood Close, Westbury, Wilts, BA13 3LW. Tel 0373 865263.

SHAREWARE/PD – Windows, clip-art and GIF shareware for the PC. Send disk and SAE for list to T Wishart, 3 Berwick Rd, Port Glasgow PA14 5QN.[3]

SHIELDSOFT PD – Now from only 50p per disk. Catalogue disk 75p. For details SAE to M Daniels, 63 Churton Rd, Rhyl, Clwyd LL18 3NB.

SINGER PD – 62 Manor Rd, Hastings E Sussex TN34 3LJ.

SOLENT SOFTWARE – Atari ST. 53 Rufus Gardens, Totton, Hants SO4 3TA.

THE SOURCE PD – For the ST. Compacted demos disks. £1.50 each. Write to: 7 Shearwater Lane, Norton, Stockton, Cleveland TS20 1SH.

SOUTH WEST PD – PO Box 562, Wimbourne, Dorset BH21 2YD.

THE ST ADVENTURER'S PD LIBRARY – PD for all ST users.Catalogue disk just 50p. Write to John R Barnsley, 32 Merrivale Rd, Stafford, ST17 9EB.

ST ICE PDL – Send disk or £1 for great catalogue with programs included. Quality disks, viruses checked. All disks £1.80 incl. p&p.Write to 7 St James' Close, Kettering, Nothants NN14 5HB.

STAR PD – Atari ST PD library fast 'n' friendly! Send disk and SAE for free PD and our disk-based catalogue: Star PD, 1 Solva Rd, Clase, Swansea SA6 7NX.

STATE 808 PDL – Atari ST demos, art packages and soundtrackers. Cheaply priced. Send blank disk to: State 808, 3A Old Lanark Road, Charluke, ML8 4HW.

START COMPUTER SYSTEMS – Dept A, Barbican House, Bonnersfield, Sunderland SR6 0AA. Tel: 091-564 1400.

STUPID FLOWER PD – new library for ST users. SAE for free catalogue to SFPD, 3 Read Mead, Glastonbury, Somerset BA6 8ON or call 0458 35027. Ask for Matt.

TANK PD – disks only 60p (members), 75p (non-members). Prices include p&p. Hundreds of titles. Send blank disk and SAE to: 4 Chandos Road, Redland, Bristol BS8 6PE.

TOWER PD (ST) – For POV and other Atari ST PD software. £1.50 per disk. Send £1 for disk catalogue to PO Box 40, Thornton-Cleveleys, Blackpool FY5 3PH.[3]

TOWER TOP PDL – The Coragen Corporation, 4 Cardigan Close, Bletchley, Milton Keynes MK3 7EJ.

TRUST PD – 18 The Park, Southawram, Halifax, HX3 9QY. Tel: 0895 53521.

VENUS SHAREWARE – IBM Shareware: Amateur radio, technical, engineering, education, Windows utilities and more. Tel 0252 837860 for free catalogue.

WARLOCK PD CLUB – New Amiga club and library all tested and virus free. No fee. Tel Mark on 0582 761723. 2 Manland Avenue, Harpenden, Herts AL5.

WINDMILL SOFTWARE – Our catalogue describes programs not disks. SAE and 50p or disk for ST catalogue to P Raeburn, Windmill Software, 360 Windmill Road, Ealing, London W5 4UR.

WIZBIT PUBLIC DOMAIN LIBRARY – New Macintosh PD library. Disks £3. Around 100 disks available. Introduction pack £1 from Wizbit PD, 38 Greenbank Gardens, Edinburgh EH10 5SN.

WORSOFT – Michael Andersson, Tjardalsgrand 11, 18341 TABX, Sweden.

ZEON'S LAIR – PD software for the C64. Send 35p stamp to Zeon's Lair, 4 Garden Close, Penrith, Cumbria CA11 7L0 for free catalogue on disk. Free software.[3]

ZOMBIE PD – Zombie eaters latest ST PD disk catalogue available now. No charges! Send blank disk plus SAE and your list to 41 Buckingham Avenue, Penwortham, Preston, Lancs.[3]

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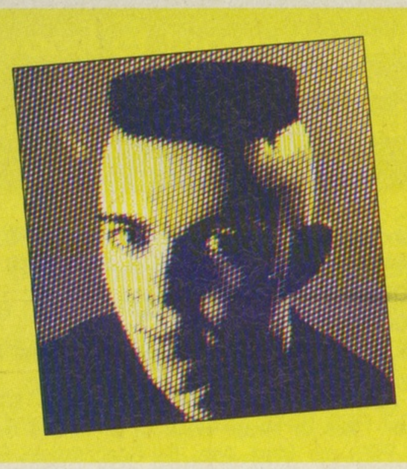
Phone no.....

Send to: PD Listing, NCE, Future Publishing, 30 Monmouth St, Bath BA1 2BW



Games Week

Talk about variety, Stuart Campbell brings you games on the Game Boy, Sega's Master System and tons of stuff for all you 8 and 16-bitters out there

STAR RATINGS

★★★★★ = Anthony Perkins
★★★★ = Dennis Hopper
★★★ = Anthony Hopkins
★★ = Jack Nicholson
★ = Robert Englund

MAGIC POCKETS

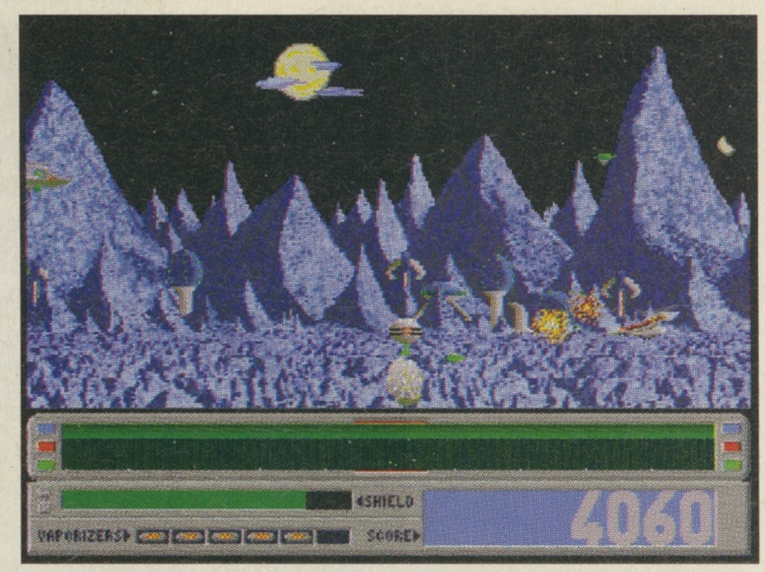
16-bitters will doubtless already have noticed Prism's Pocket Power range of Amiga, ST and PC games at the astonishing price point of £2.99, but many have turned up their noses at the old and often very creaky games available. All that's set to change though, as the company has just added a whole swathe of new titles to the collection, and some of them are of an extremely impressive nature.

Archipelagos, Prospector In The Mazes Of Xor, Quadralien, Star Goose and ***Star Ray*** (all originally from Logotron) are just some of the names which have previously attracted 80 and 90 per cent reviews in the computing press, and all of them are games which would command a respectable following in the ordinary budget market.

To be able to pick them up for less than the prices charged by some PD libraries, then, has to be regarded as a bargain of the very first order. My personal favourite is probably ***Star Goose***, a simple but classy pseudo-3D vertically-scrolling blaster with echoes of Gremlin's ***H.A.T.E.*** (recently given away on the cover of this very magazine), but ***Star Ray*** is a well-loved ***Defender*** clone with graphics which are still pretty striking today (although they do obscure the action a smidgen), a good three years after the game's original release.

If Prism can keep up this kind of quality at this price (and with another load on the way very soon – including a number of games from the now-defunct Hewson label, and the original version of the all-time classic ***Boulder Dash*** – there's no reason to suspect they won't), I think there are going to be a lot of very worried software houses out there by Christmas. Do yourself a favour and splash out – what have you got to lose?

(PS Top Tip of the month – if you're an ST owner, buy ***Star Ray*** first...)



•Okay, so you can't really make out what's going on here, but trust me, Star Ray is top zapping fun

TOP 10 ALL FORMATS BUDGET

THIS WEEK	LAST WEEK	TITLE	PUBLISHER	MACHINE
1	1	*New Zealand Story*	Hit Squad	SP CO AM ST AG
2	NE	*Batman The Movie*	Hit Squad	SP CO AM ST AG OT
3	4	*Shinobi*	Mastertronic	SP CO AM ST AG OT
4	3	*Bubble Bobble*	Hit Squad	SP CO AM ST AG OT
5	5	*Cabal*	Hit Squad	SP CO AM ST AG
6	8	*Magic Land Dizzy*	Code Masters	SP CO AM
7	2	*Moonwalker*	Kixx	SP CO AM ST AG OT
8	9	*Quattro Skills*	Code Masters	SP CO AM
9	7	*Double Dragon*	Mastertronic	SP CO AM ST AG OT
10	13	*Footballer of the Year 2*	GBH	SP CO AM ST AG

ST = Atari ST AG = Commodore Amiga PC = IBM PC or compatible SP = Spectrum
CO = Commodore 64 AM = Amstrad OT = Other.
Chart compiled by Gallup. © European Leisure Software Publishers Assoc.

LOST YOUR MARBLES?

Then why not check your console? Atari's vintage cult coin-op ***Marble Madness*** has suffered from a few terrible conversions in its time (the Spectrum version being particularly lamentable), but it looks like things could be put right this year.

Virgin is hard at work on the almost-complete Sega Master System version, and Mindscape hopes to have the game running on the Game Boy by Christmas. It's going to be interesting to see how the original's trackball movement system

POPULOUS

Tecmagik • Sega Master System • £34.95 ★★★★★

Synchronicity city! No sooner do I run a load of level codes for the re-released 16-bit version of Bullfrog's classic god sim, than Tecmagik comes up with the official release of the Master System version.

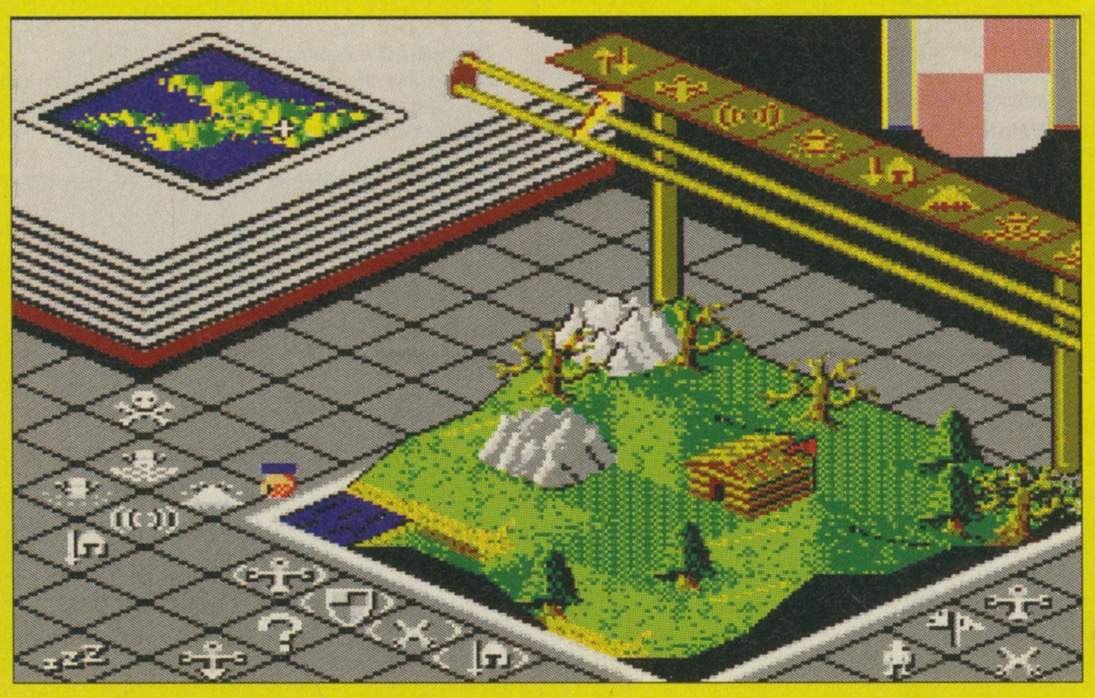
Now before all you ST and Amiga owners scoff and say *'Populous*? On an 8-bit console? Don't make me laugh', it should be noted that this particular version features 5,000 worlds, some 4,500 more than the originals. Now numbers aren't everything, but when you discover what an excellent copy this is in every other respect also, it's time to sit up and take notice.

The Teccies (as absolutely no-one has ever called them) have done a stunning job of translating the graphics to Sega's ageing machine, and the control system has been tweaked to be rather more accessible (as well as more suitable for the Master System's yukky joypad), making this version the easiest one of all to get into. The gameplay has survived the journey completely intact too, and this is generally an all-round programming triumph.

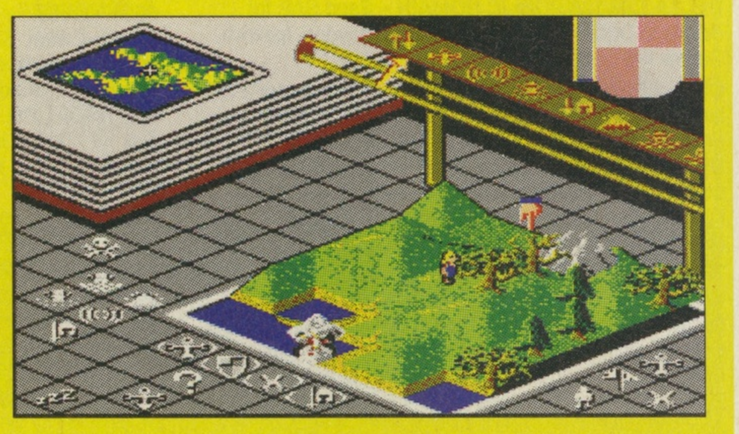
The game itself you should all be familiar with by now (and if you're not I haven't got the space to go into it all now anyway, so I'll just say that it's original, challenging and mightily addictive), so you shouldn't need any further recommendation to go out and add this to your Master System collection this very minute.

The one downer is the slightly alarming £34.95 price ticket (even more jarring now that the Amiga and ST versions are available for a tenner), but if you're going to spend £30 on a cart anyway, you might as well go the whole hog and get something really special.

The Master System hasn't seen anything like it before, and with 5,000 worlds, I don't think we're going to hear many complaints about value-for-money this time.



•Populous fans of old may have to do a quick double-take to make sure that these grabs aren't in fact from tha Amiga version of the game, but they're not. Over on the left you can see a settlement beginning to formon a patch of player-flattened ground, while on the right one of your little people wanders around in search of the Papal magnet. (The what?)



GAMES REVIEW

DRAGON'S LAIR

Nintendo• Game Boy £25 (import) ★

Dragon's Lair. Now there's a name to bring a lump to the throat of video gaming veterans everywhere. Still probably the most 'gosh wow' thing ever to happen in an arcade, the original laser disk coin-op featured Disney-quality cartoon animations (not surprising when you consider it was done by Don Bluth, an ex-Disney artist) in a 'rescue-the-princess-from-the-dragon' fantasy epic which didn't boast anything very much in the way of gameplay, but was still an experience never to be forgotten for anyone who played it.

You might think, then, that the very last machine it would suit conversion to would be the Game Boy. And you'd be right. Game Boy *Dragon's Lair* bears no resemblance whatsoever to the arcade monster, being instead a pretty traditional scrolling platformer in the *Mario/Castlevania/Gargoyle's Quest* style that's so at home on Nintendo's hugely successful hand-held.



The only link with the original is the central character, Dirk The Daring (despite a box illustration showing him posing happily with Princess Daphne and Singe the dragon from the first game, his two companions don't make an appearance this time round), and really, he could have been anyone. But enough history.

This new *Dragon's Lair* carries one tradition over from its ancestor and that's the stunning graphics. Beautiful, detailed and atmospheric, these are quite possibly the best backdrops the little machine's ever seen. A fairly slow pace avoids blurring problems (you can choose fast mode if you prefer, but it's close to unplayable), but the level of detail is such that it actually causes some confusion over where Dirk can safely stand and which ground features are deadly to the touch.

Matters aren't helped by the very imprecise and inconsistent collision detection where platforms are concerned (Dirk frequently finds himself standing on thin air with the floor going through his chest), but you do eventually get used to it. Not that that means it's an easy game, in fact it's one of the trickiest I've encountered, but the addictive qualities suffer when you lose a life by falling through a seemingly-solid platform that you were standing on quite safely a moment earlier.

I don't want to be too negative, because *Dragon's Lair* is still loads of fun, but from Sullivan Bluth I would have expected just a little bit more care than this. Take a look, anyway.

WARTY ROCK GOD CORNER

We received an unprecedented number of entries for the 'Ace Of Spades' competition in issue 147, but the lucky winner is the very rock'n'rollishly-named Nigel Crooks from Middlesborough.

He very cleverly saw through my elaborate bluff and correctly stated that the Motorhead song featuring the line 'Moving like a parallelogram' was, in fact, that well-known rock cisssic 'Motorhead'.

A surprise package of software will soon be winging its way in your direction, Nige, as soon as you give us a call and tell us what kind of machine you've got. (But I really hope that it's an Amiga...)

This week's incredibly elaborate and involved competition has been postponed until next week, when the Games Week prize-buying budget has recovered from this somewhat unexpected shock.

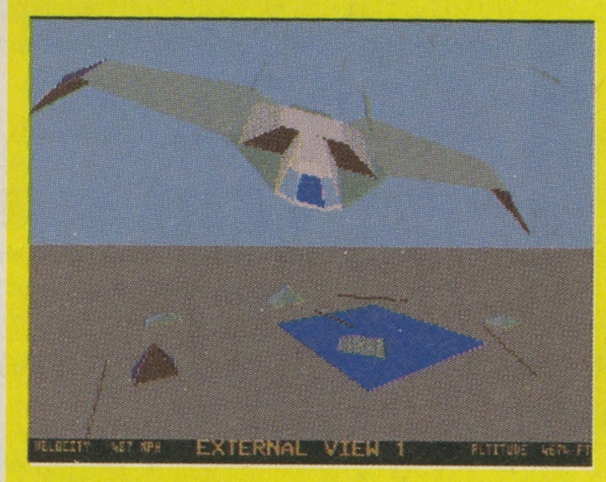
TOP 10 ALL FORMATS FULL PRICE

THIS WEEK	LAST WEEK	TITLE	PUBLISHER	MACHINE
1	3	*Man United Europe*	Krisalis	SP CO AM ST AG
2	NE	*Cruise for a Corpse*	US Gold	AG
3	2	*Rainbow Collection*	Ocean	SP CO AM ST AG
4	1	*Thunderhawk*	Core Design	AG
5	5	*Dizzy Collection*	Code Masters	SP CO AM
6	NE	*Rodland*	Storm	SP CO AM ST AG
7	9	*F15 Strike Eagle 2*	Microprose	ST AG OT
8	13	*ELF*	Ocean	ST AG
9	14	*PGA Tou r Golf*	Elec. Arts	AG OT
10	4	*Hero Quest*	Gremlin Graphics	SP CO AM ST AG

ST = Atari ST AG = Commodore Amiga PC = IBM PC or compatible SP = Spectrum
CO = Commodore 64 AM = Amstrad OT = Other.
Chart compiled by Gallup. © European Leisure Software Publishers Assoc.

ARMOUR-GEDDON

Psygnosis • Amiga



• **'A strange message'? What, again?**

On the HQ screen, when a message is showing and highlighted in yellow, click on the first letter of the message while holding down the Escape key. 'A strange message' (according to a Psygnosis spokesman) should now appear, and you will be endowed with infinite fuel and shields. Also, if you load up one shell or missile, you'll get infinite amounts of those, too.

PLAYING TIPS

transfers to the console joypads, but if the control (which, let's face it, is the all-important thing in this game) works out well, we could be looking at a couple of smash hits.

LIKE A HURRICANE

Digital Integration is a name that hasn't been heard in software circles for a few years now. Best known to older gamers as the creators of ***Fighter Pilot***, the first successful action flight sim (ie, one where you got to shoot things), DI released a number of 16-bit titles over the years without notable success.

Now it's gone back to its roots with ***Tornado***, a flight sim based on the top NATO aircraft of the same name. There's not much to see at the moment, but DI promises a 'new generation of flight simulator', with high density of ground objects (a welcome change from all those games with stunning buildings separated by miles and miles of featureless green), 'exceptional detail', intelligent enemies, and all the usual techie nonsense. Watch out for it on the 16-bit formats in the middle of next year.

DI has been active in other areas, though, as the name behind budget label Action Sixteen. This re-release vehicle has seen some quality software, most notably ***North & South*** and ***Super Gridrunner***, and now DI is looking to capitalise with the setting up of a 'Premier' collection within the range.

Coming in at the higher price level of £9.99, the Premier name will cover higher-quality, multiple-disk games and allow for more extensive documentation. The first titles will be 3D shoot-'em-up ***ATFII*** and the strategy ***RPG***ish ***Iron Lord***. The normal Action Sixteen range will continue as previously, with the Loriciels duo of ***Tennis Cup*** and ***Tintin On The Moon*** also hitting those much-battered streets any day now. ■

DESPERATE HASBEENS CORNER

The games industry reeled with confusion this month as the nation's news-stands saw the appearance of two publications both boasting to be the country's best-selling Amiga games magazine.

One of the mags (a pretty feeble low-budget effort by all accounts) claimed the honour on the rather sad and pathetic grounds that the other didn't actually have an official ABC circulation figure (not having been on sale for long enough yet), but as the first rag's ABC is a cobbled-together thing made up of figures dating from a time when it was a multi-format mag selling to Amiga, ST and PC owners, and is currently the subject of an investigation following a series of complaints from several other publishers, it seems likely that a humiliating climbdown may be imminent.

***NCE* says: wake up and smell the cat food, boys. You can fool some of the people etc.**

PLAYING TIPS



• **All those ridiculous 40% marks mags gave this game just weren't fair - 15% tops, I say**

TANGRAM

Thalion • Amiga and ST

Imagine the scene. You're really, really bored, and in a fit of temporary insanity you decide that you'd really like to spend some of your life playing this pointless and tedious conversion of the ancient Oriental board game.

You might actually have a slightly less miserable time if you decide to access some of the more interesting (in the loosest sense) levels using these codes.

Then again you might not, but in that case it serves you right for loading it up in the first place. Do I *look* like a social worker?

10 – 07274
20 – 14278
30 – 81093
40 – 47672
50 – 27277
60 – 02675
70 – 47274
80 – 91281

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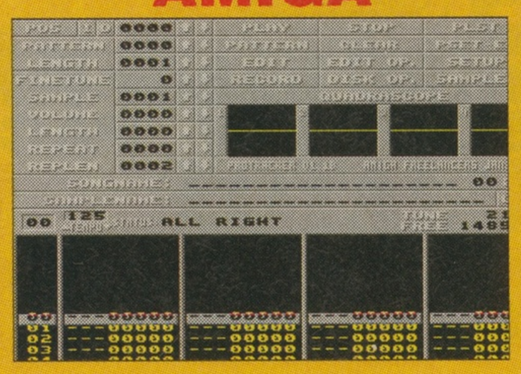
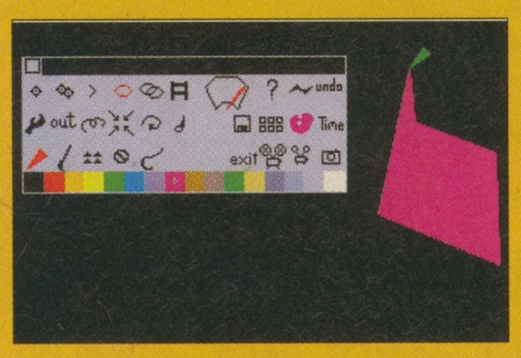


• *Protracker* puts musicians in the professional league



• Get your creative skills flowing with *Ani ST* – your animations will never look the same again

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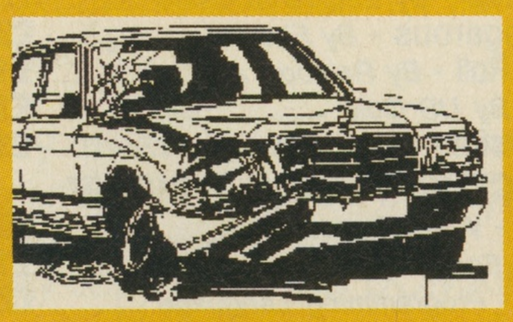

• Clip Art drawings in *SmartArt* cover all sorts of themes

Following the last two week's aerial antics, the next *Express* Cover Disk is all about creativity of a different kind: making the most of your machine's music and graphics.

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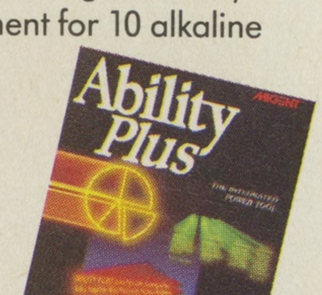

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