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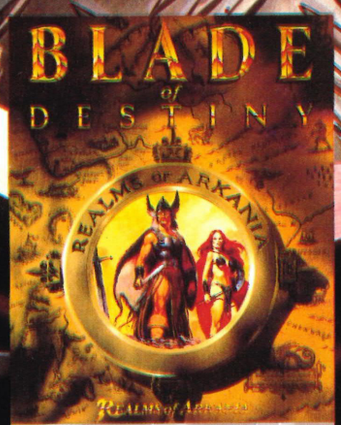

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Over 400 hours of gameplay.
Stunning graphics.

- 2 levels of difficulty, which really do cater for both novice and expert RPG gamers alike.
- 12 different races, inhabiting over 50 towns and villages.

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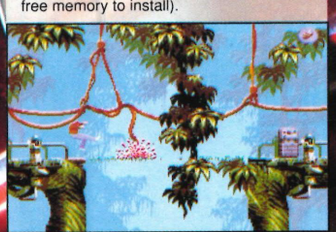



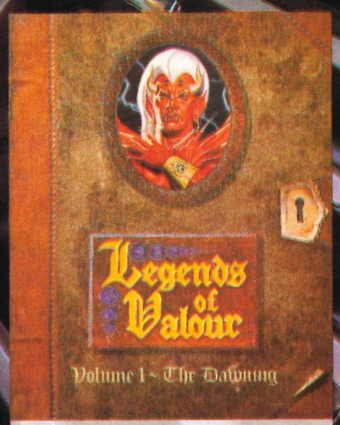

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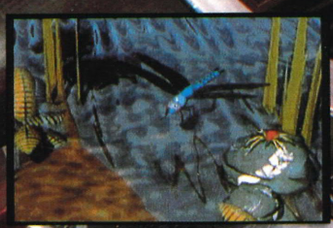

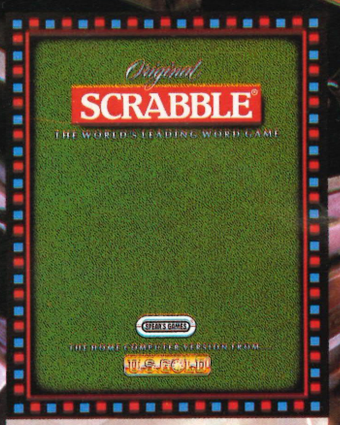

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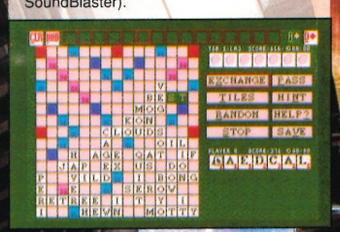
Available on:
Atari ST, Amiga and PC & Compatibles
(EGA, VGA, minimum memory required 640k. Supports AdLib™ and SoundBlaster).





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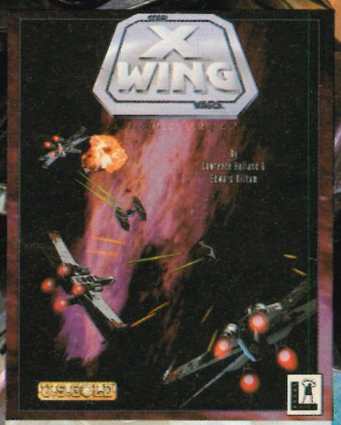

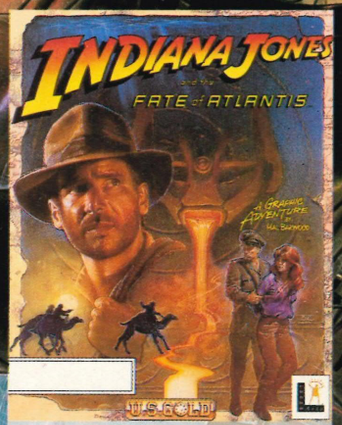

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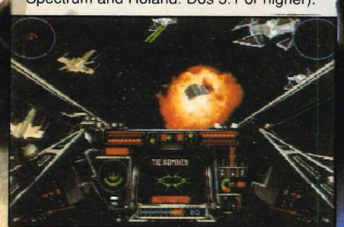





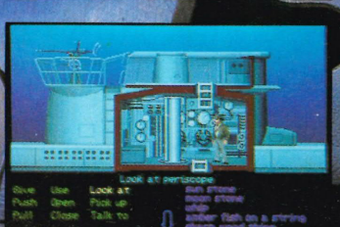

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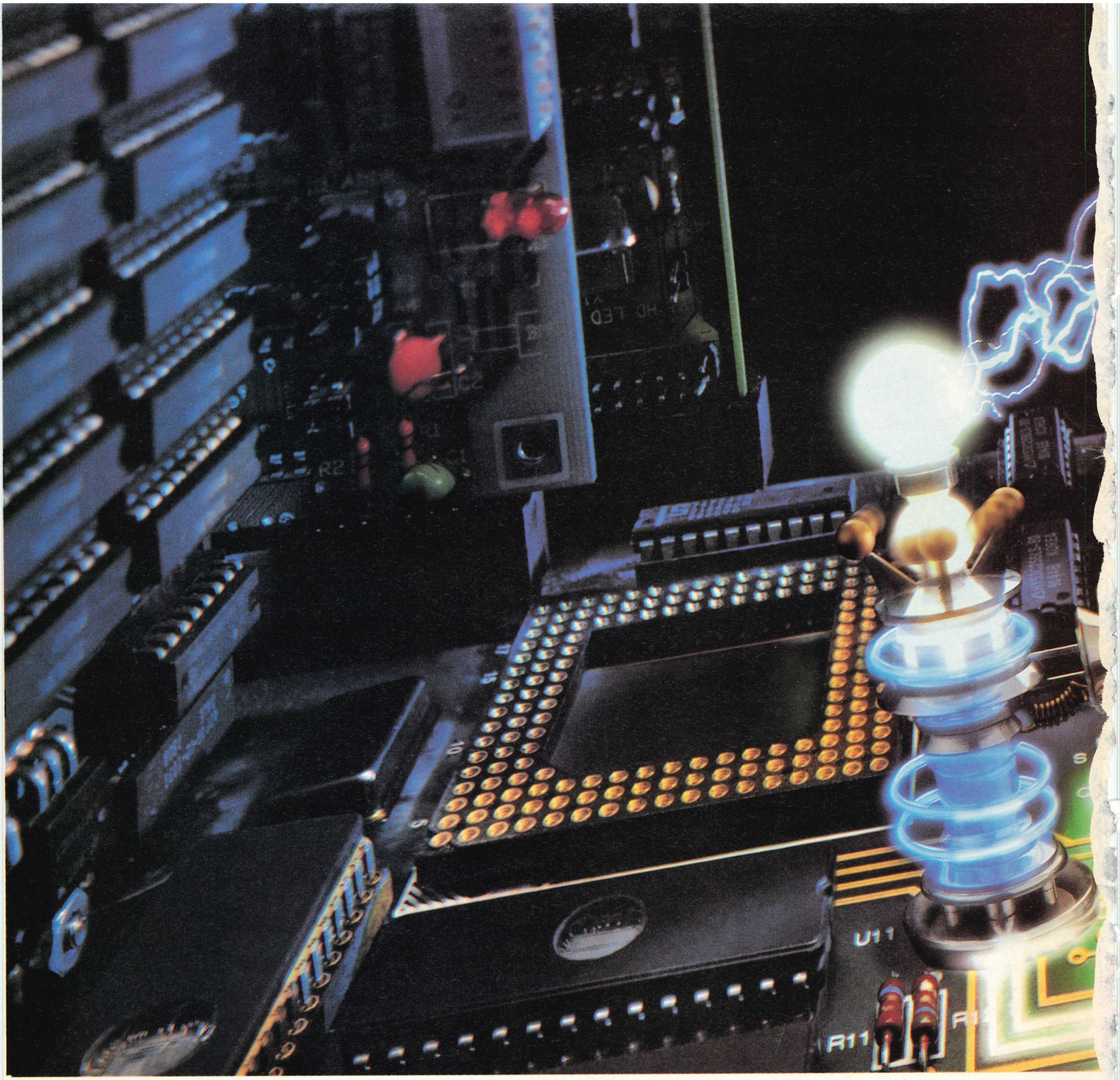

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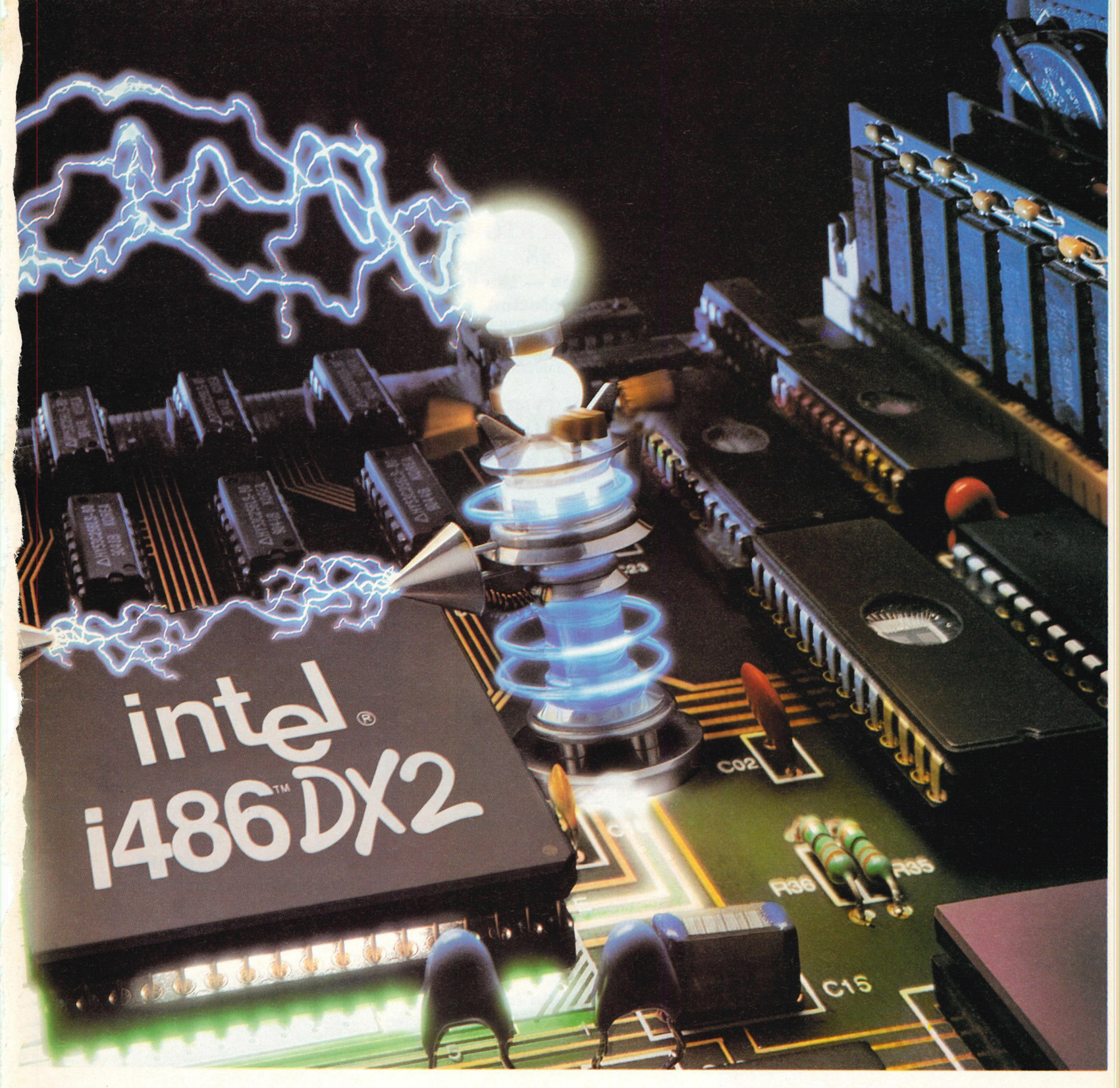

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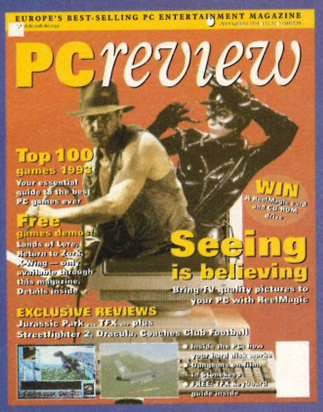

ISSUE 25

Published by EMAP Images, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU
Tel: (071) 972 6700 Fax: (071) 972 6710
E-mail: pcreview@CIX.compulink.co.uk

All subscriptions and back issues inquiries should be directed to Tower Publishing on (0858) 468811

EDITORIAL
Editor Christina Erskine
Deputy editor John Bennett
Production editor Paula Shields
Staff writers Dean Evans, Cal Jones
Contributors Ciarán Brennan, Matt Broughton, Simon Byron, Steve Cooke, Jonathan Inglis, Mike James, Sam Mackenzie, Simon Shaw

DESIGN
Art editors Mark Edwards, Becky Willis
Additional design Rob Carter
Illustration Stephen Lillie
Cover images Rex Features

ADVERTISING
Group advertisement manager
Nigel Taylor
Deputy advertisement manager
Melanie Costin
Advertising production Tina Gynn

MANAGEMENT
Publishing director Mike Frey
Publisher's assistant Claudia Chilinski
Marketing director Marcus Rich
Product manager Sarah Ewing
Marketing assistant Fiona Malloch
Managing director Terry Pratt

PC REVIEW EUROPE
European production manager
Paul Boughton
Production editor Alan Dykes

Page output and colour origination by Team Graphics, 105-109 Oxford Street, W1. Printed by Passmore International, 17-21 Hovefields Avenue, Burnt Mills Industrial Estate, Basildon, Essex. Distributed by BBC Frontline.

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SUBSCRIPTION RATES
12 issues United Kingdom £40.00
12 issues Europe (airmail) £48.00
12 issues Rest of the World (airmail) £58.00

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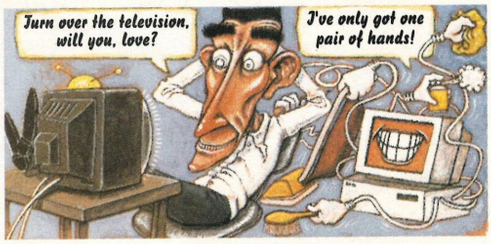
PC games are consistently more expensive than games on other formats. Ciarán Brennan kicks off the first in a series of articles on consumers' interests in the PC market with a critical look at just why this should be so.



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COVER DISKS



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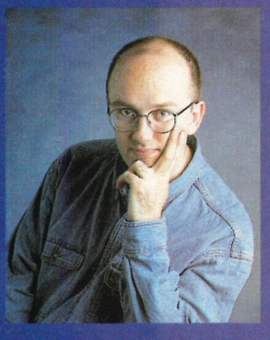
CONTRIBUTORS



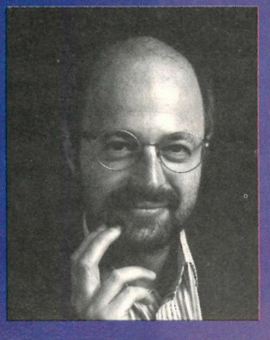
CHRISTINA ERSKINE

PC Review's editor checked out progress on Interplay's role-playing game Stonekeep (page 32) this month: "The attention to detail is astonishing; one just hopes they have time to finish the game off properly."



CIARAN BRENNAN

The veteran — and thoroughly outspoken — games journalist begins a series of articles for PC Review this month, concentrating on the interests of consumers in the PC entertainment market.



STEVE COOKE

As computer games and the movie industry move ever closer together, Steve Cooke counters, "The desire of filmmakers for emotionality and the desire of developers for interaction are incompatible." He explains all on page 25.

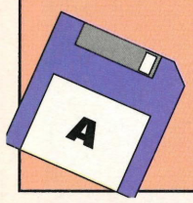
COVER DISKS

Having whetted your appetite with our preview of Starlord in the September issue of PC Review, we can now bring you an exclusive playable demo of MicroProse's epic space conquest game. Plus, if you're itching to get that pointy hat and bastard sword out of the closet, we have Ancients 1, a complete, yes indeed, complete role-playing game all the way from Farr-Soft in the USA.

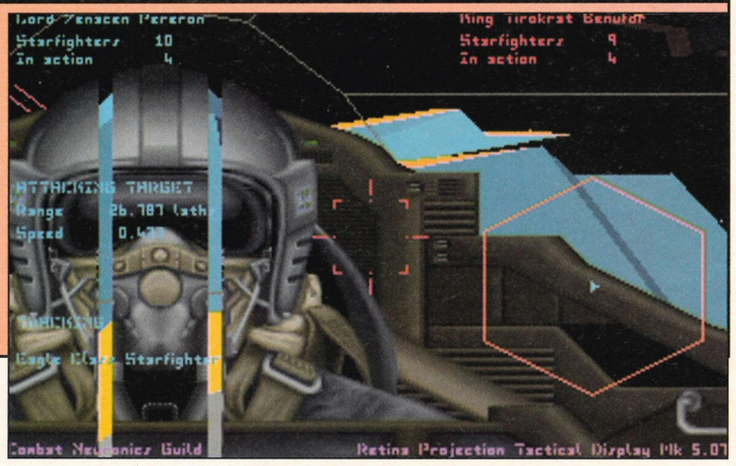


STARLORD

3.5" disks only



On disk A



There's nothing like a bit of intergalactic domination for boosting your self-image, especially when you wind up as emperor of the entire universe. The only qualification you need to play Starlord is a ruthless streak and a healthy dose of megalomania thrown in for good measure.

Microprose's big hope for the autumn is a space conquest game which combines combat with strategy, and has to be one of the most ambitious projects of the year.

Starlord has been developed by none other than Mike Singleton, a man with an impressive pedigree when it comes to producing games: Midwinter, Flames of Freedom and Ashes of Empire are just a few of the titles which spring to mind.

The action centres around building alliances, founding dynasties, crushing your enemies (which means huge, dirty great space battles, folks) and generally behaving in a ruthless tyrannical manner.

If this sounds like your kind of thing, this thoroughly exclusive demo will give you a small taster of what promises to be a huge, if not an enormous space game.

How to start

Log on to the directory in which you have installed Starlord, and type **STARLORD**[Enter].

How to quit

ESC during the demo

Hardware required

386 PCs minimum, with VGA and 550k base memory. A mouse is essential.

Controls

Manual/Automatic pilot	**M**
Fire Lasers	**SPACE BAR**
Attack Speed	**ENTER**
Toggle Planet on/off	**P**
Change Target	**+**
Forward Cockpit View	**F1**
External View	**F2**
External View (above)	**F3**
External View (below)	**F4**
External View 2	**F5**
Flypast View	**F6**
Enemy Flypast View	**F7**
Enemy Flypast View 2	**F8**
Chase Plane View	**F9**

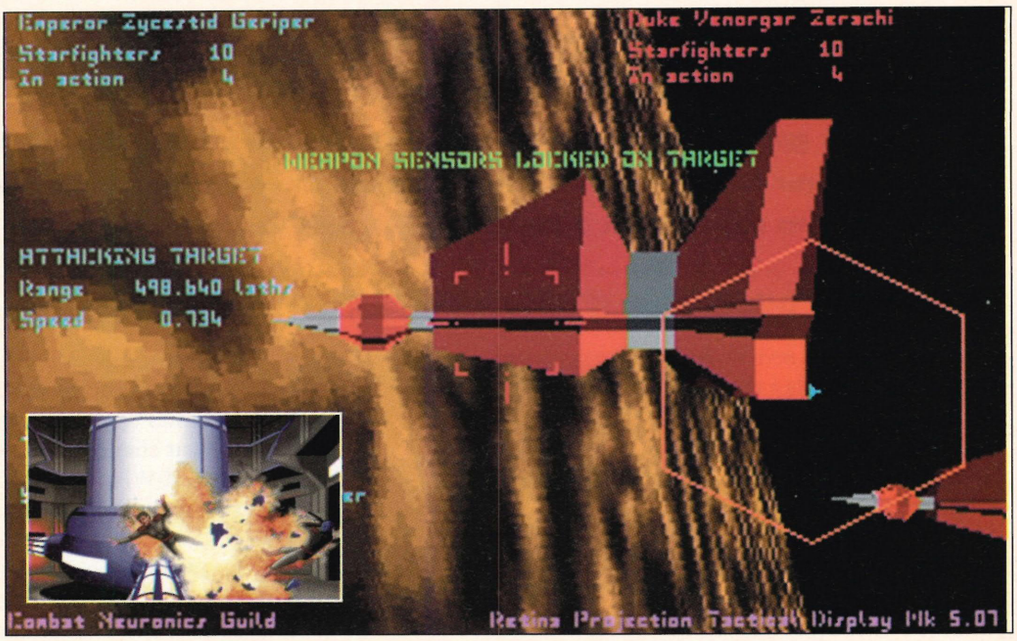
How to play

Although Starlord is principally a slideshow and rolling demo, you can jump into the 3D action sequence at any time. Controlling your starship is a simple matter of moving the mouse (left, right, up, down, etc) and lining up the red target crosshairs in the centre of your cockpit. When the crosshairs are centred your ship will move towards the targeted ship, ie, when the enemy fighter group flies past, move the mouse left until the enemy ship is in the middle of your screen.

The lasers are not self-targeting so you'll have to practise the ancient art of 'deflection' shooting (ie, aim slightly ahead of your target) to defeat these enemy hordes.

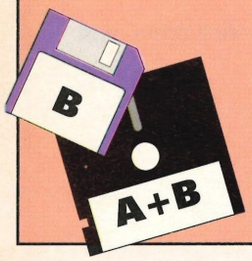
The aim of this Starlord demo is either to destroy the lead battlefighter of the enemy attack group or the enemy's Battlecruiser/Throneship.

But be quick, because the bad guys will be going straight for your Battlecruiser too.



ANCIENTS 1

3.5" and 5.25" disks



On 3.5" disk B
On 5.25" A+B



Just to prove that the best things in life are free (well, almost), this month we're giving you the chance to try out the latest version of this large and colourful role-playing game on your PC. Ancients 1 is a first-person perspective game similar in style to the Bard's Tale or Blade of Destiny, and is one of the best shareware RPGs around. Set in the town of Locklaven, the object is to find a way down into the sewers (as you do) so that you can kill lots of monsters and fill your swag bags with treasure. Or something like that. Before you descend into the foul-smelling depths, don't forget to visit the armourer to kit your party out with weapons and armour. You can even gamble away your gold in the casino!

How to start

To play Ancients 1, log on to the directory in which you have installed it and type

BEGIN [Enter]

How to quit

Select the "disk" icon with your mouse and then click on the exit option to return to DOS.

Hardware required

Ancients will run on a 286 or better, and required 3Mb hard disk space, VGA and a mouse.

How to play

To play Ancients 1, you need a party of four characters. You can either use the pre-generated party supplied with the game, or you can roll your own.

To play using the existing party, just click on the "Journey Onward" option in the main menu. If you want to create your own characters, click on "Character Options" and then click on "Create Character." There are three races (human, dwarf and elf) to choose from and four possible careers: warrior, magician, rogue and cleric. Statistics are generated randomly but you can always re-roll if you're not happy with your character profile. Once you're satisfied with your party, return to the main menu and select "Journey Onward" to start the game.

Once the game has started, movement is controlled by clicking on the forward, left and right arrows on the left hand side of the screen. The icon bar to the right of the arrows allows you to choose various options during the game. The tent icon lets you set up a camp, but you can't do this while you are in the town. Click on the eye icon to examine objects, and on the hand icon to use them (including doors which need to be opened). Click on the disk icon to save or load a game, return to the main menu or exit to DOS. A compass to the right of the icon bar shows you which direction you're facing in.



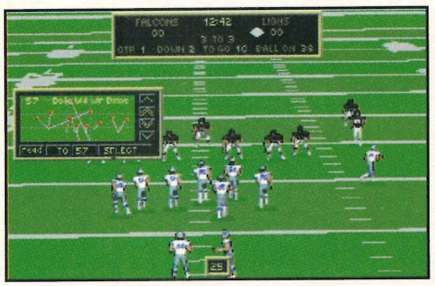


Installing your cover disk: details on page 12

Exclusive free demo offer

With games getting bigger and more impressive all the time, it's not always possible to fit them on to our cover disks. This month we have no less than four demos to give away, so send off the coupon along with a suitable SAE and you could receive the demo of your choice.

Coaches Club Football (MicroProse)



You've read the review (page 80), now play the demo.

Coaches Club Football is, without doubt, one of the best American Football games to appear on the PC. Whether you're a hardened grid-iron fan or are just curious, this playable game will appeal to any sports enthusiast worth his or her salt. The first lucky 100 readers to send in their coupons will be able to sample it for free.

Send this coupon and an SAE to: Coaches Club Football Offer, MicroProse Ltd, The Ridge, Chipping Sodbury, Bristol, Avon BS17 6AY

Minimum requirements are a 386, high density disk drive, VGA and a mouse

Name:.....

Address:.....

.....

❑ **Tick this box if you don't wish to receive additional mail-outs**

X-Wing (LucasArts / US Gold)



If you haven't already played one of the best games of the year, now's your chance to test drive an X-Wing in this thrill-a-minute demo from US Gold.

All you need is a taste for adventure, nerves of steel and a steady hand as you take on the evil Empire in deep space. US Gold has 200 demos to give away, so fill in the coupon and send it to the address below. May the force be with you, and all that jazz.

Send this coupon and an SAE to: X-Wing Offer, US Gold Ltd, Units 2/3, Holford Way, Holford, Birmingham, B6 7AX

Minimum requirements are a 386, high density disk drive, and VGA

Name:.....

Address:.....

.....

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Lands of Lore (Virgin)



Westwood Studios has a good pedigree when it comes to producing fantasy games, what with Eye of the Beholders 1 and 2 and Legend of Kyrandia under its belt.

Lands of Lore is the latest role-playing game to spring from the imaginative Westwood team, and it looks like their most impressive product to date. This non-interactive demo will give you a taster, so just be one of the first 100 readers to send off the coupon.

Send this coupon and an SAE to: Lands of Lore Offer, Virgin Interactive Entertainment Ltd, 338a Ladbroke Grove, London W10 5AH

Minimum requirements are a 386, high density disk drive and VGA

Name:.....

Address:.....

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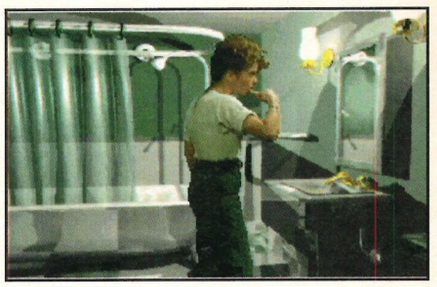
❑ **Tick this box if you don't wish to receive additional mail-outs**

Return to Zork (Activision)



Once famed as a text-adventure, Return to Zork is the new graphic adventure from US company Activision.

Featuring footage of digitised actors, over one hour of spoken dialogue and the cunning puzzles that made the original Zork a success, this non-interactive demo gives you the chance to take a peek at what could be the future of PC gaming. Activision has 100 demos to give away so if you fancy a look, drop us a line.

Send this coupon and an SAE to: Return to Zork Demo Offer, Activision, Unit 10, Beaumont Business Centre, Beaumont Close, Banbury, Oxon OX16 7TN

Minimum requirements are a 386, high density disk drive and VGA

Name:.....

Address:.....

.....

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Available at all good stores or telephone EA DIRECT on 0753 549442

Electronic Arts, 90 Heron Drive, Langley, Berks SL3 8XP.
Tel: 0753 549442. Fax 0753 546672.

How to use the cover disks

1. Put the cover disk in any disk drive and log on to that drive. For instance, if you have put it into drive A: type:

A: [Enter]

2. Now type

PCR [Enter]

to load the installation program.

3. There may be a menu asking you to select which language you wish to have the installation messages displayed in. To make your selection use the mouse or cursor keys to move the highlight bar and then click the left mouse button or press the Enter key.

4. A list of programs on the disk will now be displayed. To select the program you wish to install or run, use the mouse or cursor keys to move the highlight bar and then press and release the left mouse button or the Enter key.

5. If the program is of a type that runs directly it will do so now before returning you to the menu and step 4.

6. If the program has to be installed to another disk you will now have to tell the program where you want it to be installed.

7. The program will suggest a drive and directory to install the program to. If you are happy with the suggested location, press the enter key and installation will begin.

8. If you would like the program to be installed to a different drive and/or directory, backspace over the suggested pathname and enter another one. You cannot install the program on the cover disk itself.

9. If there is insufficient space on the disk you have specified, or if the directory you have specified cannot be created, the program will inform you of this and give you the opportunity to enter an alternative location.

10. All being well, the program will now be decompressed and installed at the specified location. You will see a series of messages on the screen as this happens.

11. Once the program has been successfully installed you will see a message reminding you of where it was installed to and telling you which command starts the program. Press a key to return to step 4.

12. When you have installed or played all the programs that you wish to, press Esc to exit to DOS.

Important note for users without a hard disk.

1. Providing that the programs will fit, you can install them on to another floppy disk.

2. If you have a twin drive system you should leave the cover disk in one drive and install each program to a blank formatted disk in the second drive.

3. If you only have a single disk drive, you can install the programs to a blank, formatted disk using the same drive. You should specify drive B: when asked for an install path. DOS will now prompt you when you need to swap the disks. When it asks you to insert the disk for drive B: you should insert the blank disk. When it asks you to insert the disk for drive A: you should put the cover disk back in. You will have to swap disks several times during the installation process.

4. On some occasions you may be asked to insert a system disk. In this case you should insert a system disk instead of the cover disk, and then swap them again when prompted to do so.

Important note for users with mono, LCD or plasma displays

1. The installation program should automatically detect whether you have a mono or colour display and run in the appropriate mode.

2. If you have a grey scale LCD or plasma display you may prefer to run the program in mono rather than colour. You can do this by starting the program with the command:

PCR M [Enter]

3. If you have a non-standard colour display which the program fails to detect you can force it to run in colour mode by starting it with the command:

PCR C [Enter]

Helpline

If you have difficulty in getting your disk to operate, please telephone our helpline number below before returning the disk.

Disk Helpline: (0685) 350505

The helpline operates between 10.30 am and 12.30 pm weekdays.

Please note

PC Review's cover disks are rigorously checked at each stage of production for all known viruses and duplicated under strict quality control.

However, cover disks are used at the reader's own risk. PC Review can accept no responsibility for damage to either data or hardware caused by use of our cover disks.

We also make every effort to ensure that the contents of our cover disks are exactly as advertised. If, however, circumstances should dictate that we are unable to supply the stated programs we will endeavour to provide alternative software.

PC Review, its distributors and retailers will not be held responsible for any unnotified change to the contents of the disks

Faulty disk?

PC Review's cover disks are checked and validated, but if you have reason to believe yours is faulty, pop the disk(s) in a jiffy bag with a self-addressed envelope and postage to the value of 28p (55p from overseas) for return of the new disk and the form below (filled in), and send the package to the following address:

PC Wise
Dowlais Top Business Park, Dowlais
Merthyr Tydfil, Mid-Glamorgan
Cymru, CF48 2YY

Please DO NOT send the disk back to PC Review — we don't hold stocks of spare disks.

Name:.....

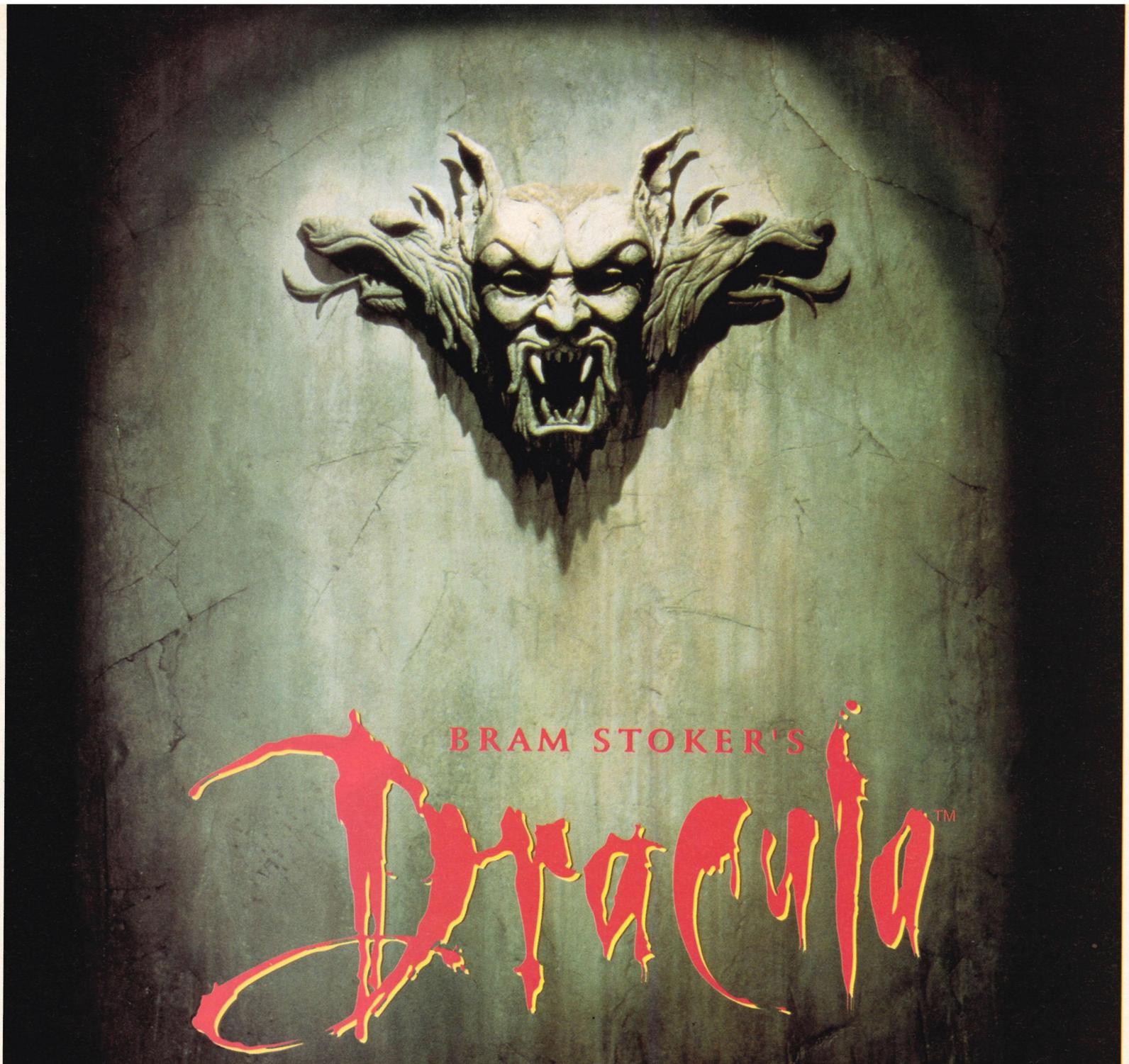
Address:.....

.....

.....

.....

The disk on my copy of PC Review was damaged. Please send me a replacement — I enclose return postage to the value of 28p (55p if overseas) and the original disk



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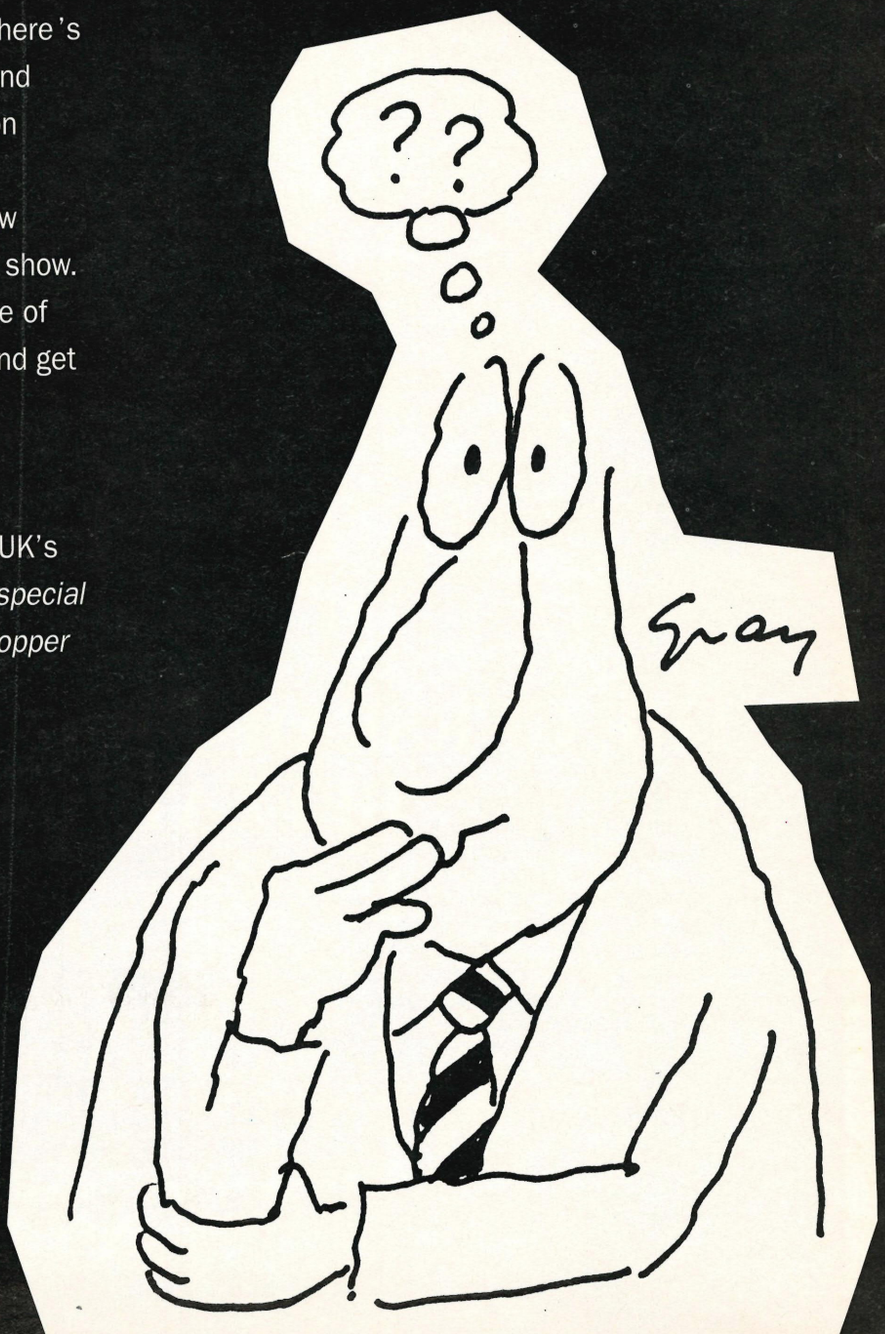

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Please tick your main reason for attending the show:

☐ Home use ☐ Business use ☐ Both

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NEWS

MS-DOS 6.2 arrives

Microsoft has just released version 6.2 of its MS-DOS PC operating system. The company claims that this release is not a bug-fix, merely an update to add new features. However, the company has come in for some criticism in the press since the launch of DOS 6.0, mainly concerning the DoubleSpace disk compression utility which comes with it.

According to Mark Edwards, personal systems manager at Microsoft, DOS 6.2 will be a "bomb-proof version of MS-DOS 6.0".

However, Edwards claims that in this instance Microsoft 'has been a victim of its own success', attributing the volume of calls regarding DoubleSpace to the huge numbers shipped.

Here at PC Review we've been on the receiving end of a large number of phone calls regarding compatibility problems with games software and DoubleSpace over the past few months.

In DOS 6.2, Microsoft has added a feature called DoubleGuard, which makes sure that no software writes to space on the hard disk that DoubleSpace might use. This is aimed to solve potential conflicts with software.

More importantly, a utility has been added to allow users to try DoubleSpace on their system and take it off if they encounter problems, and to boot without loading the DoubleSpace driver.

Pricing for DOS 6.2 will be nominal as an upgrade for DOS 6.0 users, and the same as DOS 6.0, currently £69, otherwise.

Ocean bags Maxis titles

Ocean is releasing three well known Maxis titles on its budget Prime Contenders label.

Sim Earth and Sim Ant are scheduled to appear in December, while A-Train will follow in the new year. These will be priced at around £17.99.

In addition, Origin's Wing Commander and Ultima VI will be released on the Prime Contenders label in October, alongside Electronic Art's Indianapolis 500. Bullfrog's Powermonger should go on sale in November.

Adventurer wanted: dead or alive!

If you've ever fancied being an editor, now's your chance. The Adventure and Strategy Club is looking for a keen games player to edit its bi-monthly reference guide.

The guide includes news, reviews and tips on all the latest adventure, strategy and role-playing games, and the club also runs a helpline for anyone needing help with a game.

Computer formats covered include the PC, Amiga, Atari ST and even the trusty Spectrum, so games could be anything from a humble text adventure to the latest high tech flight sim.

The position isn't salaried, but it's a lot of fun and you get to keep the games you review. Applicants should be enthusiastic, knowledgeable, confident on the telephone and have plenty of free time.

If you think you've got what it takes or are just interested in joining the club, call Hazel Miller on (081) 470 8563.

CyberMan adds magic touch

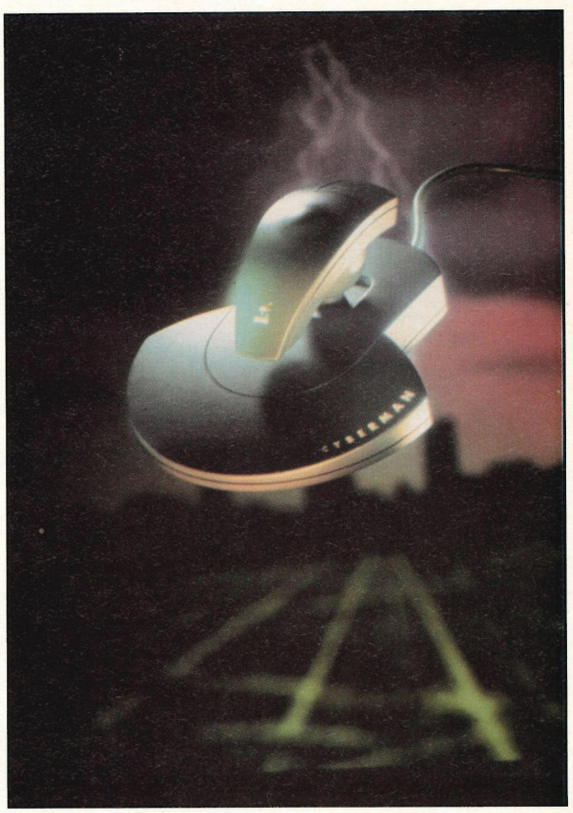
No, it's nothing to do with Doctor Who; CyberMan is, in fact, the world's first interactive controller for computer games.

Logitech's latest little number provides single-handed movement control in all axes without having to resort to using the keyboard. It combines all the features commonly found in the mouse, joystick and trackball, while a tactile response mechanism enables the user to feel some of what is going on in the game via vibrations transmitted through the controller. It's fully mouse compatible and can be used in any mouse controlled game.

"News of CyberMan has set the computer games industry buzzing with excitement," said Martin Pickering, General Manager of Logi (UK), British subsidiary of Logitech.

Electronic Arts, Origin, MicroProse and Virgin are a few of the companies currently developing games which will make use of the CyberMan's sensory feedback feature and multi-directional movement. Well, we've had the "talkie" version of Day of the Tentacle, so how about the "feelie" version of Leisure Suit Larry?

The CyberMan connects to your PC's serial port and comes with a 3D games program. Available in November, it will cost £99.88. Call Martin Pickering on (0344) 891313 for details.



Logitech's new CyberMan games controller brings the sense of touch to PC game playing. Help!

Creative Technology to acquire Westpoint Creative

Creative Technology, the Singapore based multimedia specialists, has announced intentions to acquire the UK's leading multimedia distributor, Westpoint Creative. The two companies have been working together closely over the past three years, and they hope that the deal will strengthen Creative Technology's position in Europe.

"Creative Technology has enjoyed a very fruitful partnership with the Westpoint Creative team over the past three years," said K S Chay, Creative Technology's president. "Together we have built a very successful multimedia business for both companies in the UK distribution and OEM channels. We will also be working more closely with the UK software developers and publishers to bring more multimedia applications to market."

Creative Technology has produced a number of successful products for the PC, including the Sound Blaster PC sound card, the Sound Blaster Multimedia Upgrade Kit and the Video Blaster. New products include the Sound Blaster CD16, a speech recognition program called VoiceAssist and TV Coder, a VGA to video output device.

The new company will be known as Creative Labs UK Ltd.

IN BRIEF...

● Once again the National Computer Shopper Show looms. Taking place on March 24-27 1994, the Shopper show is a showcase of hardware and software aimed at both the first time buyer and the experienced business user. Call (081) 742 2828 for more information.

● November sees the release of Evasive Action, a new aerial flight game from Mindscape. Far from being a flight sim, Evasive Action is a dogfighting game with modem and split screen two player options. Encompassing four time zones (1917, 1942, the 1990's and future deep space), this 3D combat sim is a significant departure for Mindscape. We eagerly await its arrival.

● It doesn't often happen but last month we printed the wrong number for Adventure Soft in the Simon the Sorcerer review. Apologies to Gremlin (whose number it was) and Adventure Soft for the error. If you want to order a copy of Simon the Sorcerer please phone Adventure Soft on: (021) 352 0847.

Sierra titles go cheap from Kixx

US Gold has signed a deal with Sierra to release the Sierra On-line back catalogue on its Kixx XL budget label.

Games getting the low-price treatment include Leisure Suit Larry, Police Quest, Space Quest, King's Quest, Quest for Glory, Red Baron and Heart of China, amongst others.

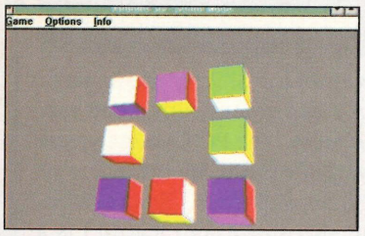
"We strongly believe that the Kixx XL brand is the best vehicle to promote our considerable range of high quality products at a different price point throughout Europe," said Dana Berkmen, Sierra's European Manager.

Pricing for the Kixx XL range of PC games titles is between £12 and £16.

All you need is Digital Love

Is your working environment destroying your karma? Software Toolworks has the answer, called Digital Love. This interactive CD is filled with "soothing, ambient music," accompanied by computer visuals designed to "gently massage the tired brain of the user."

This can be coupled with yoga, or colour therapy based on six main chakras. The package retails at a bargain £29.99, and anyone interested can call (0444) 246333



Volutare 3D

Back in Issue 23, we were unable to print the name and address for the creator of the nifty Windows puzzler, Volutare 3D, on our cover disk. So to put the record straight, Volutare 3D's author is Bela Von Hoffman, a 27 year old computer consultant from Sweden.

Bela is currently working on a Windows arcade game, and if you want further information about Volutare 3D or this follow up, you can contact him by writing to Bela Von Hoffman, Haga Nygata 21b, Y13 01 Goteborg, Sweden

Korg pushes the sound barrier

Korg has developed a new sound module for the PC. The AG-101 runs under Windows and claims the ability to play a greater number of simultaneous notes than any other sound module in its class.

The sound module conforms to GM standards, and it can be used with most GM-compatible sequences and multimedia or games software on the PC. It can also receive up to 16 channels of MIDI data.

The Korg Sound module has an onboard computer interface and can be plugged into the PC using a single jack, which makes for a simple installation. It comes equipped with standard MIDI In, Out and Thru jacks, plus AC adapter, deskstand and software.

For further information about the Korg AG-101 sound module, contact Phil Macdonald on (081) 427 5377.



Korg's AG-101 sound module plugs easily into the PC.

Virgin goes green

Virgin have just launched a range of 'green' 486 PCs which are claimed to use 65 per cent less power than standard PCs. Power consumption is estimated at less than 40 watts when idle, as opposed to 200 watts in non-'green' PCs. The use of CFCs has been reduced to a minimum, and the monitor has a power-down capability to avoid electricity wastage. In addition, the PC comes in recycled and fully recyclable packaging.

John Jenkins, sales and marketing manager for Virgin Euromagnetics, said, "Power managed systems will become the norm and it will happen very quickly. Anyone buying an energy inefficient PC now wil find it is out of date within months."

Each PC comes with a 14" colour monitor, 200Mb hard disk, disk cacheing, 4Mb RAM, mouse, DOS and Windows. Prices start at £1,291 for a 25MHz 486SX, and goes up to £1,874 for a 66MHz 486DX2. All machines include an OverDrive processor socket to enable easy upgrade.

● Virgin Interactive Entertainment has signed a long term deal with horror novelist and film producer, Clive Barker. The result will be a series of games written specifically for the various CD formats.

A big fan of computer games, Barker will be involved in the concept and design of each product. Barker's films to date include the Hellraiser series and Nightbreed. He is also the author of Weaveworld, Imajica and the Books of Blood.



Virgin's new 'green' PC. With red go-faster stripes ...

Sign of the Times

One year ago ...

Two big software names joined forces this time last year, as Electronic Arts accquired Origina Systems. EA's UK MD Mark Lewis likened the partnership to a marriage.

In PC Review's annual Top 100 games chart, Indiana Jones and the Fate of Atlantis made it to the coveted number one slot. For this year's Top 100, see page 50.

Two years ago ...

November 1991 saw the launch of a certain PC Review magazine, with news of Amstrad's first games pack PC, and reviews of Wing Commander II and Civilization.

Three years ago ...

LucasArts gave notice of things to come with the first Indiana Jones game, and Brian Moriarty was writing Loom. The legendary Disney was also considering moves into the computer games market.

Advanced joysticks take to the air

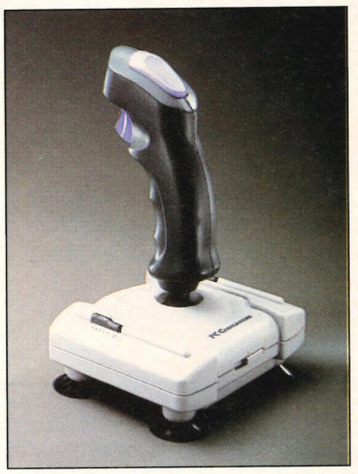
The hardware industry is often as competitive as its software counterpart and this month sees the launch of two distinctly different joysticks for the PC.

The PC Commander heralds "the dawning of a new age of controllers", says manufacturer Spectravideo, due to its unique Megazoom feature. This is a built-in calibration program that overcomes the joystick compatibility problems that often occur between game cards and software. The Megazoom program fine tunes your joystick to a greater degree than the usual manual calibration of the X and Y axes.

At the other end of the scale is the new Flightstick Pro from CH Products. Specifically designed for computer air combat, the Flightstick Pro features an ergonomic grip, four fire buttons and a four way viewing switch enabling you to view your surroundings, activate radar and arm weapons without your hand touching the keyboard.

The Flightstick Pro can take advantage of the latest flight sim games including Strike Commander, Tornado, X-Wing, F15 III and Privateer to give you total command of the cockpit.

The Flightstick Pro is available from PC Action (081) 893 3630 and Creative Technology (0743) 248590 for £79.95 inclusive of VAT and comes with a one year warranty. The PC Commander is available from Spectravideo at £25.99, and the PC Raider (without the Megazoom feature) is a cheaper £17.99.



Contact Spectravideo on (081) 902 2211 for more information.

Media Vision to publish games

Media Vision, best known for its multimedia products and sound cards like the Pro Audio Spectrum, is starting up a games software publishing division in the US.

According to Satish Gupta, Media Vision's vice president of strategic marketing, the development will be a combination of in-house and third party programming, with Media Vision 'taking on a producer's role'.

The company's is being rather coy about the exact details of its new games under development, but Satish Gupta confirmed that the company will will concentrate soleLy on Windows-based games, leaning towards strategy, puzzle and other 'thinking' titles rather than arcade-style action.

Media Vision is also currently working on a new video playback system which it expects to unveil in the first quarter of next year.

Spanish in miniature

Micro Spanish is just one of a range of computer-based language courses available from LCL Software. The first language program to incorporate digitised speech, Micro Spanish can take beginners up to GSCE level in both spoken and written Spanish.

With speech, music, animated and still pictures, the Micro series hopes to shrug off the image that learning a language is boring, and with its combination of pictures, puzzles and games, Micro Spanish is suitable for holiday-makers, students, enthusiasts, and even business people.

The Micro series consists of 24 programs and Micro Spanish is available for £24.99 from LCL Software and all major educational and software outlets.

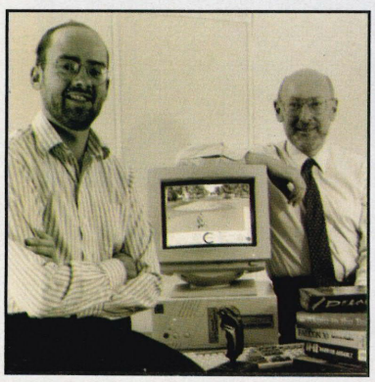
Call LCL Software on (0491) 579345 for further details.

Sinclair rides again

Sinclair Direct, a mail order company specialising in PC entertainment, will launch on October 15, run by Crispin Sinclair, son of home computer pioneer Sir Clive.

Crispin, a 27 year old business graduate, has experience in both mail order and retail sectors of the computer game market. "The company," he said, "will be the first in the mail order games sector to target a wholly new emerging group: adults, often business professionals, who have invested the best part of £1,000 or more in a home PC and are now seeing the computer as a serious games playing machine. Their interests are very different to the traditional children and teenager market."

The company will emphasise quality of service by providing a customer helpline and sending all orders first class. Prices of all items, including games, sound cards and peripherals, are expected to be up to 30 per cent below high street levels. To contact Sinclair Direct, call (071) 636 4488.



IN BRIEF...

● Guildsoft has released Kid's Zoo, an educational program from the best-selling Adventure series. It aims to introduce children to early science by learning all about baby animals. It runs on any PC with 640K RAM and MS-DOS 3.3 or higher, and supports mouse, VGA and a variety of sound cards. Priced at £58.70, call Guildsoft on (0752) 606200 for details.

● Nimbus has developed a way of encrypting information on CD-ROM so that it's only accessible to authorised users. The process, called CD-Secure, means that information can be unlocked via a program installed on the user's PC. It means that, should a disk be lost, the information on it will remain inaccessible to everyone except the user. For more information, call Geraldine Price on +44 (0) 600 890 682.

● Wave for Windows from Turtle Beach Systems can turn your PC into a home recording studio. It allows you to record, edit and playback digital sound via a sound card, and includes many tools found in professional recording studios. It runs under Windows 3.1 or Windows 3.0 with Multimedia extensions, and requires a 386 or greater, 30Mb hard disk space, 2Mb RAM and sound card. Priced at £116.00, you can phone (0706) 228039 for more information.



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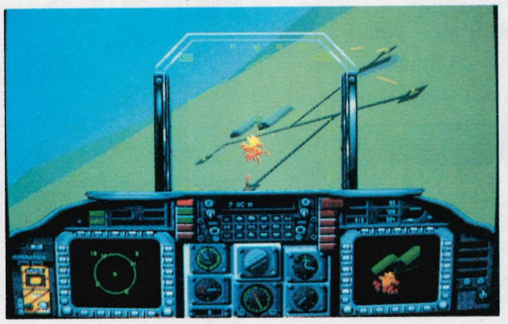
Autumn preview



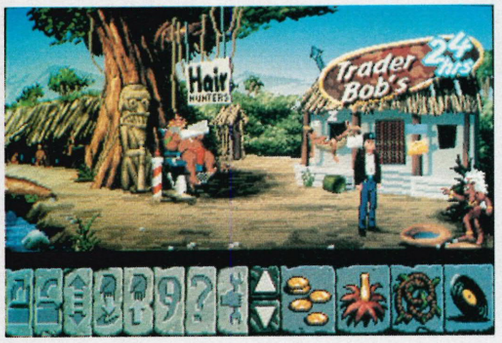
Peter Pan is the first in a series of classic stories being released as children's games by EA Kids. As well as being an interactive version of the tale, the game is also part paintbox program.



Domark has redesigned and repackaged an old classic with its forthcoming release of an SVGA version of the best-selling flight simulation, AV8B Harrier Assault.



Domination of the universe is the aim in Interplay's Star Reach, a game similar in style to Spaceward Ho, but also incorporating elements of Civilization and Empire. Out early next year.



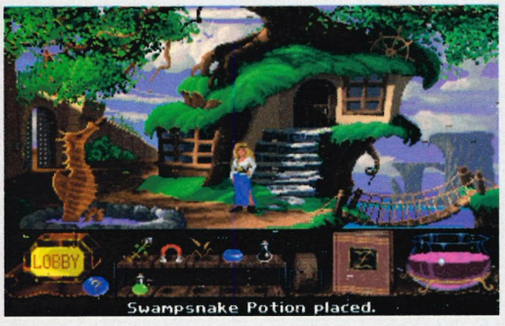
The Flight of the Amazon Queen is a adventure in the Monkey Island mould, developed by Australian team Interactive Binary Illusions and to be published by Renegade next March.



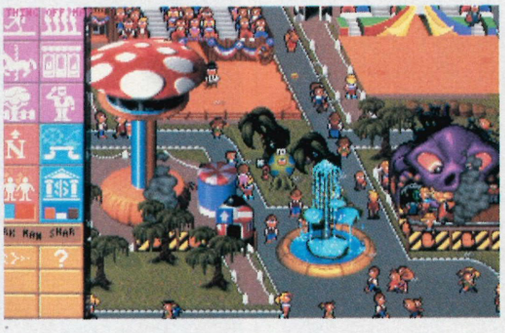
MicroProse's Bloodnet has the look and feel of a William Gibson novel and is set in a neon-lit Cyberpunk dystopia with virtual reality, violence and vampires in abundance.



Unnatural Selection is a simulation of genetic warfare in which you must create naimals in your 'laboratory' with the best genes to survive in a hostile. Out from Maxis before Christmas.



After the success of the original, Legend of Kyrandia 2, Hand of Fate, takeson the story of heroine Xanthia and here adventures in the charmed land of Kyrandia.



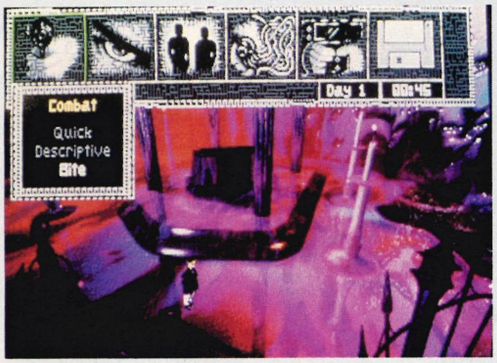
SimCity meets Populous in Bullfrog's new game, Theme Park. Design and build your own Alton Towers, maintaining your rides, selling your hot-dogs and keeping your punters happy.



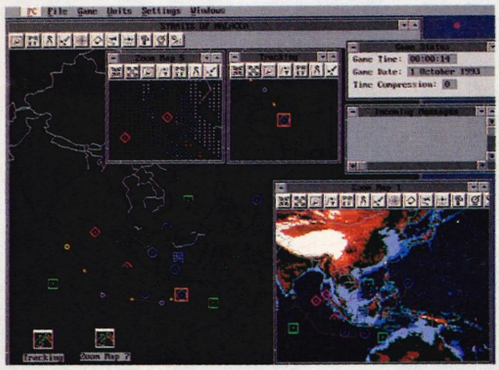
Forgotten Castle is yet another one of those 3D dungeon exploration games, but stands apart from the crowd due to its superb animation and smooth scrolling. Watch out for this one.



Scooter's Magic Castle is an educational program comprising learning games for children.



Control and watch your ant colony grow with SimAnt; enhanced and revamped on CD-ROM.



Harpoon 2 offers the global strategist enhanced features, better visuals and even more gameplay.



Mike Singleton's old ZX Spectrum classic, Lords of Midnight, returns to the screen in a brand new PC version. Guide the Prince across the land of Midnight, recruiting help and fighting battles.

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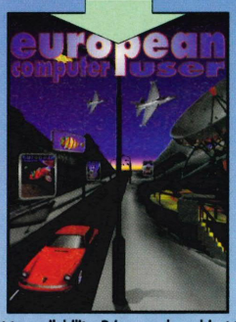

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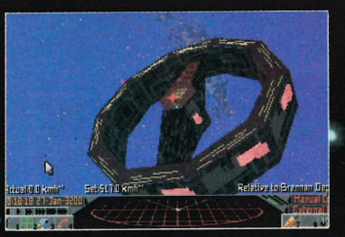
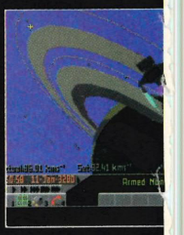
PC REVIEW NOVEMBER 93

Look ahead. Look far, far ahead to the year 3200 and imagine a basic space craft as your only worthwhile possession. If you are to fulfil your burning ambition to be the best, you must defeat the best by coupling your inherited flying skills with a vast knowledge of the Universe. Outwit the pirates by beating them at their own game.

Be merciless, be wise, beware.



PC Screen shot



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PC Screen shot

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- Superb refined gameplay and computer controlled players
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- Rewind, Fast Forward, Slow-Mo savable action replays
- Precise control of corners, throw-ins and free-kicks
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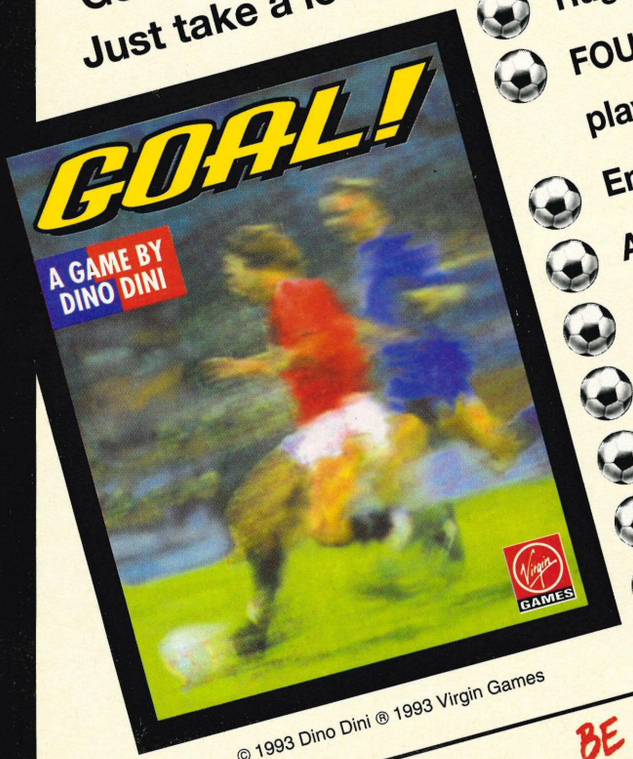
- Arcade challenge mode



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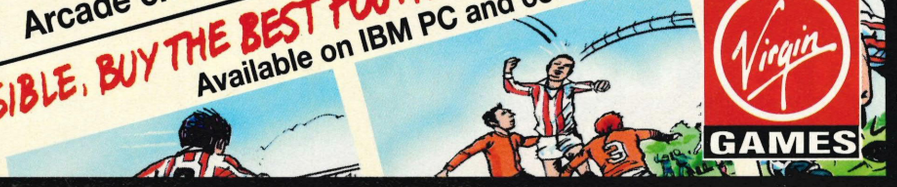


Virgin GAMES



THE COOKE REPORT

It's high time the term 'interactive movie' was debunked once and for all, says Steve Cooke

Say goodbye to Hollywood

I don't have much time for philosophy, but this month I am forced to change my spots. There exists a philosophical problem of the most profound significance, the understanding of which is fundamental to the future of computer games design. I refer to the problem of predestination or 'inevitability'.

Consider the following. First, the phrase 'interactive movie', despite being abhorred by everybody with half a brain, resists eradication from the vocabulary of hyperactive marketing chappies. Second, everyone seems to agree that character design is vital for good games. Third, authorities of no less stature than Ian Hetherington of Psygnosis/Sony and the American game designer/theorist Chris Crawford both emphasised at the recent Develop! conference the importance of greater emotionality in games.

These points are all to do with our hunger to make gaming more than just a game. We want games that make us blub. We want games that make us gasp. We want games that keep us awake at night with intimations of immortality. And if we're in the business of producing games, we want them to make us stinking rich and famous. Emotionality is the key to a future in which those who play games and write them can lift up their heads at cocktail parties without shame.

This isn't going to be easy. How can you get all weepy about a character that can't share your emotions? As Chris Crawford pointed out at Develop!, sprites in games can't even adopt a suitable facial expression, let alone decide when it's appropriate to do so. Sonic may be a hoot, but when did you ever see him laugh? (His latest work is aimed at solving some of these problems — watch this space ...)

At the same conference, Ian Hetherington argued that Hollywood's skills in the field of emotional manipulation represented the most serious threat ever to the independence of the games industry. Unfortunately, people in the games business misunderstand those skills completely. This, for the sake of example, is where inevitability crops up.

I'm about to start my third screenplay and if I've learnt anything from my own work and from other screenplay writers, it's that you don't write scripts: your characters do. One famous writer says that it takes him nine months to give birth to his characters, after which the script itself takes about three weeks. Films are characters in action, and once you've created them and given them a place to play in, they set to and do what they have to do.

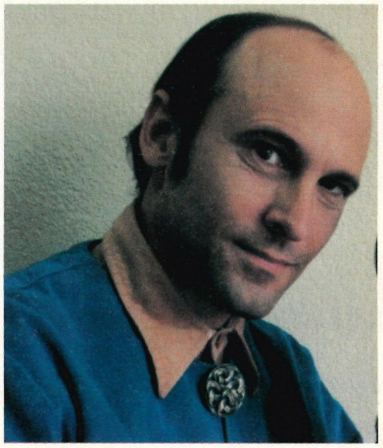
This may sound pretentious, but it's true. Create a man and a woman and put them in a room together and soon it's the writer who's the gooseberry. They fall in love, they row, they kill each other's friends or whatever. Their basic characteristics determine the destinies that then weave the story.

Inevitability (ie, predestination due to some fatal flaw) is one of the cornerstones of emotionality in theatre and film. Omar Sharif just has to fall in love with Julie Christie in Dr Zhivago. Jack Nicholson is the sacrificial hero of One Flew Over The Cuckoo's Nest — if he hadn't been brain-dead by the end, the story would have been. If characters do not create their own inevitable destinies in film, you end up with something like Dick Tracy, full of effect and drama, but signifying nothing.

That critical judgement is also worryingly appropriate for many computer games. Why? Because if there's one thing that doesn't exactly go well with inevitability, it's ... interaction. And unless we spend more time designing games in which inevitability and interaction work seamlessly together, they'll always be just that: games.

Interactive entertainment may well be the dominant art-form of the third millennium AD, just as theatre was of the first and literature of the second. I'm quite convinced that God (this is a philosophical column, after all) slipped movies in at the end of the 20th century so that we could spend the next thousand years making better computer games.

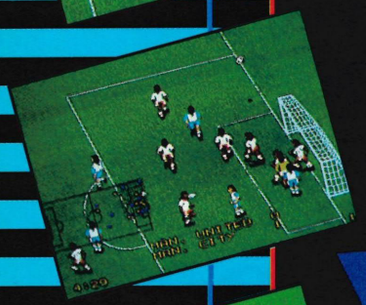
But in order to do that, we need a better understanding of what made movies so successful in the first place.



Chris Crawford is currently working on solving facial animation problems in computer games.

NOW ,...a soccer simulation that combines realism with fast arcade action! Check out just some of the many amazing play features:









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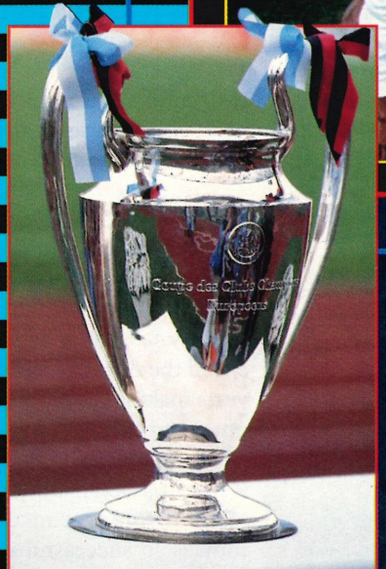

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Ciarán Brennan

Ciarán Brennan cuts a swathe through traditional justifications for the high price of PC games



The price we pay

Before you even begin to discuss the price of PC games, it helps to know what PC games actually cost. This statement is so obvious it appears a little stupid, but there does seem to be some confusion here. This is partly due to the great differences in specification between different PC games, but it's also caused by a good deal of disinformation put about by many software publishers.

Apart from the fact that it's in publishers' interests to keep prices high, the dawning of the CD age means that those involved in selling software have to make the leap to £60 and £70 games seem less significant than it really is. So if you say a PC game currently costs £50, the leap to £60 doesn't seem so great any more.

The truth of the matter, though, is that PC games don't currently cost £50.

In three recent issues of PC Review, the average price of the 39 disk-based games featured was £38.63. The most common price points are £44.99, £39.99 and £34.99.

So much for statistics. What all this number-crunching reveals is that a normal PC game is likely to cost you £39.99. One penny short of £40 ... or, put another way, far too much.

OK, so it's a sweeping statement to say £39.99 is far too much. After all, the standard software publisher argument asks what else can you buy for £40 that will keep you interested for two months? (Apart from three audio CDs, a pair of 501s, three videos, a Tottenham shirt, a good kite ... you get the picture?)

Anyhow, you can debate forever about why PC games cost as much as they do, but the publishers' argument breaks down irretrievably when prices are compared between a PC game and an identical version on another computer format, such as the Amiga.

As a random example, let's take Sensible Soccer. A huge hit on the Amiga, Sensi's been selling for the best part of two years for £24.99 – a normal price for an Amiga game. So, when Renegade finally got around to bringing out a PC version what did it charge? You guessed it ... £34.99. What possible justification can there be for this tenner surcharge on PC owners?

I hate to sound like Mr Angry, and I also hate to seem like I'm pointing the finger at Renegade specifically (especially as it has never been seen as one of the more exploitative operations), but this anomaly really does bother me.

For some inexplicable reason, software prices have always been related to hardware cost. During the mid to early 80s, Commodore 64 software cost one or two pounds more than similar releases for the Sinclair Spectrum – then, when the business turned to 16-bit technology, Amiga software was generally priced a fiver higher than its Atari ST opposition.

Now it's our turn.

Software publishers generally wheel out the tired and rusting 'cost of media' argument to explain this scenario, stating that high density PC disks cost a great deal more than those used for other formats (and, of course, PC games generally require far more disks).

But if that were a logical reason, then why aren't CD games practically free? After all, a single compact disc costs about one tenth of the price of five high density floppies. (Of course, the publishers have an argument for this too – but then they would, wouldn't they?)

No. The real reason why software publishers charge you a tenner more than they charge your Amiga-using mate is that they know they'll get away with it.

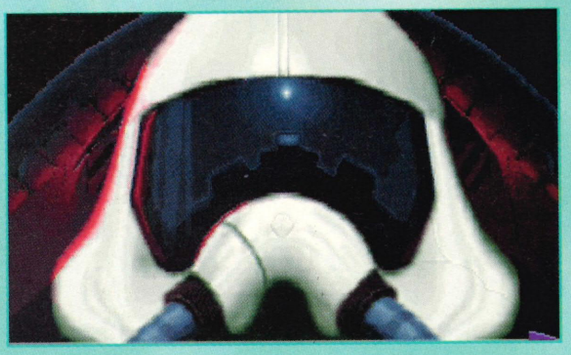
Spot the pricing difference: F15 and Super Space Invaders have already done the full-price circuit and can now be bought for under £15. The Wing Commander/ Ultima CD-ROM pack will set you back £49.99 and Tentacle is a whopping £42.99.



UNDER WATER • UNDER P

SUB 20

McKinley Mining Corp
Confidential



Name:James A. Witney
Call Sign:JAWS
Age:26
Payroll Number:KP8843321XR
Rank:Captain Pilot(Class 2)

Special Skills:
Stealth/Covert Operations

Current Status:Active
Health:A1

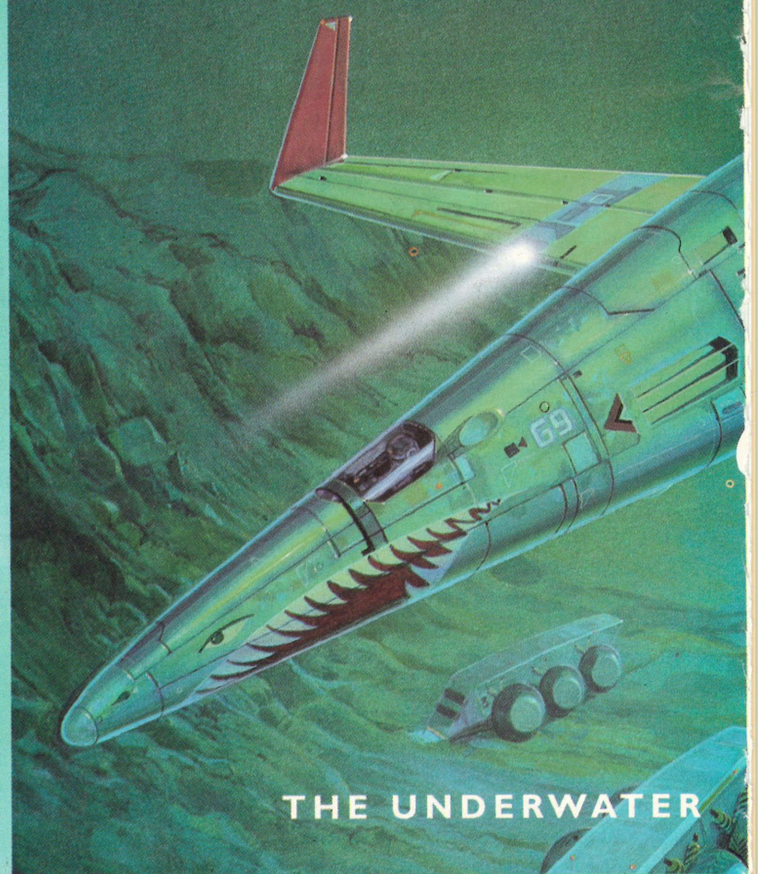
Previous Contracts:
Antarctic Base HR - 67 days
South Atlantic QJ - 48 days

Current Contract:
North Sector 10 - Sea of Japan
Rate:$ 5000 per day

Operational Area:
124320 x 122877

Current Mission:

Lead the X3 team of unmarked Tornado Class subs from Carrier Dauntless on stealth patrol and reconnaissance of border territory between McKinley 205 and GomPol 555.



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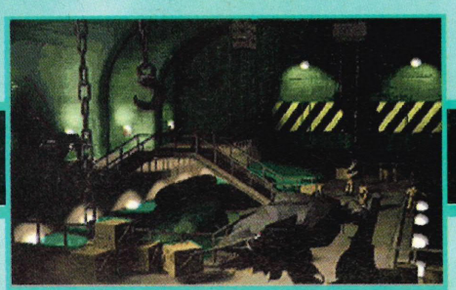





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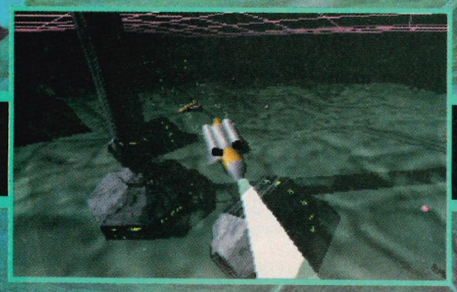







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First prize this month is a complete ReelMagic multimedia kit, with the video card, a Sony XA CD-ROM drive and the stunning Return to Zork. Two lucky runners-up will receive Sigma Design's ReelMagic card and software

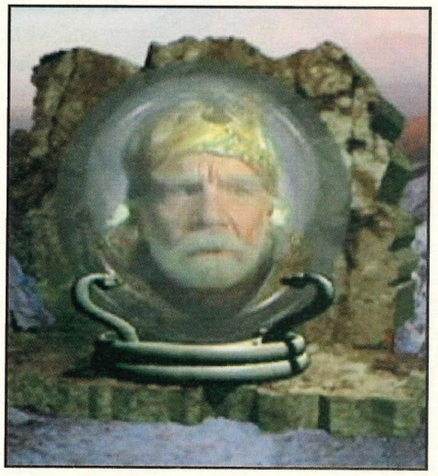
If you've taken a peek at our cover story this issue, you'll know that we've seen absolutely nothing like ReelMagic on the PC before. It's a video card that plays a new game format — MPEG CD-ROM, and a new video format — VideoCD. It runs these at TV quality, near as makes no difference, as fast as the TV, and full screen on your PC.

It has the potential to bring an incredible level of realism to PC entertainment, with smoother, more detailed games that look and play like you're really there. Besides the astonishing video capabilities, ReelMagic also has a built-in sound card.

And you have the chance to win not just ReelMagic, but a Sony XA internal CD-ROM drive as well, with our first prize of a ReelMagic Multimedia kit.

So, what more could you possibly ask for? Well, how about two runners-up prizes of the card itself, complete with Activision's Return to Zork?

When it hits the streets later this month, the basic kit will cost £399 including VAT. It will come with the full MPEG version of Return to Zork, a demo CD of game titles being developed and VideoCD clips, and both DOS and Windows software. Contact Silica Systems (on (081) 309 1111 for information about ReelMagic.



How to enter

Send in your entries, on the form below, by November 15, 1993, to this address:

ReelMagic competition
PC Review
Priory Court
30-32 Farringdon Lane
London EC1R 3AU

The questions

1. Which two film studios are working on VideoCD movies?
2. What compression system does ReelMagic make use of?
3. What adventure game comes with ReelMagic?

The rules

Employees of EMAP Images, US Gold, their families and associates are not eligible to enter this competition.
No multiple entries, please.
No entries received after the closing date will be accepted.
The editor's decision is, as always, incontestably final.
Closing date 15th November 1993.

Please note: To use Reelmagic, you need a minimum of a 16MHz 386 PC, a single speed CD-ROM drive, Super VGA or colour VGA, 2Mb of RAM, DOS 5.0 and Windows 3.1. The first prize winner will need to have a free 5.25" drive bay for the internal Sony CD-ROM drive.

ReelMagic Competition

Name .....
Address .....
.....
.....

Answers
1 .....
2 .....
3 .....

❒ **Tick this box if you do not wish to receive further information from companies associated with this competition.**

Title	**Stonekeep**
Developer	**Interplay Productions**
Publisher	**Interplay Productions**
Contact	**(0865) 390029**
Release date	**February 1994**
Genre	**Role-playing game**
Price	**£TBA**



Stonekeep

Actors and models are being used in conjunction with 3D modelling software, in the interests of adding realism to the gameplay in Interplay's forthcoming role-playing game, Stonekeep

Interplay Productions has always been interested in the potential of using film techniques to good effect in games, and with its new role-playing game, Stonekeep, is making the presentation of the game a principal selling point, in the interest of adding that sense of 'being there' to the play.

For project manager Michael Quarles, there were two elements in particular of overriding importance in the creation of Stonekeep: full-screen graphics and an intuitive playing interface.

"We wanted to attempt the full-screen graphics to up the realism in comparison to other current games. And also in the interests of realism, we wanted to create a user interface that would be instinctive — no rows of icons, or menus or multi-keys, and no reams of on-screen statistics to detract from the action," he explains.

This desire for simple control has translated into a basic system of usng the keyboard cursor keys to move around the screen (ie, using your feet) and the mouse buttons for handling objects (ie, using your hands). The objects themselves lie around the dungeon floors, and once in your possession, you can zoom into close-up to see exactly what you are carrying — and what other characters are carrying — rather than the items being presented as a list or on a separate screen.

Few RPGs are complete without a party, although your fellow computer characters in Stonekeep are largely under the program's control. "We thought having you control everyone in your party would just be too cumbersome," says Quarles. "But you still need to be able to find out how they're doing throughout the game. We've solved this by creating a sort of rear-view mirror device, which will show with bar graphs how they're getting on in combat."

Another essential ingredient, the magic system, has also been worked out but is one of the elements still to be incorporated in the game so far. "The idea is that you will have a set of stone tablets to inscribe runes on to. The runes will be found in the dungeons, particularly after, say, you've survived a big battle. Then there will be the rune-casters — magical staffs with room for a number of runes to be transcribed to. Say you have a rune-caster with fireballs, freezing and lightning on it, you hold the rune-caster in your right hand, aim it at the creature you want to affect, click once to bring up the caster and then click on the spell you want. If you double-click you'll automatically use the spell again. We reckon this should be very fast, user-definable and flexible — and again, it keeps you inside the dungeon all the time; you don't have to flip to a separate magic screen."



However, the aim has been to create a world where you see the full-screen dungeons from a first person perspective, never quite sure what's going to be around the next corner. And whatever does lunge out of the darkness at you, you can guarantee it will be large, and modelled from a real-life creature on Interplay's Los Angeles backlot.

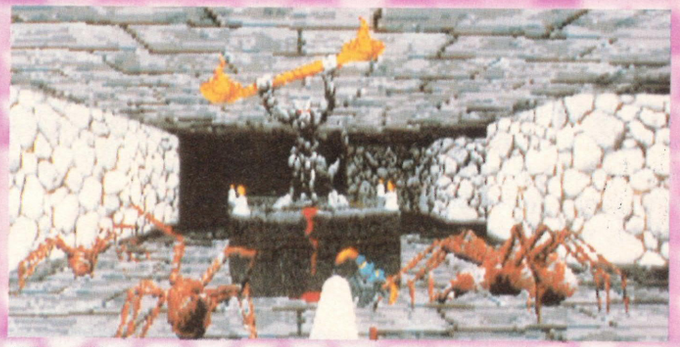
Through the eyes of the beholders

First person dungeon games are all the rage at the moment and Stonekeep is just one game to implement the full-screen, 'added realism' effect which publishers reckon will pull their programs ahead of the rest. Here are a couple of other young hopefuls out this autumn:



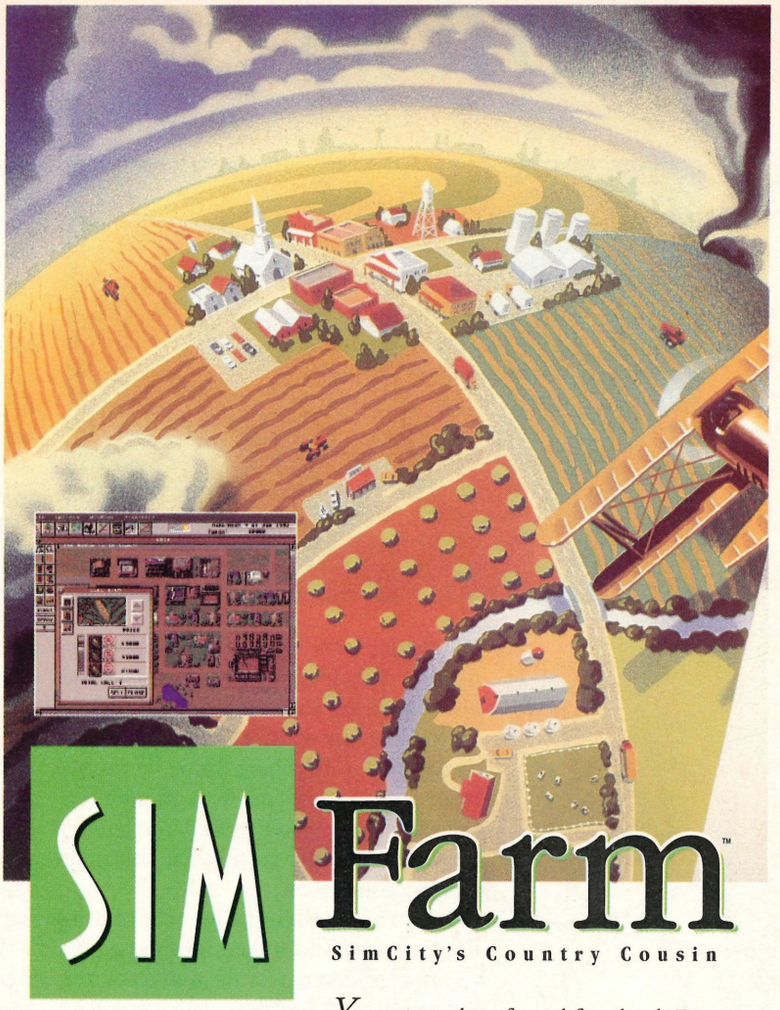
Forgotten Castle
Twin Dolphin/Electronic Arts

This caused a bit of stir when it made its debut at the Consumer Electronics Show in Chicago in June. A massive first-person exploration game, you must brave not only the dungeons under the castle of the title but the city of Hedburg as well. The rendered dungeon graphics have a swirling, surreal look to them which quite sets them apart from other titles in development, but so far, very little has been seen of any gameplay.



The Elder Scrolls: Arena
Bethesda/US Gold

"We rang up Richard Garriott [creator of the Ultima series] and told him we were going to do a role-playing game that would out-Ultima Ultima," says Chris Weaver of Bethesda, the company which hitherto had carved out a successful career out of the Wayne Gretzky ice hockey simulations. "Of course, he laughed a lot and said, go ahead, but he's also given us a lot of help with it." Due out in late October, Elder Scrolls boasts full-screen graphics and light sourcing to create atmosphere, and "there'll be a lot more moves available than there are in Stonekeep".



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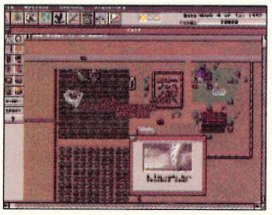
SimCity's Country Cousin



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To begin with, the team hired actors, lighting consultants and costumiers and filmed sections and scenes from the game on to videotape with a serial link to the computer for digitising frame by frame. After early experiments with outdoor settings, the filming was moved into a proper studio in order to provide the right lighting conditions.

Once the resulting files were being implemented and linked into the game, Quarles felt that the results weren't entirely satisfactory. "The video data just wasn't working out well, it needed a good three to four months work on it to really make it effective, so we scrapped that side of things and started looking at modelling software instead."

After trying out about four different packages, including the current programmers' favourite, 3D Studio, the team decided to use a combination of programs, including some modules which have been written in-house.

"It's very important to us to make this as real as possible," says Quarles. "The first game like this was Ultima Underworld, and the main complaint people had with that was that you kept bumping into walls. This is something we wanted to avoid with Stonekeep."

So, the dungeon walls themselves have been modelled using a Macintosh program deemed great for stills, if not animation; the human-looking characters have been taken from the live actors, while monsters such as the 'slime' and tentacle creature have been created with modelling programs. For some moving sequences, Amiga software has been brought in to use that computer's animation capabilities.

"There are a lot of people who are using 3D Studio exclusively at the moment, so that there is a definite 3D Studio 'look' emerging. This isn't good: you need different styles according to what best suits the action," claims Quarles.

However, one of the first characters to be created, the skeleton, remains in its original form. After a number of problems trying to create an authentic-looking skeleton, a medical skeleton was acquired and taken to pieces, then reconstructed around an unfortunate Interplay member's body for filming.

"Unfortunately, we have learned so much since then, that the skeleton will be one of the worst-looking characters in the game."

Along with the agonising over the graphic quality, the same attention to detail has been lavished on the storyline. "The story is very, very important. We've attended seminars in Hollywood on screenwriting, where they explain how to create those shifts between success, struggle, success in the course of the action, and we've learned a lot about characterisation," explains Quarles.

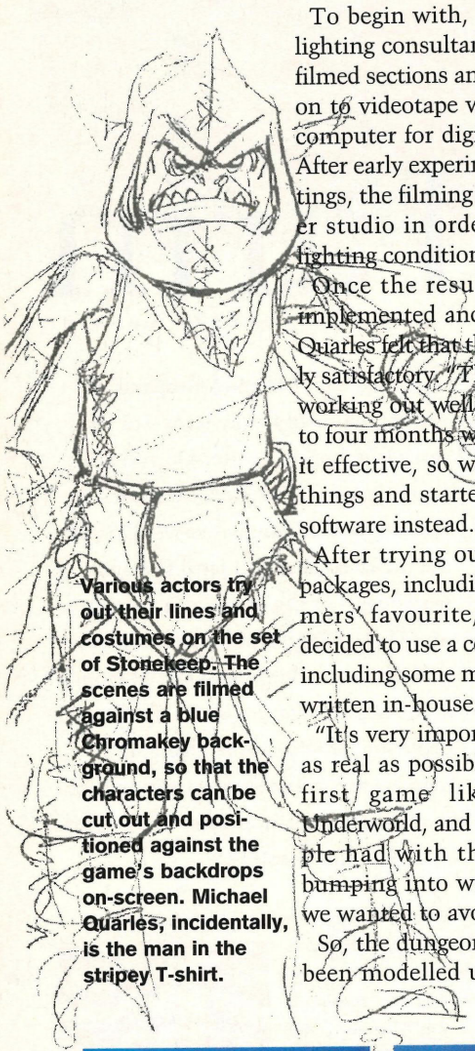
"For example, in a movie, if the guy goes to a new city, takes a cab to place X and it's the right place, you don't expect the cabbie to be part of the movie's story. But if he drops the guy in the wrong place, you've created a character that's part of the plot. So we've tried a similar sort of thing in Stonekeep, with characters of varying depth."

Michael Quarles deliberately assembled a team to develop Stonekeep which was going to be strong on RPG expertise without necessarily being experienced computer games players. One D&D player, Scott Larocca, was brought in precisely because he didn't know computer games. "He was able to give us a new perspective on things, like, the first you might do in real life D&D at a closed door is to listen, to hear if anything is behind it, but you don't usually get that kind of play in computer versions."

Originally planned for an autumn release, Stonekeep is now scheduled to be finished in February next year, with a CD-ROM version also in planning stages. After that, inevitably, work starts on Stonekeep 2. "Now, that will be CD-ROM only, and very large, and we'll be able to make dramatic improvements to the existing interface."

And since so much detailed work has gone into the interface and presentation, it seems a shame not to implement these factors into a different style of game from traditional role-playing.

"We have been talking about doing a space game based on the Stonekeep engine, but nothing has yet been confirmed on that score," says Michael Quarles firmly.

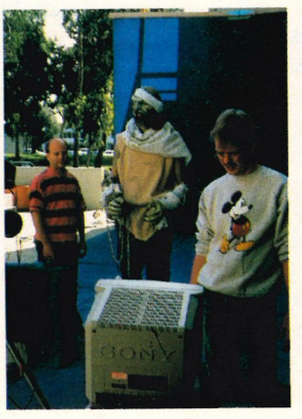


Various actors try out their lines and costumes on the set of Stonekeep. The scenes are filmed against a blue Chromakey background, so that the characters can be cut out and positioned against the game's backdrops on-screen. Michael Quarles, incidentally, is the man in the stripey T-shirt.











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Title	**Chaos Control**
Developer	**Infogrames**
Publisher	**Infogrames**
Contact	**(071) 738 8199**
Release date	**January**
Genre	**Space combat**
Price	**£34.99**

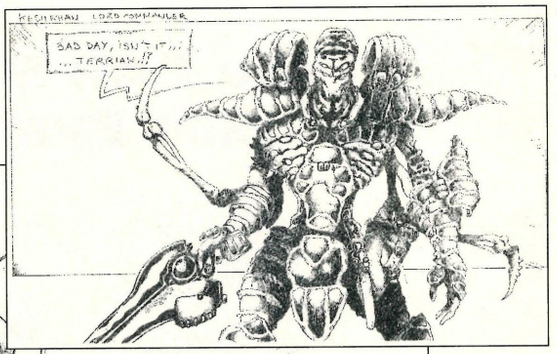


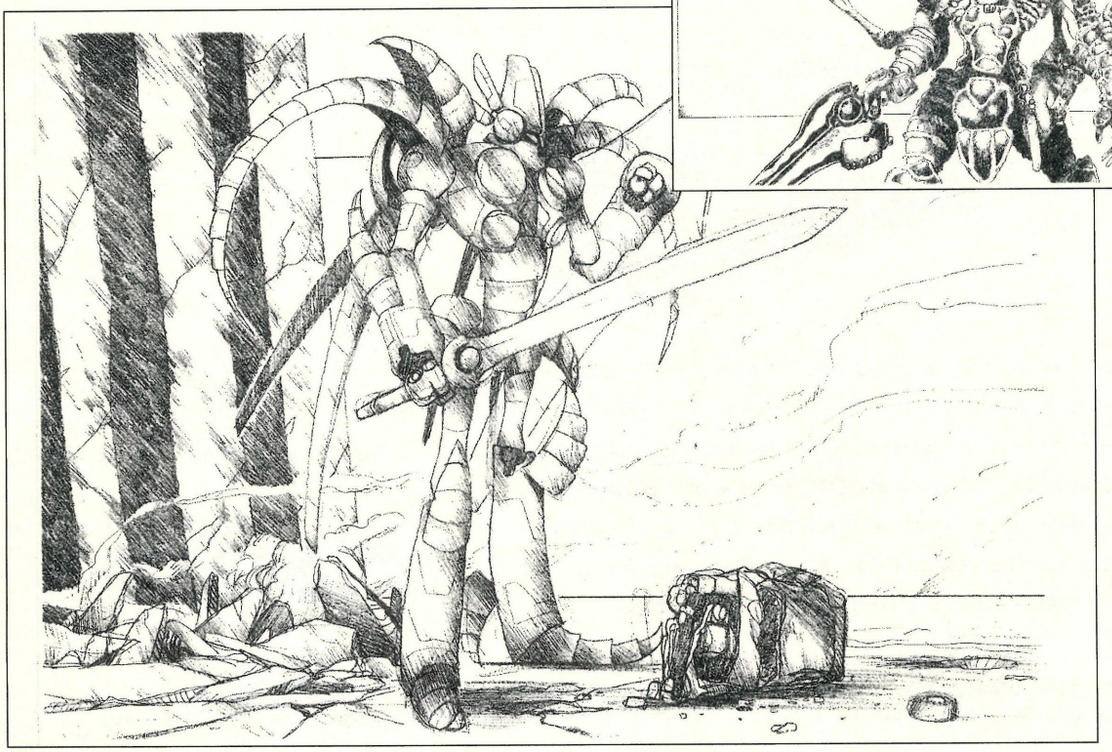
Chaos Control

They said it couldn't be done, but Infogrames is out to prove everyone wrong with this smokin' hot space combat game

Space combat simulations have always been very popular on the PC, but in most games the emphasis has been on strategy rather than straight arcade action. Now Infogrames is developing a game on CD-ROM which combines the adrenalin-charged excitement of an arcade shoot 'em up with jaw droppingly brilliant graphics and stirring music. It was one of the most talked about games at the autumn European Computer Trade Show, held in September, simply because most of the people who saw it couldn't believe that a game with graphics that good could run that quickly and smoothly. Chaos Control may have had more working titles than any other game going (it has been called L for Liberty and Liberty: First Contact War, amongst other things), but one thing's for certain: it's bound to cause a stir when it's released at the beginning of next year.

Top: The Silver Dragons fight it out in orbit.
Below: Graphic manager Franck Drevon's sketches of the alien Kesh Rhan.





The plot is like something out of a science fiction movie. Remember Pioneer? That was the name of the probe sent into space a few years back, which gave details of Humanity and the location of Earth to any aliens who should chance upon it. L for Liberty tells the story of the struggle between Man and the Kesh Rhan, a race of hostile extra-terrestrials who, on discovering Pioneer, decide to come to Earth and wipe us out. At the beginning of the game, the Kesh Rhan have already destroyed the human colonies on Pluto and Mars and are now orbiting Earth, waiting for their mothership to arrive so that they can begin the final invasion. The only thing stopping them at this stage are the defence satellites and the orbital defence units.

The main character is First Lieutenant Jessica Darkhill, commander of the only unit to survive the invasion of Mars. After the battle, she transferred to the New Babylon moonbase where she joined the 11th squadron of the Silver Dragons. As Jessica, you have to undertake five testing missions to rid the Solar System of the evil (well, perhaps they're just misunderstood) aliens.

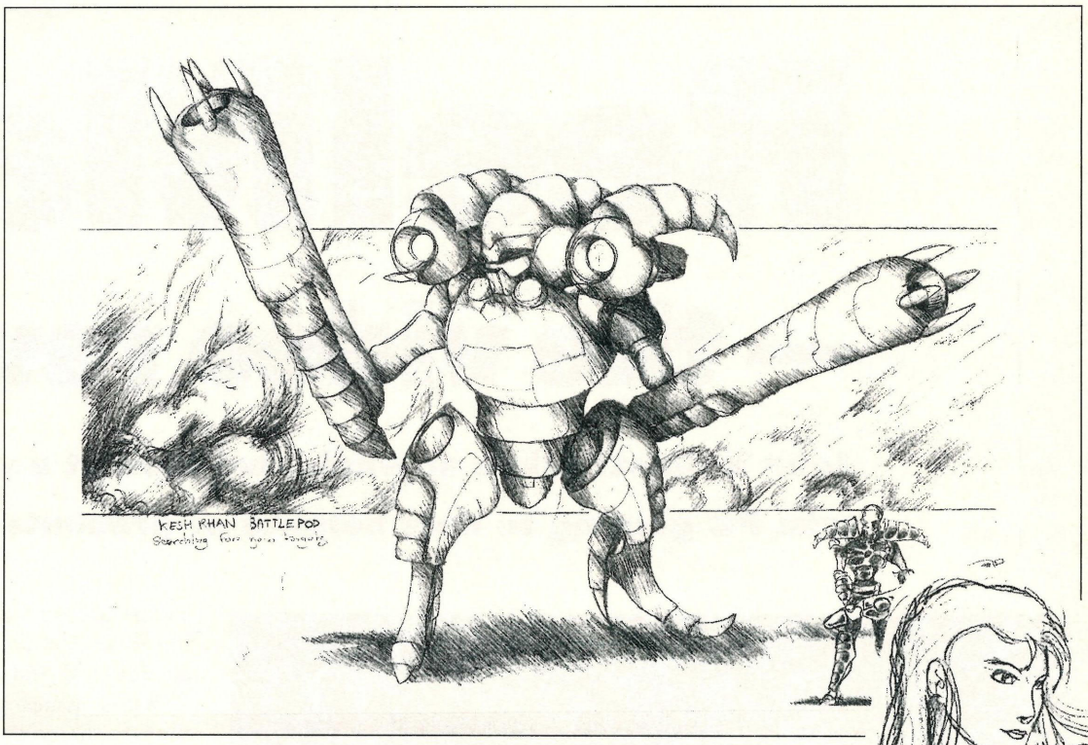
For the first mission, you are ordered to return to the general headquarters of the orbital defence forces, located back on Earth in a 20-level deep bunker beneath the Empire State building in New York. Once there, you must engage the Kesh Rhan landing troops who managed to get

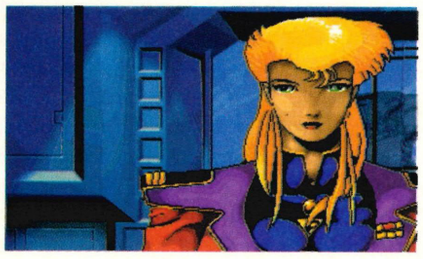
through the defence system and drive them from the streets of Manhattan.

The second section is quite different. After completing the first mission, you discover that the aliens have taken control of the defence satellites by placing a virus in the controlling computer network. If you and your troops try to take off now, you would be destroyed by the satellites as soon as you achieved orbit. To deactivate the virus, you have to enter the computer using a virtual reality set-up and then locate and destroy the programs.

When you have got the satellite system back under control, you are free to return to orbit and take on the Kesh Rhan armada. Since they outnumber you five to one, this is not going to be easy. The third part of the game comprises of a space battle, whilst in the fourth part you attempt to destroy the 4,000 yard long mothership in a Death Star bombing style sequence. Finally, in the fifth part of the game, you have to kill the Kesh Rhan Lord Commander himself.

All the flight sequences have been created using a 3D modelling package, and in all honesty I have to say that I've never seen a space combat game look this good. Each of the five sections has its own distinctive style. The first mission sees you whizzing around Manhattan, complete with skyscrapers and a Statue of Liberty, whilst in the second section you appear to be flying above a huge motherboard as you enter the stricken defence computer in virtual mode.







Above: Artwork showing a fearsome Kesh Rhan battle pod. Wouldn't like to meet one of those chaps on a dark night.
Below: Heroine Jessica Darkhill as she appears in the game.
Right: An early sketch of Jessica in her battle armour.
Botton: going head to head with the enemy in space.

The ships themselves look far more realistic than the bitmapped sprites in Origin's Wing Commander and have none of the blockiness of polygon-based spacecraft in games such as Elite Plus. The stunning thing, though, is the speed at which they move. Franck Drevon, Infogrames' graphic manager, told me that the reason why the game will only be available on CD-ROM is that with graphics like that, Chaos Control would take up 20 high density floppy disks.

I asked Franck why he had chosen to make the player character female. "Because I like women," he admitted, "but it's also because many of the Japanese cartoons have female heroes." Franck has obviously been greatly influenced by the Japanese style of animation, or Anime as it's known, which has been rapidly gaining popularity in Europe, thanks principally to MangaVideo.

As with games such as Origin's Wing Commander, Chaos Control has animated sequences between each mission which serve to fill in the details of the story as well as giving you a bit of a breather. These have all been drawn in the Japanese style, and at this stage look very good. According to Franck, one of the sequences even includes a shower scene. Let's just hope it's tasteful!

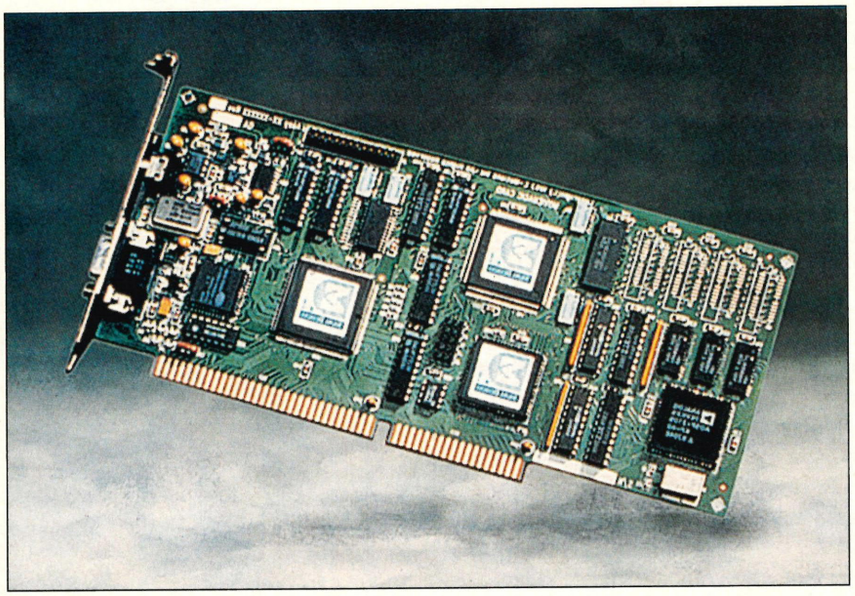
So far, Chaos Control has been one year in production, and half of that time has been devoted to perfecting the 3D animation. At this stage it's difficult to say how good the gameplay will be, but the graphics are utterly stunning. Just as Elite sold a good many BBC micros, Chaos Control might just be the excuse you need for buying that CD-ROM.

■ Cal Jones

EXCLUSIVE

ReelMagic — the video revolution

John Bennett takes an exclusive look at a video card that could take PC gaming to new heights of presentation



The ReelMagic playback controller card is easy to install and fits in a standard 16-bit expansion slot in your PC.

Full motion video is a term that's bandied about with computer games all the time, usually to mean a few low-resolution, poorly digitised and slow-moving unemployed American actors filmed against a blue backdrop, then lobbed in front of a painted landscape. What games players and publishers are desperately looking for are TV quality images played at TV speeds on a PC screen. But until now there's been no PC capable of doing the job without giving itself a fatal hernia, or three.

This is why Sigma Design's ReelMagic card has the potential to create a revolution in PC games and entertainment.

I'm not exaggerating about the possibility of a games revolution, either. This bit of silicon and circuitry has that 'wow' factor: when people see what's running on the screen they stop and go 'wow' (or something less printable). Having had ReelMagic running in the office for the past week, it's fair to say that we've seen absolutely nothing like this on the PC before. I've been ringing people up all round the building to get them to come and have a look at it in action. Sad, huh?

So what does it actually do? Well, the ReelMagic is a video (and sound) card that sits alongside your VGA card in the PC. It plays a new game format — MPEG CD-ROM — and a whole new video format — VideoCD (see the explanatory panels for a detailed description). It runs these formats at resolutions up to 1,024 x 768, at a constant 30 frames per second. And it does all this in 32,768 colours.

That is, as near as dammit, a TV-quality image, running at the same frame rate as TV, either full screen or in a window on the PC. To all intents and purposes, it's just like watching TV.

Because we take the TV so much for granted these days, this may not seem like such a big deal. But think about what we are accustomed to — even on the most powerful PCs available, the most advanced games are still grainy, pixellated and jerky compared to television.

Currently, most games are actually capable of running at under 20 frames per second at best, and that's in much lower resolution and with no more than 256 colours. More colours and a higher resolution means a better quality image, while a faster frame rate means smoother movement. This is what the ReelMagic provides.

This will enable games developers to produce games, and hopefully not just conversions of existing titles, that bring a new level of realism to PC entertainment — games that look and play like you're really there. It will also allow for much smoother and more detailed animated games to be produced.

There's always the chance that ReelMagic won't catch on, of course. But there's nothing around right now that even comes close to it on the PC. The best that anyone has yet come up with, including the chip giant Intel with its DVI video capture board, are lower resolution, slower systems running in half or quarter screen windows.

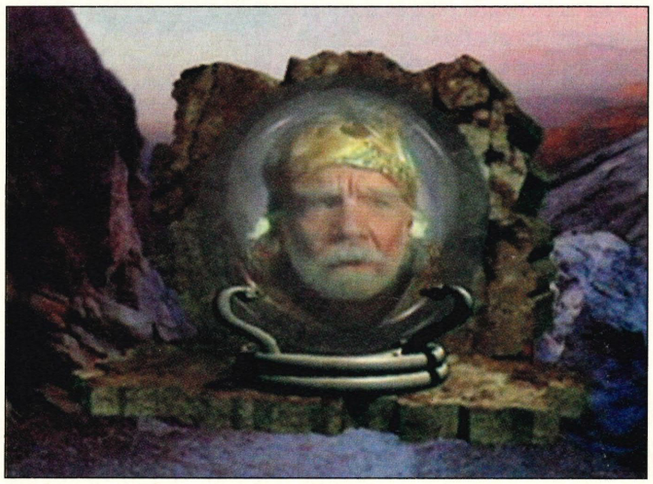
The card ships in about a month's time in this country, and will cost £399 including VAT (although street pricing should bring that down a little) through Silica Systems (on (081) 309 1111). It will come equipped with a demo CD, the full MPEG version of Activision's Return to Zork, and both DOS and Windows software. Games are expected to retail in the £45-£70 bracket, with 12 titles available by the time of the launch, and over 50 by Christmas.

The first video CDs will also be available by Christmas, and this side of ReelMagic is easy to explain. The idea is, quite simply, to put full-length movies on a CD-ROM disc. The first VideoCD films capable of being played on the ReelMagic will come from Paramount Pictures and Warner Brothers, with other film studios following suit next year. The VideoCD standard is backed by a consortium of companies including Sony, JVC, Masushita, Goldstar and Samsung, and, by this time next

year, you may well be renting out your Friday night movie on a CD-ROM disc from the likes of Blockbuster Video, rather than a videotape.

Besides the video capabilities, ReelMagic has a built-in 16-bit sound card, which is designed to be compatible with existing DOS and Windows software, particularly games. The card uses FM synthesis, like the Sound Blaster, rather than the more sophisticated wavetable synthesis. The sound card isn't the most advanced mankind has ever seen, but it does the job. If you want to add a more sophisticated sound card in the long run, ReelMagic will happily live with it in your PC.

Better still, ReelMagic doesn't need much in the way of expensive hardware or a complicated set-up. It'll work just as fast on a standard 16MHz 386PC as on a 66MHz 486DX/2 speed machine. It'll also runs its 32,000 colour displays even if you only have a standard 16-colour VGA card. In all, a 16MHz 386 PC, with Super VGA or VGA, 2Mb of RAM, DOS 5.0 or better, and Windows 3.1 is the basic spec you'll need. Most importantly, a single speed CD-ROM drive will suffice, provided it can handle the basic transfer rate. So, a bog-standard £149 Mitsumi drive would do the job, for instance.



ReelMagic comes with Activision's MPEG CD-ROM version of Return to Zork

How does it work?

This all sounds almost too good to be true, doesn't it? So how does it work?

The big problem with full-motion video images for games is one of size. Back in March, I spoke to Chris Roberts of Origin, the brains behind mammoth games like the Wing Commander series, Strike Commander and the forthcoming Privateer. I asked him whether he'd be making games in Super VGA with more colours and higher resolutions in the immediate future. He said, sure, if people had the machinery to run them.

The PC isn't capable, even with the arrival of the Pentium, of handling that sort of high resolution video on its own. This is why many of the latest games struggle to run well even on a powerful 486 and take up so much hard disk space. But if the video data can be squashed down to blocks of under 150Kb per second, it can be run direct from the CD-ROM, and all the PC has to do is oversee the data transfer, then put its feet up.

None of the other available compression methods have managed to do this *and* get fast, full screen, high resolution video. However, ReelMagic uses MPEG compression — as used in 3DO and CD-i — to crunch both the video and the synchronised sound data down by enormous amounts, up to 200:1.

"The ReelMagic card represents a technological breakthrough ... we are planning immediate development efforts to support the card"

Bill Crow, Sierra

This means that the video information then fits within the CD-ROM transfer rate, so the data is played back straight from the CD disc at full speed. So, using MPEG, ReelMagic takes the work away from the PC processor, and MPEG CD-ROM games can be produced that run much faster and more smoothly than normal PC games, and at a higher resolution.

What is MPEG?

MPEG stands for Motion Pictures Experts Group. It is a compression standard for video images, in the same way that JPEG is used for still images. MPEG is a widespread standard, so future software compatibility shouldn't be a problem.

There are two ways of compressing data for video; firstly, where there is no loss at all. When you uncompress the data it is all there as it was in the beginning. The trouble is, this will only give you compression ratios of around 2:1, not nearly enough to work full-screen video on the PC.

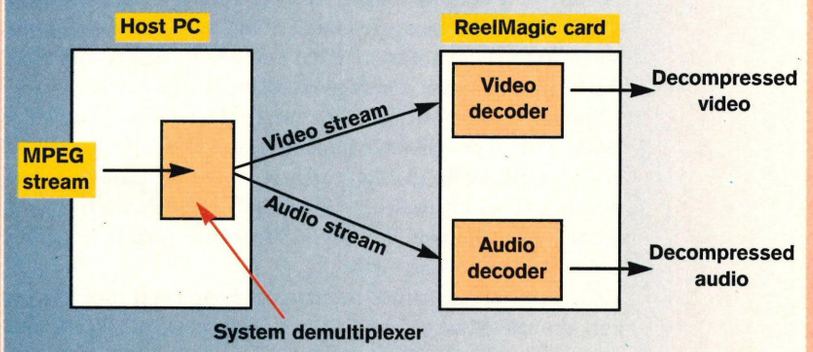
The other way is to lose some 'redundant' information. In other words, MPEG has to decide what information in a series of frames can be safely discarded without a noticeable loss of quality in the finished image.

If you think of a video sequence as a series of still frames, there are some frames where parts of the image are the same as an earlier or later frame. MPEG makes intelligent guesses about what is going to stay the same, and predicts what, in 8 x 8 pixel blocks, will move and in what direction. Imagine a ball bouncing down the street. MPEG will compress what to you and I is the background, and then concentrate on the movement of the ball from there on, calling up the background each time. A perfect compression system would store the background verey frame.

In this way, MPEG achieves compression ratios of up to 200:1, by refusing to re-store information it already has. This is why it is able to crunch up whole movies on to a single CD-ROM.

But, as I said, the whole system is based on MPEG making intelligent guesses about an image, and it does 'lose' information that way. This is, of course, where the system's critics are most vocal. But the proof of the pudding is in the eating, and from what I've seen the image quality looks fantastic.

Getting MPEG from A to B ...



Because the audio and video streams are decompressed simultaneously, sound and vision is kept in synch.



Readysoft's classic Dragon's Lair has been given the ReelMagic treatment.

What could possibly go wrong?

Here we have a card that plays video CDs and a new breed of TV-quality video games, that doesn't need expensive hardware, costs under £400 and comes complete with built-in sound. But, like any new hardware development, ReelMagic will live or die by whether anyone makes any games for it.

Right now there are a number of games publishers and developers who have committed to produce MPEG games for the ReelMagic. These include Sierra, Activision, Trilobyte, Readysoft, Virgin, Westwood Studios, Interplay, Psygnosis, Aris and Lucas Arts. MPEG CD-ROM titles under way right now include existing and new titles; Rebel Assault, Lands of Law, Return to Zork, Microcosm, Dragon's Lair, Space Ace, Police Quest 4, Outpost, MPC Wizard, VideoCube and The 11th Hour have been announced so far.

Something that may be a stumbling block, though, is that the process of compressing the information is a complicated one. It requires professional supervision and expensive equipment. So, when a games publisher wants to put out a game in this format, they are at the mercy of specialist service bureaux. I can see why some of them may not like this idea, and may shy away from developing MPEG games.

Even so, it certainly looks like the card has enough backing from publishers. Some are taking a 'let's wait and see' approach, but I think there are more than enough already committed to the format to give it a very good chance of success.

The price of the card is another matter which may cause problems. Several people have made the comment to me that £350 is too expensive for the home games player. Hopefully, the addition of the 16-bit built-in sound card will balance things out, because any halfway decent 16-bit sound card is going to be £150 to £200 to start with.

The price of the games themselves is an even thornier problem, though. Most games players already feel that the £35 to £45 price tag of standard floppy disk games is excessive. Will we pay more than £50 or £60 for a game? Yes, I think we will, but only if the games are good to play. Just because it looks great doesn't necessarily mean a game will be any fun.

Another limitation is that it won't grab or capture screen images, for one thing, so ReelMagic can't be used for video editing. This was pointed out to me by Satish Gupta, vice president of Media Vision, who argued that any home entertainment PC video system should offer the user the facility to edit their own videos and films. It's a fair point, but personally I'd rather have full motion video now for my games and sort out the video editing later, rather than wait a couple of years till they can do both.

"We're convinced that ReelMagic will revolutionise the multimedia and entertainment market"

David Foster, Readysoft

The immediate future

One of the problems I've had in looking at ReelMagic is that because the first cards have only just arrived here, we've had to work with demos of MPEG CD games, education and film titles, rather than complete games. This doesn't make it easy to estimate how playable the finished games are going to be. They'll look good, though. I'll guarantee that.

For ReelMagic to be sucessful, you and I need to go out and buy it, and we won't do that unless the games are there and worth the cash — for their gameplay as well as the graphics. ReelMagic will run games on a PC like they've never been run before, but after that it's all back in the hands of the games publishers.

I hope that they take advantage of it to produce a new type of interactive computer game that is as glorious to look at as the best in television and cinema, *and* great to play. That would be something indeed.

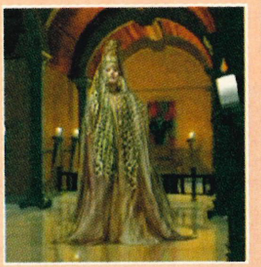
PC Review will be following up with a review of the first games to use the MPG CD-ROM games format: first up should be Return to Zork next month.

A couple of side issues

ReelMagic raises several interesting side issues, some of which may be trivial, and some which may turn out to be more serious.

For one thing, games are already moving towards movie production techniques and costs — script writers, actors, artists, musicians, producers, you name it. With ReelMagic delivering greater screen realism, we're going to need better actors in games for a start. Not wooden rejects from some American soap-opera-from hell like we get at the moment. And while we're on the subject, any bets on who'll get the Oscar from the 1999 Best Supporting Actor in the Serious Platform Game nominations?

A much more serious issue will be pornography and violence. While PC games are largely animated cartoons, as they are now, the general feeling is that the violence and sex is not seriously protrayed. In fact, games quite often sell more on the strength of a 'voluntarily' added warning sticker. But when you have the sort of TV-quality images that ReelMagic displays, then a game is portraying real-life people, real-life sex and real-life violence. This is likely to cause all sorts of upsets, to put it mildly, and an enforceable rating system for MPEG PC games, is going to be a necessity or parents are going to be up in arms, let alone the vice squad.





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MEDIA VISION



The easy PC

Technophobia is rife when it comes to the PC in the home. But there are moves afoot to make life that much easier. John Bennett investigates

Ever wondered how Apple Macintoshes survive, when pound for pound they can't touch the PC for computing power versus price? Or why Mac users are so attached to their machines? The answer is simple enough. Macs were designed to be used by monkeys. I'm not trying to be rude: I just mean that Macs *are* dead easy for normal, non 'techie' people to understand and use. You and me, in other words.

But the PC is a different matter entirely. It's a mongrel, a cross-breed of umpteen standards and technologies nurtured, often rather carelessly, over the past 10 years or so.

And the result is a bit of a mess. User friendly? You've got to be kidding! An operating system that still relies on an arcane command-line isn't 'friendly'. A front-end that slows the system down and is riddled with irritations, isn't 'friendly'.

And a machine that often takes hours of tinkering with to add the simplest, most useful, devices to, isn't 'friendly'.

So it's hardly surprising that many people are nervous about buying a PC for their home because they're scared of it, confused by it, or see it as an incomprehensible lump of machinery fit only for the workplace (where someone else has the job of setting it up and keeping it running for you).

If more ordinary people are to be attracted to the idea of using a *personal* computer at home, some fundamental problems with the PC need to be sorted out. This is starting to happen, and two or three developments in particular should radically improve the usability of the PC over the next few years.

First off, is the development of an effective new operating system to replace DOS and Windows. Then there's a new standard to make sure that PCs and other hardware can work together with the minimum of fuss on our part. Finally, there's a scheme to introduce computer technology to everyday devices, linking them and the PC together. None of these are likely to happen overnight, but they are all well under way and we can expect to see the results over the next two years or so.

The reason is money (surprise, surprise). It's finally dawned on the big hardware manufacturers and software publishers that they've just about saturated the corporate market. So they're looking for fresh pastures.

And that just happens to be the largely untapped home and leisure market. Seen the 'Microsoft making things easy' adverts, the Hewlett-Packard ads, or the 'Intel Inside' stuff on TV recently? Or IBM's 'Easy PC' adverts on the side of a 36b bus? This is just the tip of the iceberg, because these, and others like them, are companies with vast resources and a huge vested interest in getting us to buy PCs.

Windows Chicago

We have to look towards Microsoft to sort out the current messy PC operating system. Windows has a stranglehold on the PC at the moment, because it comes bundled on most new PCs as a matter of course, and the lion's share of the best new software (games excluded) is being developed for it. And, for all its faults, it has done a hell of a lot to broaden the appeal of the PC.

Microsoft has been promising various new GUIs and PC operating systems for the past year or so, with different versions for different circumstances; versions for corporates (heavy duty, networked stuff needing oodles of RAM), and a general system for the rest of us.

The first corporate version, Windows NT, is here now and has had more than its fair share of press coverage. For home PCs, Windows for Workgroups 3.11 is the next step, and it's coming out shortly. Although it's a network system, it's seen by Microsoft as the replacement for Windows 3.1 on stand-alone PCs as well. In effect, it's Windows 3.2 in all but name.

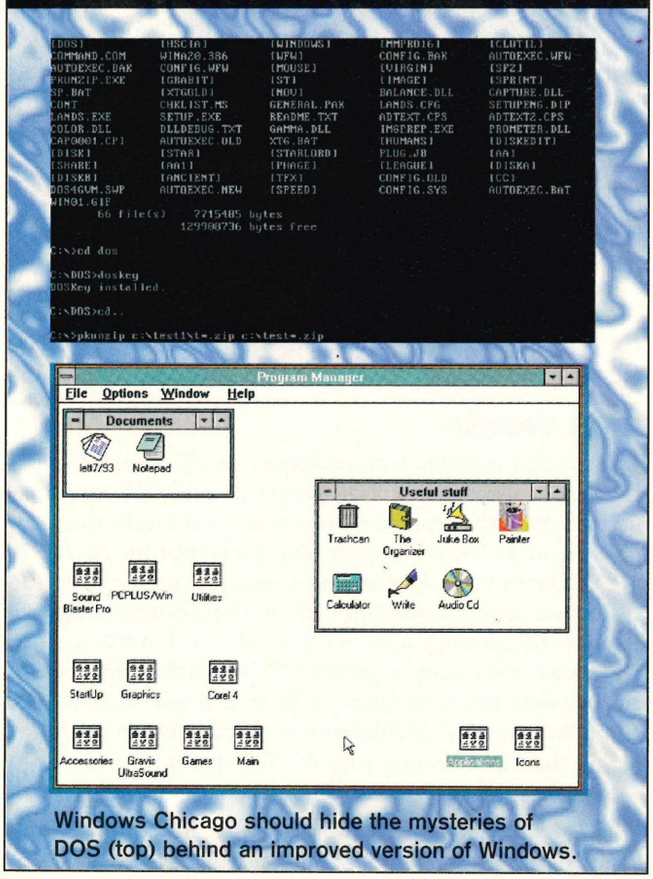
But the big step up will be Windows Chicago, which we're not likely to see much of till maybe autumn of next year.

Fingers crossed, though, Windows Chicago should sort out a few major problems; like why do we have to deal with DOS at all? This arcane command-line gibberish symbolises everything that's intimidating about the PC; sit a novice down at the DOS prompt and unless they've got the magic words — and type them in in the right order — nothing will happen. Not what you call approachable, is it?

And why do we have to have an operating system (DOS) under a GUI (Windows) with a document manager (like Dashboard, etc) on top? It's inefficient, it slows the machine down and makes the whole thing ridiculously complicated to deal with.

From what I can gather from Microsoft, Windows Chicago will include DOS, but it will be hidden away so that you need never come across it. Windows Chicago will be a *complete* operating system, not just an operating system with a front-end bolted on top. DOS will still be accessible, but only if you really need to delve into the technicalities. Otherwise, your day to day dealings with the PC will all be of the icon-based, easy to understand type.

Operating theatre



Windows Chicago should hide the mysteries of DOS (top) behind an improved version of Windows.

Windows Chicago will be a 32-bit operating system, to take advantage of the 32-bit 486 motherboard. Jargon aside, what you get is an operating system that moves data around as quickly as the motherboard can shunt it along on a 486 PC.

With DOS and Windows joined together in Windows Chicago, we'll have a complete operating system and front-end all in one, at last. This will include the end of the eight character restriction for naming files, and it will make much easier configuration and management of your PC much easier. It also means that it won't, in all likelihood, be compatible with 286 and earlier PCs, more RAM will be needed, and it'll take up acres of hard disk space. You win some, you lose some ...

Plug and play

In a way this is something of an apology to us by the manufacturers (and about time, too).

When you add a device to your PC, be it a printer, modem, external drive, fax, scanner, CD-ROM, sound card or whatever, it should be a simple job. You shouldn't have to spend three hours tinkering with jumper settings and drivers, struggle through an incomprehensible manual, and follow all this by two days on the line to technical support.

The PC manufacturers and software publishers admit that this has largely been through laziness on their part. There's no need for the PC to be this difficult; Macs have been automatically configuring hardware and software for years so you don't end up tearing your hair out.

The solution goes by the name of 'Plug and Play'. This is a standard being developed by IBM, Compaq, Hewlett-Packard, Microsoft, Intel and Phoenix, among others. If it works out, the PC will be brought to a level where you simply plug a device in, and the PC sorts out the configuration for you, no matter how your system is currently set up and with minimal, or no, software assistance. It doesn't just mean that it's easy to set up, either. It means *automatic*.

It's a nice idea, and it seems like quite a simple one. But in practice it's going to take quite a lot to achieve. This is because a consistent standard is going to have to be set for every single bit of PC hardware, and communication sorted out between the PC and the device at the operating system and BIOS level.

The first 'plug and play' devices are starting to appear right now, and more are on the way. With a bit of luck, say next autumn, when you go and buy that CD-ROM drive, it'll have a little 'plug and play compatible' sticker on the box. And when you put it in your system it'll work first time with your sound card, scanner and modem already installed. I hope so, because it'll make my life a lot easier, too.

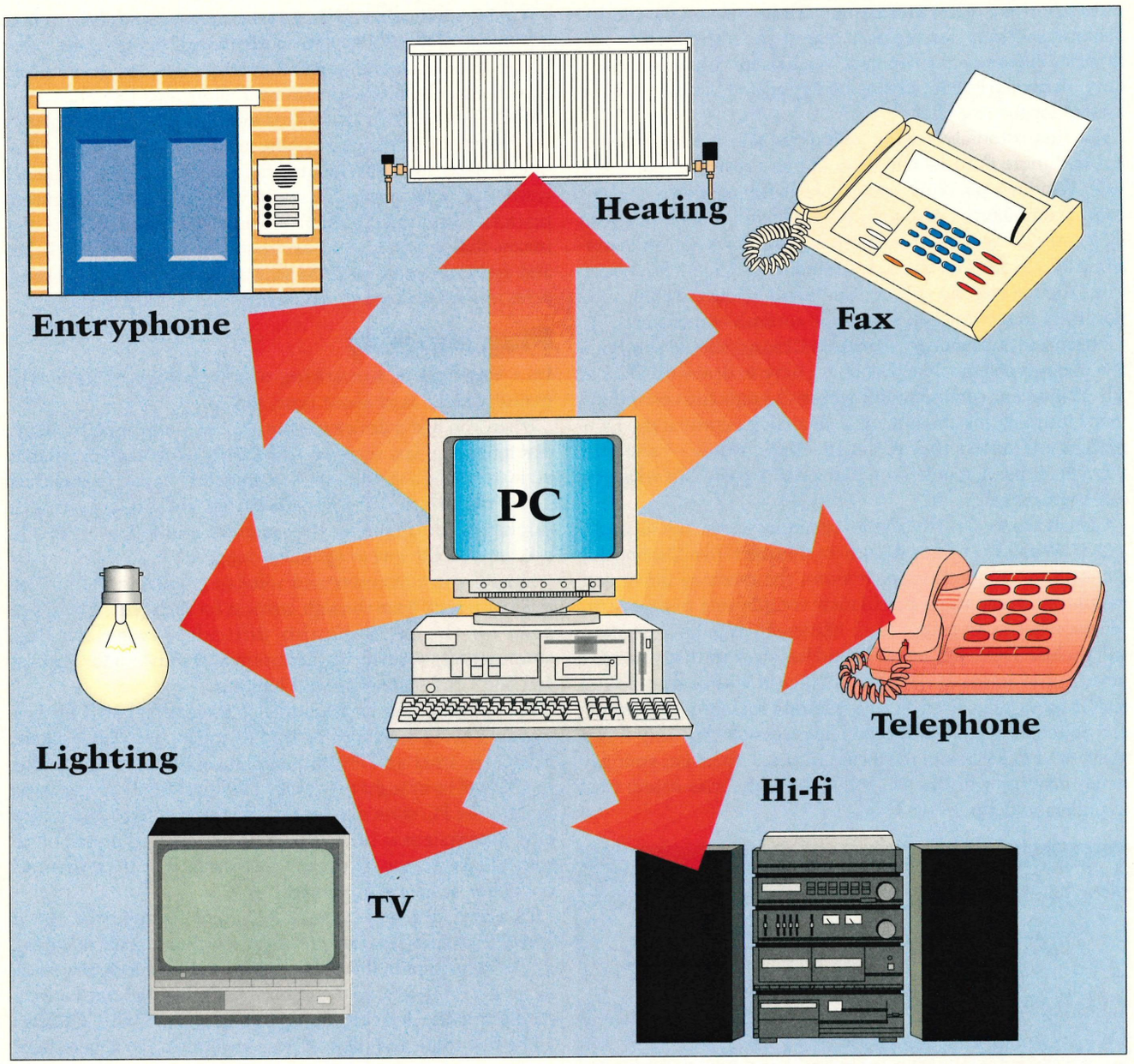
Microsoft at work

And lastly, there's 'Microsoft at Work', a whole new computer architecture aiming to link up the PC with all sorts of other everyday gadgets, by putting software into 'dumb' machines and consumer goods like photocopiers, faxes, phones, and TVs.

Over 60 companies, many of them household names, are currently involved (including the likes of Cannon, Ricoh, BT, and so on) and the first machines incorporating this sort of technology will be out this year.

The idea is that at Microsoft's end the architecture enables you to interact with dumb appliances, and then to give those appliances 'intelligence' when it comes to the way they do a job.

To start with, this is going to be limited to the office (as the name suggests), and the likes of phones, faxes and photocopiers. Microsoft refuses to be drawn, at least in print, on whether it will go any further than that and make its way into the home.



Putting the PC in charge of all this has been a science-fiction dream for years. But, Microsoft's 'at work' initiative should spill over into the home in the long run, with the PC linked up to all sorts of household devices.

Reading between the lines, my guess is that it will, but not for at least a year and a half year and then only very gradually.

The two things that are the prime candidates for this treatment in the home are TV and telephones. TV because of all the possiblities with interactive shopping, ordering and entertainment. Telephones because of things like BT's video phone, and the possibility of linking up telephone conferencing, answerphones, video entry phones, faxes and modems in the home.

After that, the sky's the limit, and the PC is one step nearer to being an electronic black box that controls the home and the office. Presumably, with all this extra gadgetry inside, the devices themselves will be more expensive. Mind you, these days many electrical appliances already carry mini-processors in them. Your washing machine probably does for a start.

This is hardly a radical idea, either. It's been a dream of pulp sci-fi writers for decades, and much of what it will do has been possible for a similar length of time. All it needs is someone to tie it all together and make it practical. Shopping, TV, video, hi-fi, entryphones, telephones, fax, printers, microwaves, heating, lighting, you name it — all accessible via the PC.

For the time being, this initiative is aimed squarely at office equipment, to bring a degree of automation and intelligence not possible before now. But I honestly believe there's nothing to stop it moving into the home in the long run.

Last words

Whether all this will happen, and make the PC genuinely friendly to use is in the hands of the gods. Certainly, the companies involved have the resources, none of it is technically that complicated, and it's all been under way for some time now.

If Windows Chicago gives us a sensible, usable operating system we can all get to grips with, it'll help bring more people round to the idea that a PC is a perfectly safe lump of machinery to have in the home. Plug and Play means that things should actually work first time, when you've bought your shiny new PC and a few extras. And Microsoft at Work controls the home, makes the tea and brings you your newspaper.

Well, maybe not. But exit the unfriendly PC, enter the all new, helpful and generally lovable PC that we can't be without. That's the theory, anyway.

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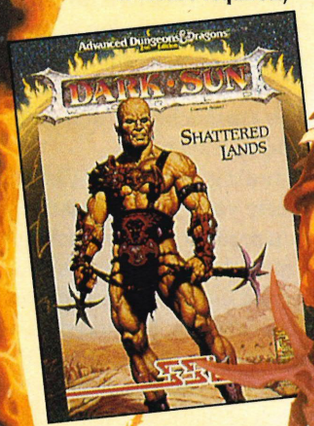

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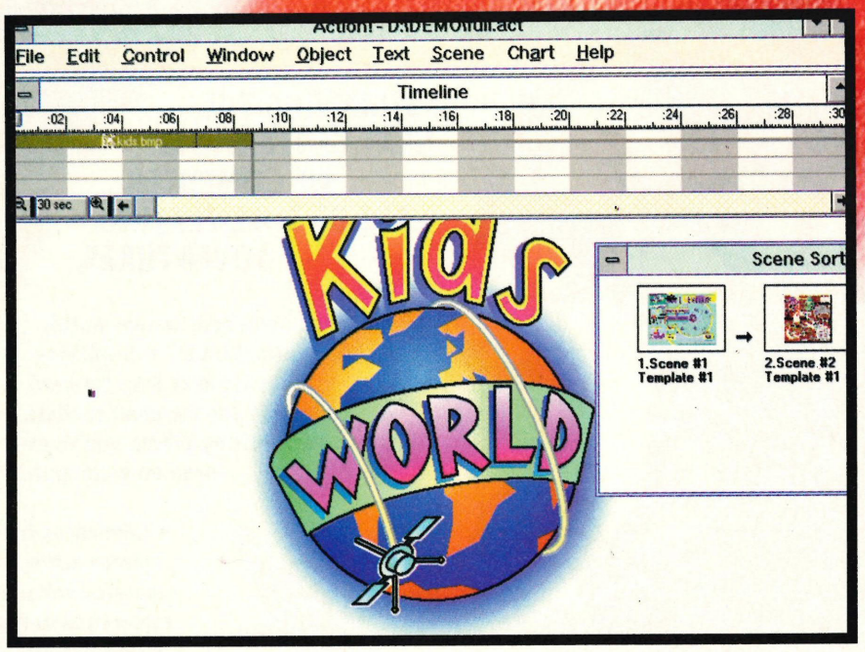
Multimedia in Action

If you've got the multimedia hardware, how can you put it to use in your own multimedia creations? Jonathan Inglis has news of a low-cost multimedia authoring package



Shows how the timeline and scene sorter can both be accessed whilst you are working on a presentation providing a number of means of organising the sequence of events. Within both the timeline and scene sorter objects can be 'drag and dropped', resized and rescaled to alter an individual objects duration, priority, etc.

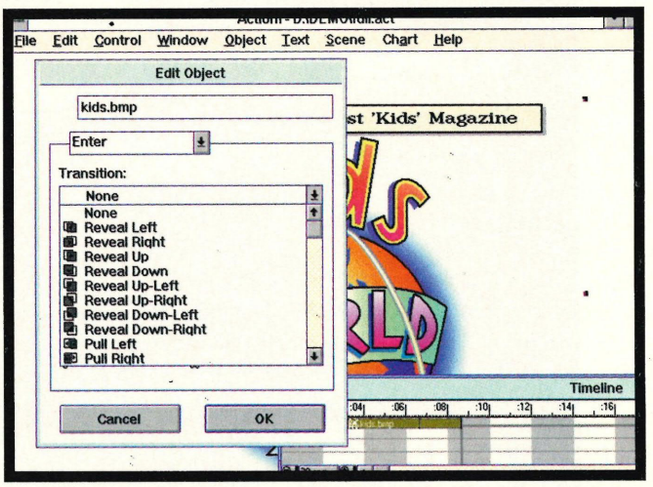
In case you hadn't noticed, interactive multimedia is the flavour of the month this year. At first sight, all that kit is impressive and the thought of being able to watch television while you run Windows or play your favourite CD while you work seems too good an opportunity to miss. A moment's thought, however, and you soon realise that you can achieve much the same effect at no extra cost just by getting up and switching on your hi fi and television. End of story? Not quite. Remember, the men in suits aren't too bothered about whether you actually use multimedia – they just want you to buy the hardware for it because that's where their profits come from. However for the average user the main interest is likely to be the creative challenge of combining sound, text, graphics, animation, video and the like at a fairly modest level to produce simple interactive multimedia applications — whether it's a graphic novel, illustrated lecture or sales promotion – and for that you don't necessarily need to cram a fully equipped TV production studio into your PC.

Even if you can afford it, all the multimedia kit in the world isn't enough on its own. Unless you have some means of combining all those tempting bells and whistles into one impressive all singing and dancing package, you're left with a computerised version of your front room, hifi and video all merrily prattling way to themselves, unable to talk to each other. To do this, you need an authoring package. This takes the programming pain out of multimedia enabling you to combine whatever elements you wish to use into a coherent whole with the added ingredient of interactivity. A typical authoring package enables you to build an application, linking text, graphics, sound, etc, in sequence and giving the user the choice as to how they find their way through the various elements involved. The all important interactivity is added by means of option buttons, icons and highlighted text, etc, which can be clicked on and which in turn bring other options into play.

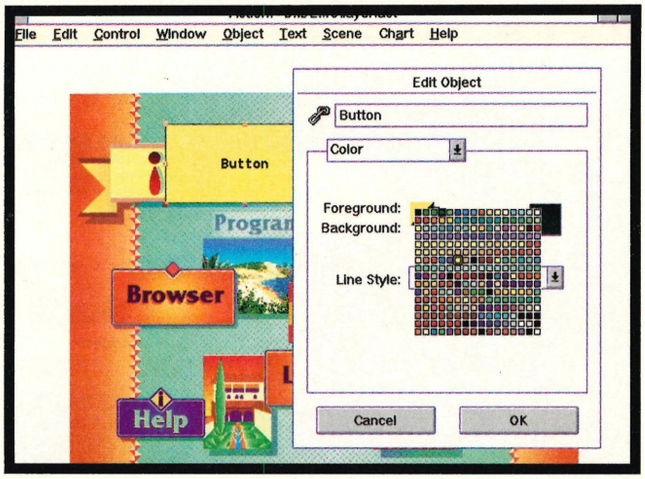
All of this is hardly demanding in programming terms and indeed authoring packages don't need to be massively overweight pieces of software. Over in the Macintosh camp, Apple has been bundling its own authoring system, Hypercard, free with its machines for ages. Hypercard junkies are thick on the ground and the package's popularity is surely one of the reasons that the mac has acquired the cult status that the PC still seems to lack. PC users have been less lucky. We are expected to accept the straitjacket approach that demands, 'Buy our applications — don't build your own.'

All this is, at last, beginning to change. Visual Basic has opened up the way to create your own applications, but it's a steep learning curve if you're not a programmer and just want to be creative. There are authoring packages, but these are aimed fairly and squarely at the Blue Chip corporate market with prices to match. Now, however, Macromedia, well known for Mac-based products such as Macromind Director, has released Macromind Action for the PC. A price tag of £99 it puts it well within the reach of humbler users sweating out the recession in schools, universities and spare bedrooms. Even better, it's a joy to use, one of those rare pieces of software that seems to understand how most people use their computer as opposed to how program designers hope you will.

Action runs under Windows. It requires a minimum configuration of a 286-based PC with 2Mb of RAM, a VGA or 8514 graphics card and MS Windows 3.0 or higher. It can support a sound card, video for windows, CD-ROM and higher performance video cards. Installation is simple and does give you the



Right: Shows the options available when an object enters a scene. A full range of transitions can be selected.



Objects can be assigned a number of properties. Here a 'button' is being defined. Buttons can be drawn in a number of formats, using a full palette of colours and patterns, line styles, etc.

option not to install the extensive library of clip art and demonstration presentation, saving time and disk space.

At its most basic, Action can function as a straightforward presentation package with a sequence of screens displayed one after the other. For screen-based (as opposed to slide-based) presentations then Action may well be worth considering in face of more expensive options such as Freelance or Persuasion. A library of clip art and screen templates is provided if you're not too confident of your artistic skills.

However, it is in its ability to create interactive displays that Action really comes into its own. The basic principle of Action is simple. An application consists of a series of scenes arranged in order. Each scene in turn can be composed of 'objects'. An object can be anything — a single word of text, a chart or graph, a bitmapped image, a sound, an animation or video clip. These can be arranged sequentially to appear on screen at specific timed points in your application. In addition you can create your own 'clickable' buttons. These can be placed anywhere on screen and programmed to respond to clicks on the mouse, so that the user can jump to different points in the application. Any object can be defined as a 'button' and linked to other objects and events. This means you can create multiple choice screens with different options — the interactive factor which lies at the heart of the best multimedia applications.

Objects can be imported from a number of sources. Bitmapped images in the .BMP format can be brought in from any paint package, as can Windows metafiles (.WMF). .WAV or .MID (Midi) formats are supported for sound, though you may need a soundboard for some of these. Movies and animations can be imported using the .FLC and .MMM (Macromind Director Movies) formats. Individual slides from presentation programs such as Freelance, Powerpoint and Persuasion can be pasted in using the clipboard. The program also enables you to create charts, text and graphics directly utilising its own custom designed tools and these are particularly useful for creating buttons and text boxes. All in all, a pretty comprehensive list and enough to get you started.

Once in place, objects and scenes can be defined in a variety of ways depending on their format. For example, a block of text or graphic can be assigned a duration and a transition which affects the way it 'enters' and 'exits' a scene. They can also be moved around the screen so that text can scroll on and off the screen following a set of either user defined or predetermined paths. For chart presentation, a number of animation options

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*Elite on Amiga versions

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Buttons can be defined as links. Clicking on a button can initiate a range of options from skipping to the next scene to ending the presentation.

is possible. All of these can be altered at any time using various drop down menus. All of these are very easy to use but be prepared for lots of experimentation as you attempt to give your presentation that extra bit of flash!

To run your application, there's a control panel with the familiar 'video' style controls as well as keyboard equivalents, if you prefer. You are thus able to run individual scenes or whole presentations using the control panel.

How you organise your application is up to you. Action does not impose a rigid working method. Instead it offers you a number of choices. A 'contents list' , as it sounds, is a text-based list of the various objects in your application. The order of these can be changed by using simple 'drag and drop' techniques. Icons next to each line of text show you what type of object you're dealing with. A 'scene' sorter performs much the same function in a more graphic way: each scene is represented as a slide. Again, these can be moved around using 'drag and drop'.

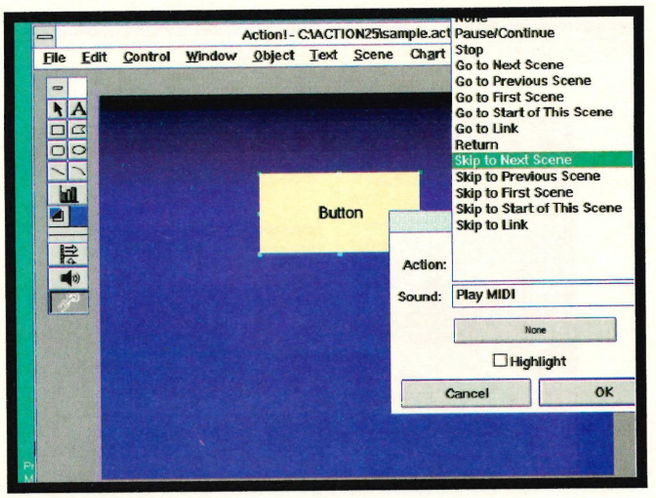
Where a scene contains many objects, the 'timeline' is likely to be the most useful way of organising your application. This linear display shows each object in your application as a bar whose length depends upon the time allocated to that object. Individual objects can be deleted, duplicated, moved and resized using the timeline.

Below: Shows how data can be arranged into charts and the range of formats available.

For me, the real beauty of the package is that you can have the timeline, contents list and scene sorter, visible as your application actually runs, enabling you to monitor each stage using a variety of indicators.

This flexibility runs throughout the package. Accessing the drop down menus by which objects, links and buttons can be edited and redefined is possible via a number of routes depending on where you are working, thus avoiding the often labyrinthine sequence of clicks and key presses that many programs seem to favour. Am I the only person in the computer world who resents the efforts made by some packages to get you to work using their approach? My way may not be the best way, but it is mine and I feel happier with a program that leaves me to define my own style of working. Action appears to appreciate this and, given that it is supposed to be a creative package, after all, it gets full marks here from me.

The manual is clear and concise, by and large. There's no tiresome tutorial aimed at helping you produce a completely naff sales promo — instead it gets down to the nitty gritty



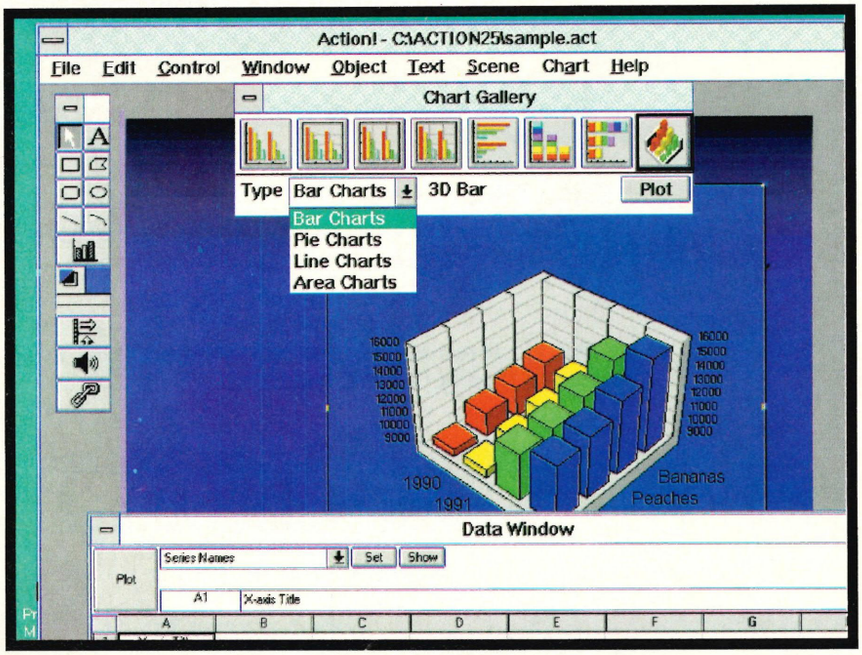
straight away. The reference section is excellent too and at just under 300 pages you don't need to clear a massive parking space on your desk to accommodate it.

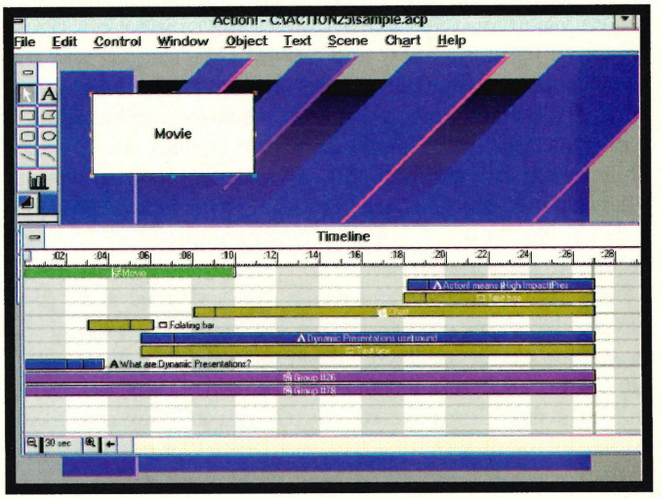
Of course, I've got a few niggles. At the end of each scene, the time taken to load the next does seem too long. Ideally, the next scene would already be waiting in some spare bit of memory. Disk accesses are not always indicated by the egg timer so that some processes appear to have taken place when they haven't finished. Too many palette changes in a scene can often create strange colour effects and the fades at the end of scene seem a bit clumsy as they fade to black (white would be cleaner and more elegant, perhaps).

Action comes complete with a copyright-free standalone player module. So, once created, an Action presentation can be distributed on disk and run from Windows independent of the main Action program. The Action Player is relatively light on disk space so that one 1.4Mb disk could contain both presentation and player module – a bonus for anyone interested in portable information rather than portable computing.

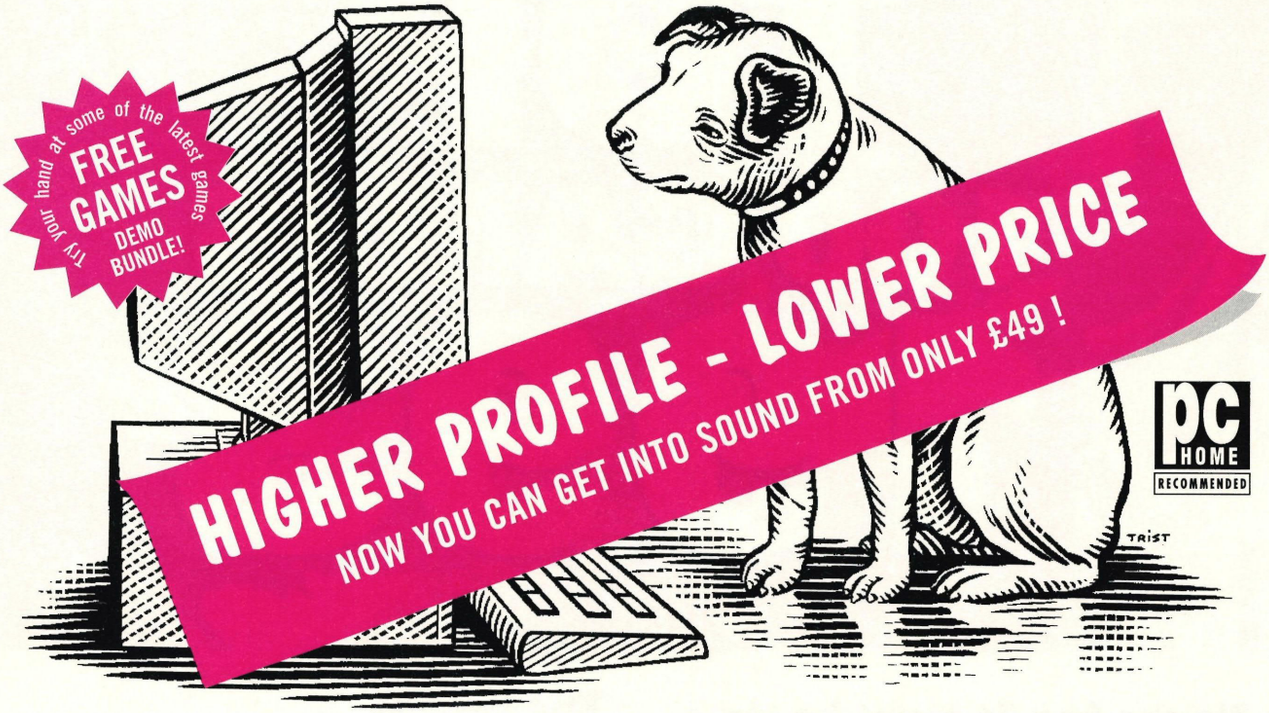
Action is an excellent bit of software, an ideal introduction to the concept of interactive multimedia. The design of the program is excellent. I never felt bogged down or mystified by what was going on on screen. The range of options is comprehensive without being too overwhelming. The package's underlying concepts are clear and refreshingly free of jargon and technicalities. As an entry level authoring system, it's spot on. It's simple and straightforward to use and opens up lots of exciting possibilities. If multimedia is going to take off its programs like Action that are going to be every bit as important as all the hardware the box shifters are trying to sell you.

Below right: Shows how the timeline can incorporate a range of objects. New objects, ie, sound objects, animations or movies automatically move to the top of the timeline. They can then be arranged within the sequence of the presentation.

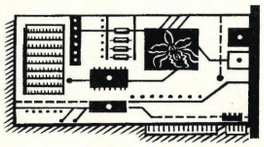




HIS MASTER'S CHOICE

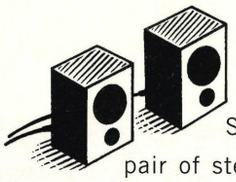


Orchid Sound Producer

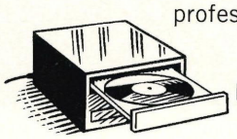


Since his master introduced Sound Producer, a year ago, to bring quality sound to his PC, astoundingly it's become the popular choice!

For Multimedia to games, fully compatible with SoundBlaster and AdLib, it's been *so* well received that *PC Home* made no bones about recommending it!



Which could be because the Sound Producer system includes a pair of stereo speakers, a built-in 4 watt amplifier and its MIDI interface affords access to the world of professional music production.



Or because Sound Producer/Pro - with 20-voice stereo FM synthesizer, CD ROM interface, software-controlled studio standard stereo mixer/volume, microphone and Voice Notes software - sounds even better!



What *is* clear is that its successful pedigree has enabled his master to take a bite out of its bark and cut its price to only £49 for Sound Producer and to £89 for Sound Producer/Pro!

So, if you want to run with the pack, take their lead, call (0256) 817722 - lines are open daily 8 'til 8 including weekends - for details of your nearest dealer,



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If it's November, it must be time for PC Review's annual Top 100 games list, updated, revised and rethought to celebrate the very best titles in PC entertainment

In the frenzy of new games promising gorgeous graphics, revolutionary playing styles, or more often, yet more sequels, stepping back to compile a list of the very best can be refreshing. While PC games are undoubtedly getting better and better all the time (nearly half of this year's Top 100 were released in the last 12 months), there are some doughty veterans that still figure highly among our favourites — Civilization is still in the top 10, and we defy anyone to say it shouldn't be.

What's also heartening is the number of games in this year's Top 100 which are currently available at budget prices, so you don't need to spend a fortune to buy some of the best games on the market.

Although subjective, the Top 100 is put together in a way designed to prevent violent prejudices holding too much sway. There were 200 games on this year's shortlist, and all PC Review's staff and regular writers were sent away to darkened rooms to rate the games they knew well. All the scores were then weighted (so that those people who were just feeling mean or generous on the day didn't influence the outcome unduly) and averaged out to produce the final chart.

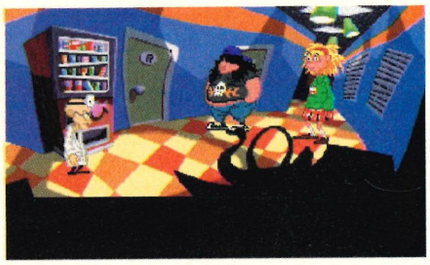
The Top 100 isn't based on review ratings given in the magazine. Some games date more quickly than others, some are superseded by their sequels, others stand the test of time better than we first thought (I think we mean Ultima VII, here).

So, prepare to be infuriated and maddened by our ratings, but if you rediscover just one forgotten classic, or pick up a couple of ideas for games to buy, then this year's Top 100 will be worth the read.

The Top 20

1 Day of the Tentacle

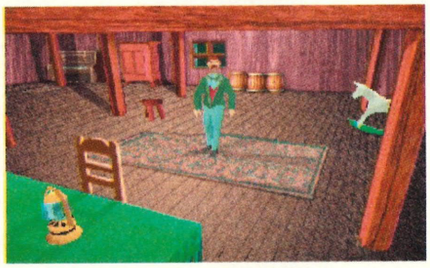
Publisher: *LucasArts/US Gold*
Price: *£42.99 disk, £45.99 CD-ROM*
Reviewed: *Issue 23*



Hilarious, inventive, absurd and absorbing in equal measure, with wonderfully skewed cartoon style graphics and a great soundtrack, Tentacle topped just about everybody's lists. The only tiny note of dissent concerns the fact that there's not enough of it.

2 Alone in the Dark

Publisher: *Infogrames*
Price: *£44.99*
Reviewed: *Issue 14*



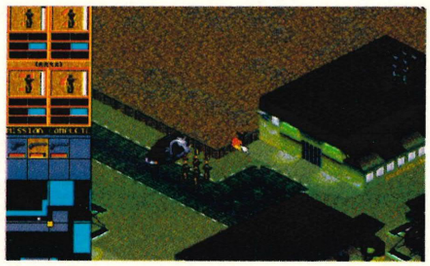
Spooks, ghouls and zombies are the main ingredients of this haunted house adventure which has plenty of arcade elements built-in. It can hardly be faulted for atmosphere, although, like Tentacle above, it's not a particularly difficult game.

3 Syndicate

Publisher: *Bullfrog/EA*
Price: *£44.99*
Reviewed: *Issue 21*

A tough nut to crack, Syndicate is a mission-based game in which you must conquer territory in order to take over the world. You control your

troops on the ground, assigning them with weapons, protective clothing and even relative strength and intelligence to create a well-balanced strike force. You'll be set different tasks per mission, which gives some pleasing variation to the play.



4 Tornado

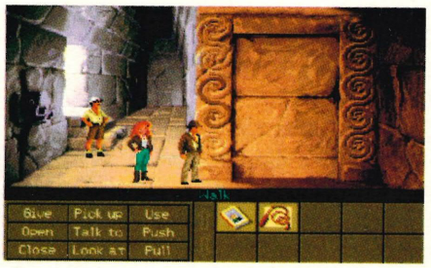
Publisher: *Digital Integration*
Price: *£44.99*
Reviewed: *Issue 22*



The flight sim at its purest, a faithful recreation of the low-flying Tornado aircraft, which comes closer than just about anything else to the sense of being there, with up to six Tornadoes to control on a variety of missions and a mission planning section.

5 Indiana Jones: Fate of Atlantis

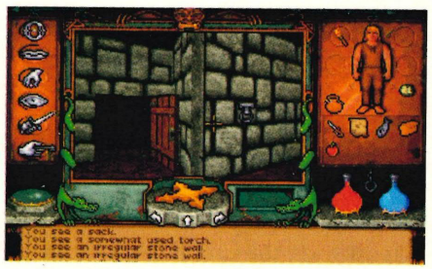
Publisher: *LucasArts/US Gold*
Price: *£37.99 disk, £54.99 CD-ROM*
Reviewed: *Issue 11*



A cracking good adventure, using the familiar central character, if not an adaptation from a movie, pitting you as Indy and helpmate Sophia Hapgood against the Nazis in a race against time to discover the lost island of Atlantis.

6 Ultima Underworld 2

Publisher: *Origin/EA*
Price: *£44.99*
Reviewed: *Issue 18*



The best dungeon explorer just got better when UU2 was released. This sequel gives you more monsters, more characters, more locations (both above and below ground) and weaves a complex, multi-layered story around Britannia and its associated worlds.

7 Falcon 3.0

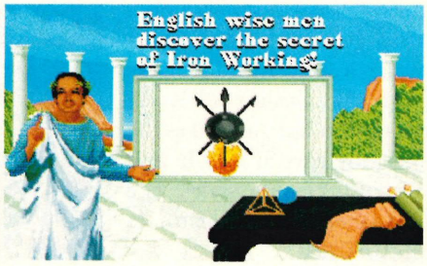
Publisher: *MicroProse*
Price: *£49.99*
Reviewed: *Issues 4 and 9*



Heading for classic status, Falcon 3.0 is an technical and authentic flight simulation, which, for all its heavyweight muscle, remains eminently playable and flies like a dream.

8 Civilization

Publisher: *MicroProse*
Price: *£39.99*
Reviewed: *Issue 1*



Strategy game based on empire building. You choose the appropriate environment for your peoples to prosper and multiply, and for them to evolve scientifically and culturally. It's hard to see how Civilization's appeal will ever diminish.

9 Secret of Monkey Island 2

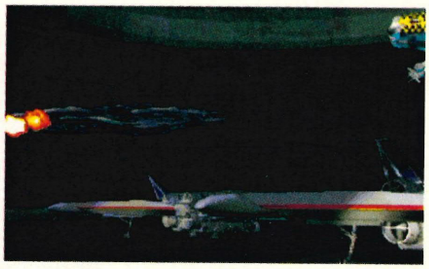
Publisher: *LucasArts/US Gold*
Price: *£37.99*
Reviewed: *Issue 3*



The comic adventure that all other publishers would like to emulate, if not outdo. With humour ranging from the sophisticated to the downright absurd, this continues the adventures of rookie pirate Guybrush Threepwood, this time on a quest for treasure.

10 X-Wing

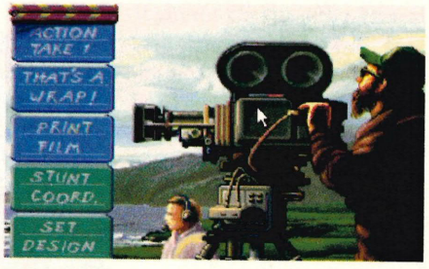
Publisher: *LucasArts/US Gold*
Price: *£45.99*
Reviewed: *Issue 19*



Star Wars comes to life, as you take the X-Wing fighter on a series of surprisingly tough missions throughout the galaxy. Add the superb cinematic link sequences and you have a gaming experience which improves where the Wing Commanders left off.

11 Stunt Island

Publisher: *Disney/Infogrames*
Price: *£49.99*
Reviewed: *Issue 17*



Highly imaginative, part action simulation and part stunt designer kit, you can fly pre-set stunts or create your own, using objects from the program's library of 'props'. Then you can film your exploits to create your own stunt mini-movie.

12 Formula One Grand Prix

Publisher: *MicroProse*
Price: *£44.99*
Reviewed: *Issue 15*

Geoff Crammond's racing game par excellence sets a high standard for any other motor racing simulation to aspire to. Hugely playable to the point of being pretty scary on fast PCs, with plenty of options to tweak your car into producing the last ounce of performance.

13 Flashback

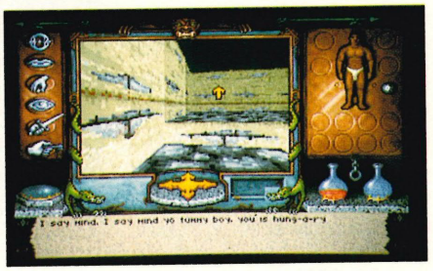
Publisher: *Delphine*
Price: *£39.99*
Reviewed: *Issue 22*



Actually, this is simply a platform game, but the presentation, graphics and atmosphere of foreboding pull it way above the norm, as well as the pleasing mix of arcade and adventuring game styles. The Rotoscoped animation is unparalleled.

14 Ultima Underworld

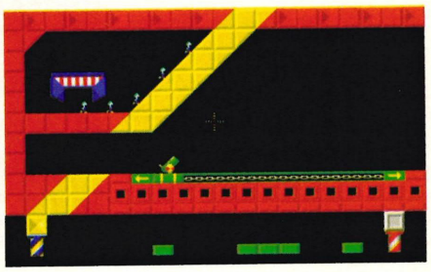
Publisher: *Origin*
Price: *£39.99*
Reviewed: *Issue 8*



The game that set the ball rolling for first person, dungeon adventures on the PC. Underworld's dank caverns and vicious monsters will have you constantly looking over your shoulder, but there's a rattling good storyline in there as well.

15 Lemmings 2: The Tribes

Publisher: *Psygnosis*
Price: *£39.99*
Reviewed: *Issue 19*



This sequel exploited the comic potential of the lemmings more than the original, and created different types of 'worker' for each screen to save their fellow-lemmings' bacon — other than that, it's just a case of Oh Yes! More Lemmings!

16 Secret of Monkey Island

Publisher: *Kixx XL*
Price: *£16.99*
Reviewed: *Issue 25 (budget)*



Not quite as graphically sophisticated as the sequel, but there are plenty of good jokes and lashings of yo-ho-ho and rum, as the naive young Guybrush Threepwood attempts to join the piratical hierarchy in the Caribbean islands.

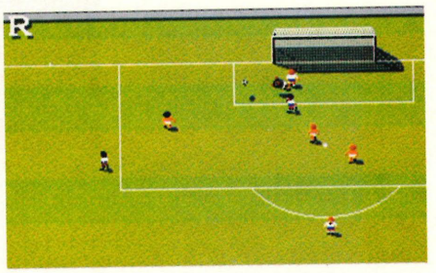
17 AV-8B Harrier Assault

Publisher: *Domark*
Price: *£39.99*
Reviewed: *Issue 15*

Although a single mission sim set against the conflict in East Timor, AV-8B scores for fast gameplay, and the complexities involved in commanding a whole Harrier squadron and its attendant naval strike force.

18 Sensible Soccer

Publisher: *Sensible Software*
Price: *£34.99*
Reviewed: *Issue 22*



By several hundred miles the best football simulation on the PC, fast, playable and with a host of options and team configurations, Sensi is frustrating only in that the Amiga version is perfection itself, and it does fall slightly short of that on the PC.

19 Gunship 2000

Publisher: *MicroProse*
Price: *£39.99*
Reviewed: *n/a*



Over two years old, and still the definitive helicopter simulation, with you flying as part of a group of helicopters on a variety of missions. Gunship has an authentic flying feel to it, without sacrificing any ease of play factors.

20 Links Pro

Publisher: *Access/US Gold*
Price: *£45.99*
Featured: *Issue 13*



The PC isn't short of quality golf games, but Links has enough in terms of features and playing power to head the field. For the pro, there are detailed statistics and replay features; for the amateur, play is straightforward enough to make a golfer out of anyone.

From 30 to 50 ...

21 Lemmings

Publisher: *Psygnosis*
Price: *£29.99*
Reviewed: *n/a*

You must get the lemmings safely from A to B through a series of barriers and apparently insurmountable objects by getting the lemmings themselves to do the hard work of blasting through walls, building bridges and so on. A collector's item.

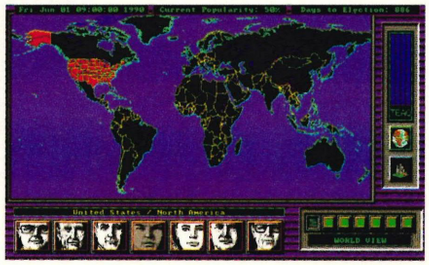
22 Strike Commander

Publisher: *Origin Systems*
Price: *£ 49.99*
Reviewed: *Issue 20*

Strike is a flight game on an ambitious scale. You play a daredevil pilot on a series of mercenary missions in the near future. The presentation and play, a combination of dangerous flying and on-the-ground interactive movie, is superb throughout.

23 Shadow President

Publisher: *DC True*
Price: *£34.99*
Reviewed: Issue 17



More a political model than entertainment, Shadow President is a thought-provoking game which puts you in the White House and lets you take the decisions which affect the modern world. Fascinating for those who like historical 'what-if' scenarios.

24 Incredible Machine

Publisher: *Dynamix*
Price: *£39.99*
Reviewed: *Issue 17*

Once of those 'why hasn't anybody else thought of that?' games. Given a series of seemingly unrelated objects, you must create machines (think of the egg-boiler in Chitty Chitty Bang Bang) to carry out set tasks. Great fun, and with 73 wacky inventions to come up with, durable as well.

25 Prince of Persia

Publisher: *Hit Squad*
Price: *£9.99*
Reviewed: *n/a*

This set new standards for animation when released way back in 1990, and it's arguable that this year's sequel (see below) did little more than make it more colourful. You are the prince and must negotiate mazy rooms (platforms, actually) and armed guards to rescue the princess.

27 Dune

Publisher: *Virgin Interactive*
Price: *£44.99 disk*
Reviewed: *Issue 8 (disk) and 24 (CD-ROM)*



The disk version is a great strategy game; the CD-ROM version is a stunning cinematic experience. Your goal is to take over the planet by dominating the main industry, spice mining: absorbing stuff on disk, breathtaking on CD-ROM.

26 Lost Files of Sherlock Holmes

Publisher: *Electronic Arts*
Price: *£39.99*
Reviewed: *Issue 13*

Detective adventure which, despite its American origin, managed to capture some of the atmosphere of the books. You have one case to solve (not based on a Conan Doyle story) with a cast of sinister suspects and, of course, Dr Watson on hand to help.

28 Wizkid

Publisher: *Hit Squad*
Price: *£14.99*
Reviewed: *Issue 16*

Sadly underrated game from the same team which produced Sensible Soccer. Wizkid is seriously weird, though none the less wonderful for that. A shoot 'em up with a surreal sense of humour, you'll need all your wits and reflexes about you to progress.

29 Aces of the Pacific

Publisher: *Dynamix*
Price: *£39.99*
Reviewed: *Issue 11*

Superior flight sim which puts you in the thick of the Pacific in 1943 – you can play either the Japanese or Americans, army or navy. The controls are simplicity itself, and the choice of difficulty levels makes it enormously playable.

30 Ultima VII

Publisher: *Origin Systems*
Price: *£39.99*
Reviewed: *Issue 9*



The seventh game in the venerable Ultima saga broke new ground for its user-friendly interface. Once again, you as the Avatar are plunged into nasty goings-on in Britannia, through which you must battle before meeting with the evil Guardian himself.

31 Flight Simulator 4

Publisher: *Microsoft*
Price: *£42.50*
Reviewed: *n/a*

Features civilian rather than fighter aircraft, so don't expect too many bombing raids.

33 Red Baron

Publisher: *Dynamix*
Price: *£39.99*
Reviewed: *n/a*

Another doughty veteran, this is a World War I flying simulation. In depth, detailed, very accessible – and way ahead of its time visually.

34 Railroad Tycoon

Publisher: *MicroProse*
Price: *£35.75*
Reviewed: *n/a*

Before Sid Meier got ambitious with Civilization, he composed this little gem which puts you in charge of an embryonic railroad empire in the US, UK or Europe in Victorian times. Graphics are pretty primitive, sound almost non-existent, but the gameplay is surprisingly absorbing.

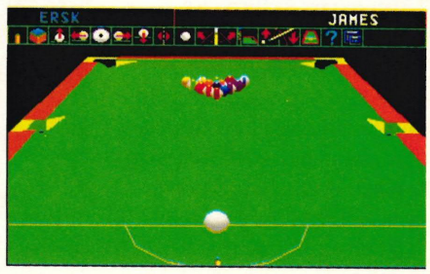
36 Indiana Jones and the Last Crusade

Publisher: *Kixx XL*
Price: *£15.99*
Reviewed: *n/a*

Superseded by Fate of Atlantis maybe, but this is a fast-paced adventure with the advantage of a familiar storyline and all the verve of Indy.

35 Archer Maclean's Pool

Publisher: *Virgin Interactive*
Price: *£35.99*
Reviewed: *Issues 19 and 25*



The most accessible and most 'accurate' pool model, based on the equally accessible and accurate Snooker (see below). You can play 8-ball UK/US rules, or the US 9-ball game.

32 Legacy

Publisher: *MicroProse*
Price: *£44.99*
Reviewed: *Issue 19*



Dungeon exploration again, but this time with a modern haunted house theme, and a Windows-style interface. The atmosphere is spooky verging on horrifying.

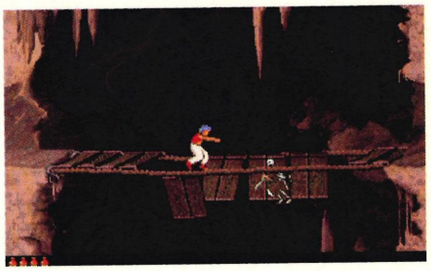
37 Lost Vikings

Publisher: *Interplay*
Price: *£34.99*
Reviewed: *Issue 23*

Your job to get three jolly norsemen home over 37 levels of platform puzzles, all crafted with a delightful sense of humour.

38 Prince of Persia 2

Publisher: *Broderbund*
Price: *£39.99*
Reviewed: *Issue 21*



More running, jumping and climbing, and even a bit of dangling as the prince stays one step ahead of the Sultan's guards, this time against much prettier backgrounds. Graphic appeal aside, this is much the same as the original in terms of gameplay.

40 Savage Empire

Publisher: *Origin Systems*
Price: *not available*
Reviewed: *n/a*

Sadly unavailable at the moment, this is a step aside from the troubles in Britannia to the world of B-movies and prehistory.

41 Chessmaster 3000

Publisher: *Mindscape*
Price: *£35.99*
Reviewed: *Issue 4*

Good chess engine, with skill levels for both near-novice and seasoned player, plus tutorials, match analysis, etc. A very complete chess package.

43 Shadow of the Comet

Publisher: *Infogrames*
Price: *£39.99*
Reviewed: *Issue 19*

Very atmospheric tale of strange goings-on in small town America in the 1920s, with puzzles galore, and steeped in atmosphere.

42 Populous 2

Publisher: Bullfrog/EA
Price: £39.99
Reviewed: Issue 15



Create your terrain, then either strengthen your people – or send a fireball to destroy them. Such is the power of playing Populous. Heaps of new options in this sequel.

39 Wizardry VII

Publisher: *Sir-Tech*
Price: *£45.99*
Reviewed: *Issue 13*



Best of the Wizardry series in terms of special effects, such as auto-mapping, and character generation, nicely realised combat and magic and an absorbing storyline.

44 Elite Plus

Publisher: *Empire*
Price: *£29.99*
Reviewed: *n/a*

Trade and fight your way through the galaxy – and once you've achieved Elite status, sit back and wait for Elite II, due out Real Soon Now.

45 Laura Bow II: Dagger of Amon Ra

Publisher: *Sierra*
Price: *£39.99 disk, £44.99 CD-ROM*
Reviewed: *Issue 12*



Clever and appealing story set in 1920s' New York and revolving around Egyptology and the theft of the priceless dagger of the title. You play Laura Bow, cub reporter, hot on the trail of the thieves, in a series of neatly worked puzzles in and around the city.

46 Pro Tennis Tour 2

Publisher: *Ubi Soft*
Price: *£34.99*
Reviewed: *Issue 2*

The best PC tennis simulation: comprehensive in terms of tournaments and playing surfaces, easy to play and difficult to master.

47 Dyna Blaster

Publisher: *Ubi Soft*
Price: *£34.99*
Reviewed: *Issue 14*

Very simple, very addictive arcade game when played against three other people. Not hugely sophisticated, but great fun.

48 Railroad Tycoon Deluxe

Publisher: *MicroProse*
Price: *£39.99*
Reviewed: *Issue 23*

Prettier version of Railroad Tycoon, including options to develop railroads in Africa and South America, plus some new rolling stock.

49 Wing Commander II

Publisher: *Origin Systems*
Price: *£39.99*
Reviewed: *Issue 1*



An update of Chris Roberts' classic space combat game with more missions, and more movie-style interludes as the Kilrathi return to wage intergalactic war.

WARNING!

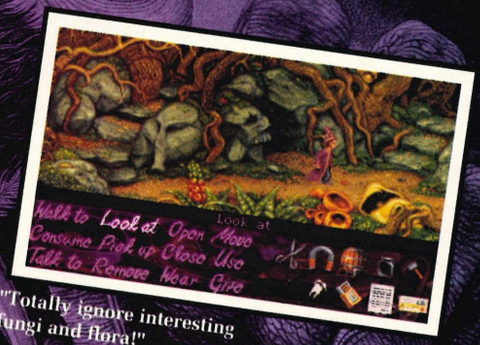
THIS GAME CONTAINS DANGEROUS PROPORTIONS OF HUMOUR AND WIZARDS AND DRAGONS AND GIANTS AND BARBARIANS AND OWLS AND QUADRUPEDS AND DWARVES AND LARVAE AND PRINCESSES AND WITCHES AND TROLLS AND GOATS AND GOBLINS AND DRUIDS AND SHAMEN AND WEREFROGS AND...

"What are you leering at ?", I snapped. The rock continued to stare at me but said nothing. It came as no surprise, dear reader. Everything in this magic forest seemed destined to rouse my anger. Only tomorrow a beery dwarf will tell me to naff off and a socially inept Swampling will lay a guilt trip on me. Banishing the shapeshifting witch and freeing Calypso the Wizard had sounded like any old computerised graphic adventure for hot rodding gamers. Yet having savoured the armpit aromas of an angry troll, been eaten by an amphibian and having discovered how utterly uninteresting fungi and flora can be, I find myself in no ordinary quest.

With thousands of frames of (ouch!) eye popping animation and full colour music you must hear with your ears to fully appreciate, you'll move through a land so amazing you'll be amazed.



"Be amazed at the level of safety features!"



"Totally ignore interesting fungi and flora!"



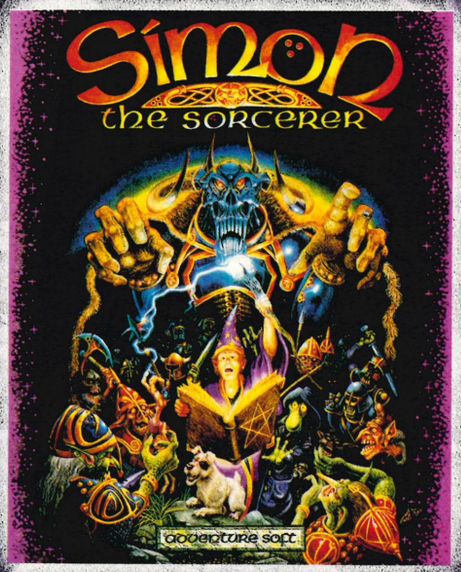
"Visit your cousin, 87 times removed!"



"Do a stretch in prison!"



"Be invited to really interesting dinner parties!"



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Screen shots from IBM PC version. Screen shots are only intended to be illustrative of the gameplay and not the screen graphics which may vary considerably between different formats in quality and appearance and are subject to the computer's specifications.

50 Beauty and the Beast
Publisher: *Infogrames*
Price: *£34.99*
Reviewed: *Issue 22*
Charming rendition of the Disney classic as children's educational game. Beautiful graphics and a set of tasks to do, requiring nimble fingers and an alert memory .



And the rest ...

51 Midwinter
Publisher: *Kixx XL* **Price:** *£15.99* **Reviewed:** *n/a*

52 Another World
Publisher: *Kixx XL* **Price:** *£14.99* **Reviewed:** *Issue 7*

53 Cruise for a Corpse
Publisher:Kixx XL **Price:** *£14.99* **Reviewed:** *Issue 6*

54 Fields of Glory
Publisher: *MicroProse* **Price:** *£44.99* **Reviewed:** *Issue*

55 Jimmy White's Whirlwind Snooker
Publisher: *Virgin Interactive* **Price:** *£35.99* **Reviewed:** *Issue 11*

56 Wing Commander
Publisher: *Origin Systems* **Price:** *£45.99 (Deluxe pack)* **Reviewed:** *n/a*

57 Hong Kong Mahjong Pro
Publisher: *Electronic Arts* **Price:** *£29.99* **Reviewed:** *Issue 12*

58 Legends of Valour
Publisher: *US Gold* **Price:** *£39.99* **Reviewed:** *Issue 15*

59 David Leadbetter's Golf
Publisher: *MicroProse* **Price:** *£44.99* **Featured:** *Issue 13*

60 Legend of Kyrandia
Publisher: *Virgin Games*
Price: *£35.99* **Reviewed:** *Issue 13*


Eternam

61 Serpent Isle
Publisher: *Origin Systems*
Price: *£44.99* **Reviewed:** *Issue 20*

62 TV Sports Boxing
Publisher: *Mindscape*
Price: *£19.99* **Reviewed:** *Issue 3*

63 Eternam
Publisher: *Infogrames*
Price: *£35.99* **Reviewed:** *Issue 10*

64 Indianapolis 500
Publisher: *Hit Squad* **Price:** *£14.99* **Reviewed:** *n/a*

65 Tetris
Publisher: *Infogrames* **Price:** *£24.99* **Reviewed:** *n/a*

66 Inca
Publisher: *Coktel Vision* **Price:** *£44.99* **Reviewed:** *Issue 14*

67 Great Naval Battles
Publisher: *SSI/US Gold* **Price:** *£39.99* **Reviewed:** *Issue 15*

68 Secret Weapons of the Luftwaffe
Publisher: *LucasArts/US Gold* **Price:** *£44.99 (compilation)* **Reviewed:** *Issue 1*

69 Spellcasting 101: Sorcerers Get All the Girls
Publisher: *Legend* **Price:** *not available* **Reviewed:** *n/a*

70 Xenon II: Megablast
Publisher: *Bitmap BrothersHit Squad* **Price:** *£TBA* **Reviewed:** *n/a*

71 Battle Isle
Publisher: *Ubi Soft* **Price:** *£34.99* **Reviewed:** *Issue 3*

72 Star Trek: 25th Anniversary
Publisher: *Interplay*
Price: *£34.99* **Reviewed:** *Issue 6*

73 Harpoon
Publisher: *360/Electronic Arts*
Price: *£34.99* **Reviewed:** *n/a*

74 F15 Strike Eagle III
Publisher: *MicroProse*
Price: *£44.99* **Reviewed:** *Issue 16*



Star Trek: 25th Anniversary

75 Shanghai II
Publisher: *Activision*
Price: *£34.99* **Reviewed:** *Issue 1*

76 Gods
Publisher: *Bitmap Brothers*
Price: *£29.99* **Reviewed:** *Issue 4*

77 Populous
Publisher: *Hit Squad*
Price: *£12.99 (inc Promised Lands)*
Reviewed: *n/a*

78 Sim City
Publisher: *Maxis/Infogrames*
Price: *£29.99* **Reviewed:** *n/a*



Shanghai II

79 Midwinter 2
Publisher: *MicroProse* **Price:** *not available* **Reviewed:** *Issue 5*

80 Heart of China
Publisher: *Dynamix* **Price:** *£**.**** **Reviewed:** *n/a*

81 Historyline 1914-18
Publisher: *Bluebyte* **Price:** *£39.99* **Reviewed:** *Issue 18*

82 Zool
Publisher: *Gremlin* **Price:** *£34.99* **Reviewed:** *Issue 20*

83 V for Victory (series)
Publisher: *Electronic Arts* **Price:** *£34.99-£44.99* **Reviewed:** *n/a*

84 The 7th Guest
Publisher: *Virgin Interactive* **Price:** *£45.99 CD-ROM* **Reviewed:** *Issue 20*

85 Dune 2
Publisher: *Virgin Interactive* **Price:** *£35.99* **Reviewed:** *Issue 16*

86 Rex Nebular
Publisher: *MicroProse* **Price:** *£44.99* **Reviewed:** *Issue 14*

87 Perfect General
Publisher: *Ubi Soft* **Price:** *£39.99* **Reviewed:** *Issue 8*

81 E-Motion
Publisher: *US Gold* **Price:** *not available* **Reviewed:** *n/a*

89 Daughter of Serpents
Publisher: *Millennium*
Price: *£34.99* **Reviewed:** *Issue 18*



Space Quest 5

90 Ultima VI
Publisher: *Hit Squad*
Price: *£14.99* **Reviewed:** *n/a*

91 Sorcerer's Appliance
Publisher: *Legend*
Price: *£34.99* **Reviewed:** *Issue 1*

92 Space Quest 5
Publisher: *Sierra*
Price: *£39.99* **Reviewed:** *Issue 19*

93 Space Hulk
Publisher: *Electronic Arts* **Price:** *£39.99* **Reviewed:** *Issue 20*

94 Powermonger
Publisher: *Hit Squad* **Price:** *£14.99* **Reviewed:** *Issue 3*

95 A-Train
Publisher: *Maxis* **Price:** *£40.00* **Reviewed:** *Issue 12*

96 D/Generation
Publisher: *Mindscape* **Price:** *£29.99* **Reviewed:** *Issue 6*

97 Eye of the Beholder II
Publisher: *SSI/US Gold* **Price:** *£35.99* **Reviewed:** *Issue 4*

98 Lure of the Temptress
Publisher: *Revolution* **Price:** *£35.99* **Reviewed:** *Issue 10*

99 Front Page Sports: Football
Publisher: *Dynamix* **Price:** *£39.99* **Reviewed:** *Issue 16*

100 Castle of Dr Brain
Publisher: *Sierra* **Price:** *£39.99* **Reviewed:** *Issue 4*

Agree on the whole? Or disagree violently? Write in with your own Top 10s if you think we've taken leave of our senses. Send your lists to: PC Review Top 10, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU, and we'll publish a selection.


Lure of the Temptress

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"A MUST BUY." 90% CU Amiga Screenstar

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GRAFTGOLD Creative Software

Inside

A disk drive works on the same principle as a tape recorder. When data is being saved ("recorded") on to disk, the disk material is magnetised in one of two directions by the write head (transfers files from RAM to the hard disk for storage). These directions correspond to the 0/1 bits of binary data. In the case of a hard disk, the magnetic material is made into a flat rigid disk which is spun at high speed. When the read head (picks up files from the hard disk for loading into programs) passes over the patterns of magnetisation this causes pulses of current which can be converted back into binary data.

The read/write head needs to be as close to the disk as possible to work effectively. This is achieved by 'flying' the head in the fast-moving currents of air just above the surface of the spinning disk. Of course, when the disk isn't rotating the head no longer flies and it rests on the surface of the disk. To avoid damage to the head and disk surface there is a special 'landing' area where the head can be parked when the disk is switched off. Most modern disks auto-park the head when the power is removed. Older disks had to be parked using a special utility.

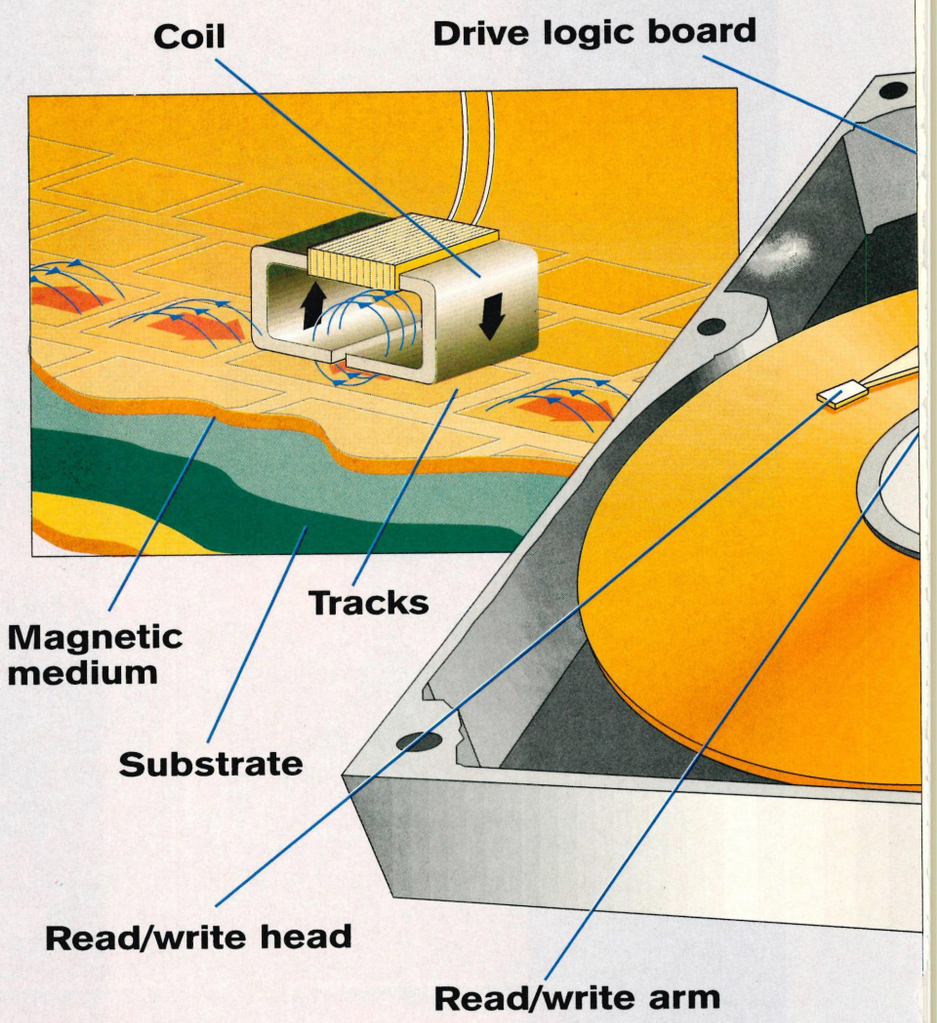
The read/write head is very small and flies so close to the surface of the disk that a small dust speck would look like a mountainous obstacle to it. To stop the head colliding with dust the entire disk is enclosed within an filtered air system—which is why you should never open the hard disk drive itself to have a look inside! Even so, the head occasionally does crash into the surface of the disk – hence the term 'disk crash'. When it does so, the effect can range from nothing at all, to a small damaged area, to a complete failure of the drive because the head is damaged. The same effects can be produced by dropping a drive or the machine that it is in.

The data is written on the disk in concentric rings called 'tracks'. To read or write a track the head has to be positioned over it. This is achieved in a variety of ways. The simplest is to use a stepper motor to move the head by one track in or out as signalled by the PC. How fast a disk can find data depends on how fast the head can be moved from one track to another. This is usually measured by the drive's average access time, that is, the time to move the head halfway across the disk.

As a drive ages, wear in the head's positioning can cause data errors. It causes inaccuracies in positioning and it is possible eventually for the head to miss the data track altogether.

Once the head is in position over the desired track, data can be read from or written to it. How fast the data can be transferred from the disk depends mainly on how fast it is spinning – it takes at least one revolution to read an entire track. The higher the transfer rate the better but some types of drive – ST 502 and ESDI – cannot transfer data faster than a given speed without breaking the standard that they are supposed to conform to. More modern drives such as IDE and SCSI can be built to transfer data as fast as the PC can accept it.

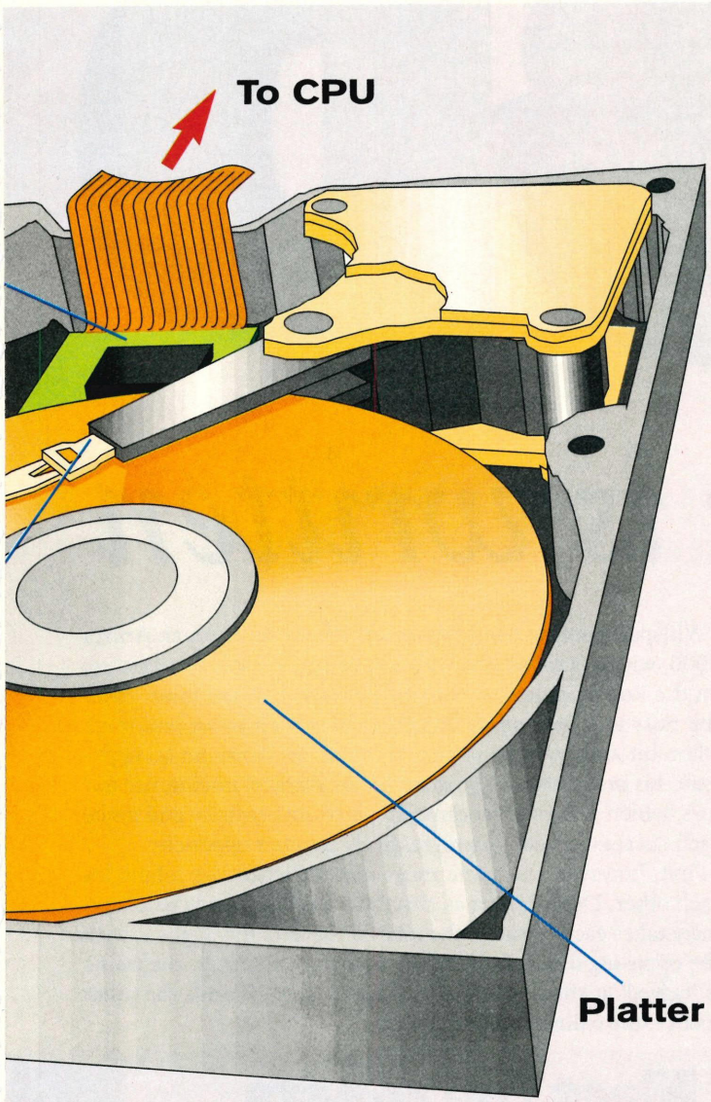
THE HARD DISK DRIVE



Data sent by the computer is stored on a revolving disk called a platter. The performance of the drive depends largely on how much data can be squeezed on to the platter. The tighter the data can be packed the more information can be stored and the faster the drive can read and write it.

The read/write head is positioned accurately over the right track on the platter by means of a stepper motor controlled by the drive's logic board. The drive then waits for the revolving platter to bring the correct blocks under the head. To write data to the platter a small current is passed through the coil in the head which magnetises the core and creates a magnetic flux at the gap. This magnetic flux

the PC



magnetises a microscopic area on the surface of the platter, the polarity of which depends on the direction of the current flowing through the coil. Thin transition regions are left between the magnetised areas so the head can differentiate between each separate area.

When reading, the head senses the polarity of each magnetised area as it passes beneath and sends a signal to the drive's logic circuits which reconstruct the original data and relay it to the PC's CPU.

The hard disk is the fixed disk drive inside your machine on which your programs are stored and your data files saved. Here's how the hard disk drive works, and some explanations of why it can go wrong

Transfer rates also depend on the amount of data that can be squeezed into a single track. As drives have developed, more data has been packed into a smaller space. The total capacity of a drive depends on this and on the number of disks mounted together. In practice, it makes sense to have multiple disks stacked together, each with their own read/write head.

A track of data is too much to work with in a single read or write operation so it is divided into sectors. A sector is the smallest amount of data that can be read or written, usually 512 bytes. Once the head has moved to a correct track it may still have to wait for the beginning of the correct sector to reach it.

So far, the description makes it sound as if the disk drive is doing all the work but in practice it works in conjunction with electronics in the PC – the disk controller. This sends commands to the disk drive to position the head and manages the transfer of data to and from the drive.

Disk drives are getting faster, cramming more data into a smaller space. Every attempt to replace magnetic storage by other methods has failed. But disk drives still seem primitive by the standards of modern electronics. They are the only moving parts left in the average PC and as such the most likely to wear out! They are also noisy and power-hungry. Time will come when solid state storage, with no moving parts, replaces disk drives – but not as long as the manufacturers can keep the price per megabyte falling!



CREATION IN 3D

How the game is written

In our second report on the creation of Rise of the Robots, we look at the techniques involved in creating and defining gameplay

Last month we reported from the set at Mirage Software, where the 3D-rendered game Rise of the Robots is in development. Rise is designed to be a one or two player beat 'em up game, using the graphic potential and power of the PC to deliver a game superior in presentation, and getting away from the flat cardboard cut-out look of other games in the genre.

All the robots have now been designed, bar the 'supervisor', the final level fighter. Now, Sean Griffiths and Sean Naden, are working hard to animate each character before handing the finished items over to Andy Clarke and Gary Leach to be incorporated into the game.

Fancy footwork

Once Sean Naden is happy with his final robot, work on animation begins. The moves for each one are rendered, frame by frame, using Autodesk's 3D Studio program. In some cases, this can mean up to 150 frames for each move, as, say, the robot's leg is drawn up, the knee bent, the leg kicked out, etc.

Once this task is complete, the animated robot is despatched to programmer Andy Clarke, who is putting the animations into their proper place in the game.

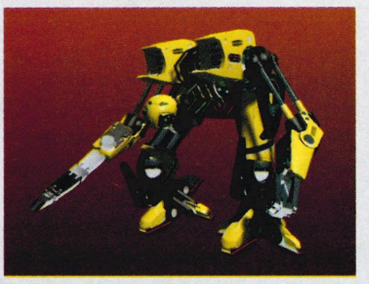
Whisper it softly, but Andy is actually working on an Amiga 3000, with a complicated collision detection table; his first job on the Robots project was to devise and write the table. After the nuts and bolts of determining how each robot will react when hit and how each one will 'score' its blows on an opponent, his next task is to program in the artificial intelligence factors, which will give the game an air of authenticity and make each successive robot a progressively tougher opponent.

First, however, the game must register when the robots hit each other. Describing it as simply as possible, Andy painstakingly takes each frame of the robot on screen and aligns it with the opposing droid. Moving the two parts together, the frame is 'tagged' at the point where it makes contact with the other robot – the collision point.

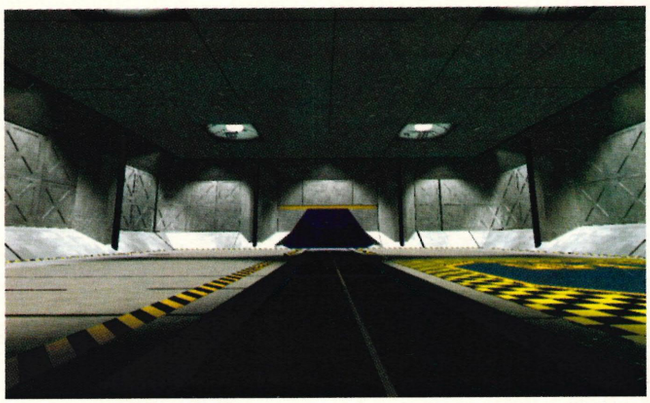
Meet the robots

In the one player game, you will play the role of the cyborg and meet each robot in turn in a series of 'best of three' bouts. In the two player game, you and your opponent will choose which robot to play.

As the cyborg, you will meet the following robots, in order:



Loader: looking rather like a fork lift truck, this is the simplest robot to defeat; it's slow and rather stupid.



The artificial intelligence is fairly complicated. Four main factors are calculated for each robot: strength, intelligence, speed and motivation. From an original base strength, a robot is weakened by each hit the opponent scores. The robots are also rated for 'intelligence', which will relate to the moves they choose against you, and vary according to your opposing position, eg, a less intelligent robot such as the ape will keep punching at shoulder height even if the opposing robot is crouched low.

Much work is currently being done on the coding to create an impression of increasingly intelligent robots the further you progress in the game. Andy has devised a statistics monitor which keeps a tally of the moves made by each player-controlled robot. The idea is that in the final game, as you meet each new robot, your most-used moves will be the ones the next robot counter-attacks, so that, in theory, you will not be able to defeat the robots using a few selected and effective hits.

The speed factor affects the time lapse between each robot's move, so that earlier robots will appear slower and reflexes of robots you meet in the later stages appear quicker.

Having programmed in all artificial intelligence factors, Andy has a large set of files for each robot: graphics files, plus all files detailing the statistics assigned to each. These are then passed to Gary Leach for implementation and modification on the PC.

"This is not straightforward," says Gary. "I can't just do a standard file conversion, because the PC works differently. For a start, we're using the PC's protected mode rather than real mode, so that we can access memory all in one lump, and for the SVGA version, we're programming directly into SVGA." He also has to code each of the moves to tally with the relevant keyboard press or joystick wiggle.

At the time of writing, four of the robots' intelligence factors are completed and some early animation sequences are shown below. Gary reckons he has about 60% of the PC game complete ("I think"). Sound effects and music are still to be sorted out.

The game in motion



The link sequence introduces your next opponent, in this case the feriocous-looking builder. On screen statistics and information will be displayed to disguise the fact that he's loading himself in from the hard disk.



The bouts will all be fought from this standard side-on view. The builder, right, can punch well, but he's not equal to any fancy moves, while the loader, left, is a great jabber.



In the clinch: the programmed collision detection factors determine how hard each robot has been hit and how much damage has been done. You will move on to the next robot after winning the best of three fights.

Next month

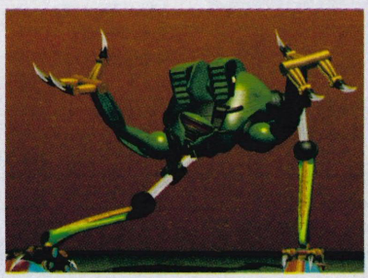
We'll be making our final report from Rise of the Robots next month, as the programming enters its final stages and nears completion.



The well-known computer musician Richard Joseph is working on introductory music and background effects, while Mirage has just received a letter from Brian May, confirming that music from his solo album may be used in projects – "That'll probably have to wait for our next game, now". The 'alpha' version of Rise of the Robots is due to be ready next month; this will be a completed game with the playing and link sequences in place to be tested for bugs, playing time, playability and any major glitches. From this, a refined, debugged 'beta' version is produced for the main play-testing and debugging process.



Builder: the ape-like builder looks enormous, but is hardly light on its feet.



Crusher: looking like a mechanical ostrich, the crusher will be more nimble than its predecessors.



Soldier: the military droid looks tiny to the builder, but the moves programmed look almost balletic.



Fighter: a solid, tricky opponent, with moves based on martial arts type kicks and blows.

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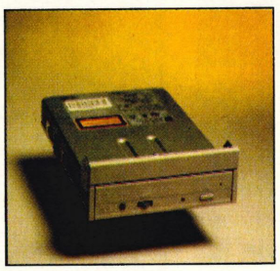

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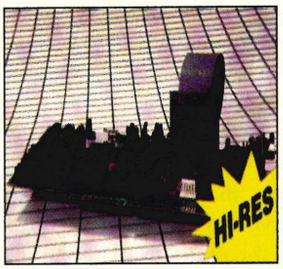

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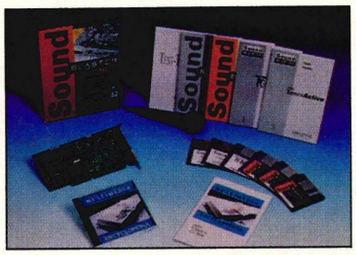

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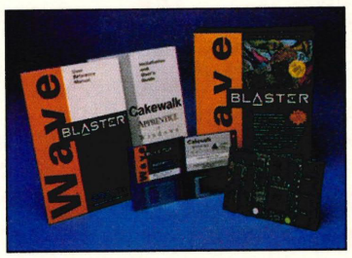

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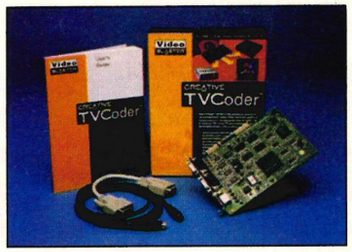

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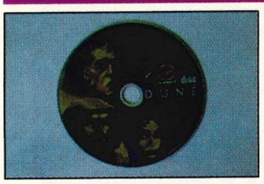



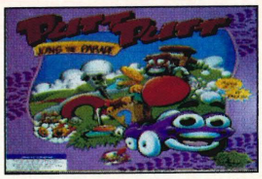



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TORNADO

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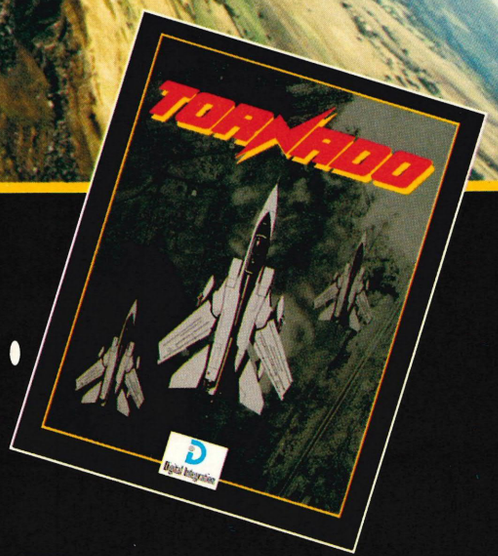

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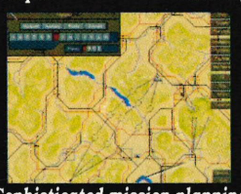
Pilot's cockpit



Stunning detail



Navigator's cockpit



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REVIEWS INDEX

Our comprehensive reviews service starts here. Over the next 50 pages, you'll find the best in games, CD-ROM titles and budget releases appraised and dissected in PC Review's inimitable style, as detailed below

Two Minutes *of flash points*

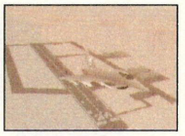
Flash Points are like mini soap operas that link a series of missions together with news reports and a powerful ongoing narrative. In this case, there's trouble brewing in Somalia.



The gent with the phoney moustache and even phonier accent is Inspector Lestrade of Scotland Yard. This game opens up with a sublimely over-acted video introduction in which the inspector tells Mr Holmes of a young solicitor's death.



The main screen puts several sources of information just a pipe-click away. Before you can start investigating a subject you must first select a name either from Holmes's personal note-book or the address book which is seen here.



To get detailed information on the topic, click one of the icons at the edge of the screen. In this case, I have clicked on Holmes's filing cabinet. This has located a page of information on the Criterion Club which was the selected item in the address book.



And now the fun really begins. Having chosen another entry in the notebook and clicked the icon at the top right of the screen, I have sent Watson and Holmes on their first interview. And I thought I'd never see that old magnifying glass and eye cliché again!

TWO MINUTES

This is the closest you'll come to seeing the game in action. We take a series of manoeuvres from the game and explain, step by step, the play required to get through the screens. Not only will you get a flavour of the gameplay, but you may even find some helpful hints in this section!

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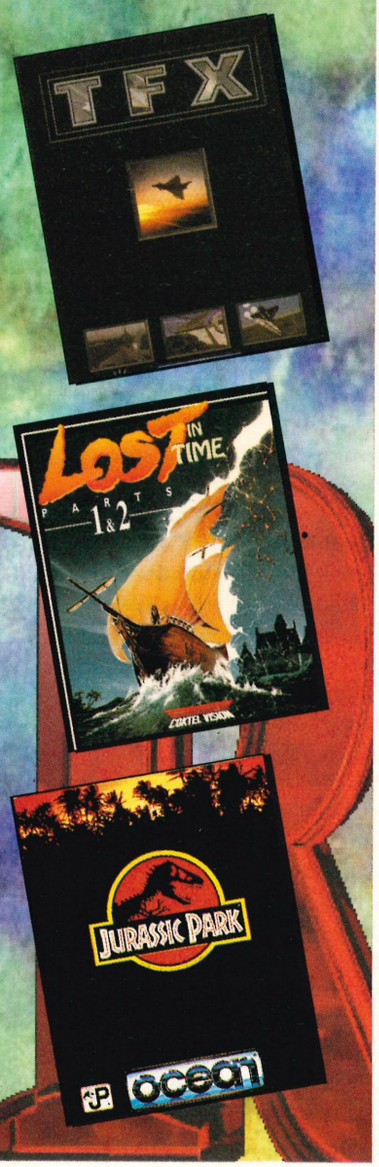


Alternatively...



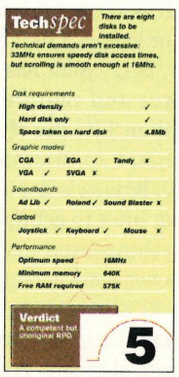
Tornado
Digital Integration, £44.99
Rated 9, Issue 22
Tornado is similar to TFX in that it has an abundance of ground detail. However, it has shunned Gourad to get this detail and as a result isn't as immediately striking. But Tornado is a great game with a superb mission planner, so you get to construct six plane missions and time attack runs down to the second.



Strike Commander
Origin, £49.99
Rated 8, Issue 20
Strike Commander used to be the game to play if you had a hugely powerful machine. Obviously TFX changes all that, but if you liked the Wing Commander series, Strike Commander with its semi-interactive cutscenes is still an excellent game, with superb music and a marvellous atmosphere.

ALTERNATIVELY

We believe games should be placed in context. You may like the sound of game Y, but suspect it might be too technical, or difficult to control. We'll tell you about other games of a similar style, or subject matter, which may be more to your taste (or warn you off those which are inferior to the game bring reviewed).



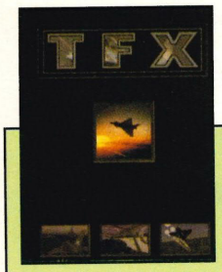
TECHSPEC

Detailed and easy to read at-a-glance, this panel will tell you if the game is suitable for your PC. Note that a cross in the SVGA column means that no *specific* SVGA version is available (use VGA instead), and that the optimum speed rating is a PCR recommendation, not a manufacturer's stated minimum.

RATING

0-2	Dreadful	6-7	Good
3-4	Deficient	8-9	Excellent
5	Average	10	Perfect





Title	**TFX (Tactical Fighter Experiment**
Publisher	**DID/Ocean**
Contact	**(061) 832 6633**
Price	**£39.99**

TFX

Flash points are like mini soap operas that link a series of missions together with news reports and a powerful ongoing narrative. In this case, there's trouble brewing in Somalia.



A newspaper spins out of the darkness, an effect reminiscent of an old World War II movie. It's small touches like this that make Flash Points more atmospheric than an ordinary campaign.



Strike Commander not enough of a sim? Falcon 3.0 not much to look at? Try TFX, the new Gouraud-shaded tour de force from DID

Just when I was beginning to think that the flight sim genre might be becoming a spent force, DID and Ocean have unleashed TFX on us; a superb flight game, hyper-realistic flight sim and exhilarating 3D aerial adventure all rolled into one.

Normally I would trust a gushing introduction like this about as far as I could comfortably spit Manhattan Island, because the appeal of any flight sim is subjective at best. Is Tornado a great sim or just about as interesting as watching paint dry? Which is more playable, Aces over the Pacific or Falcon 3.0? There is no clear cut answer. Every pilot has their own different tastes and requirements. I, for example, often like the challenge of flying as realistic an aircraft as possible, whereas PC Review's deputy editor John Bennett just likes to get up in the air and shoot everything (even his own side).

But whatever your personal preference, you'll find TFX is nothing short of stunning. Of course, on the surface it probably looks like any old flight game; a couple of shiny new planes (the EFA, F-22 and F-117), a visual facelift but with the same basic gubbins underneath. If you look closely, though, you'll see you've got Gouraud shading, texture mapping, military spec flight models, fast 3D and great gameplay on a variety of levels. TFX has elements of Strike Commander, Tornado, Falcon 3.0 and Aces over the Pacific all squashed into one game. It's about time as well.

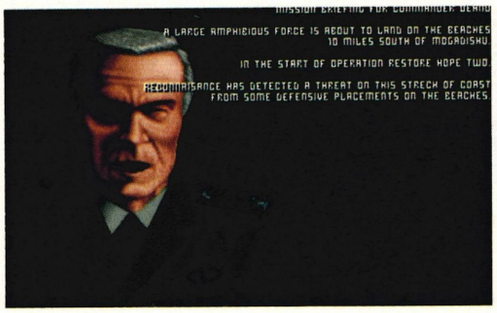
Men in blue hats

TFX is set in the near future where, as current world conflicts such as Somalia and Yugoslavia rage mostly unchecked, the United Nations has finally pulled its finger out and formed a rapid response aerial task force to 'police' the crisis areas. You fit into all this as a top UN pilot flying a variety of defensive and offensive missions across six theatres of action. Fly escort for Hercules transports, bomb suspected drug factories and shoot down hostile jet fighters (as long as you have been



An F-22 fires a Sidewinder air-to-air missile over the stricken city of Sarajevo in Bosnia.

Two Minutes *of flash points*



The UN relief team is about to go in, but command and control has detected some hostile aircraft and some defensive emplacements that could prove to be a hazard to UN troops.



Taking off from a nearby airstrip, I'm flying the proposed European Fighter Aircraft or EFA, probably the most manoeuvrable of the three aircraft that are featured in TFX.



Enemy fighters close in from the south but they prove to be no match for the state of the art EFA. The full screen forward view affords the pilot a better view of the action.

given permission to fire, that is). Whatever the call, whatever the weather, you've just become the world's newest 24-hour-a-day trainee hero.

The good thing about TFX is that it doesn't restrict you in terms of playability. Falcon 3.0 still puts a lot of people off because it's such a heavily technical simulator, whereas Strike Commander has a greater slant towards action but sacrifices the realism. TFX, on the other hand, encompasses all flight genre styles and the game structure reflects this with six very different game options: arcade, training, simulator, tour of duty, flash points and UN commander.

The first three of these really speak for themselves with TFX Arcade simplifying the flight model down to the bare basics of turning, speeding up, slowing down and firing. Owners of over-enthusiastic trigger fingers should start here, because besides being a huge amount of fun it's a simple, no-nonsense introduction to the basics of the game.

The latter three options have much more depth to them. Tour of duty is a series of linked missions for each of the three planes, flash points (see the Two Minutes panel) is the same, but uses cut-scenes and news reports to tell an ongoing narrative and UN Commander is the obligatory mission design mode.

Realism schmealism

Software publishers often casually fling around the phrases "total realism" and "hyper-realistic" when it's far from true, but in TFX, if you're a fan of high-tech flying, you won't be disappointed. DID claims the flight models are highly accurate, modelled using USAF methods to include wave drag, roll inertia and lots of other things us mere mortals wouldn't understand without an aeronautics degree. As two of these aircraft only currently exist on paper, the technical information has been pieced together from numerous scientific lectures, videos (DID filmed a military simulation of the EFA at the Farnborough airshow) and a lot of calculated guesswork.

But if you're not a die-hard sim enthusiast, and you and Mr Realism have never really got along, TFX gives you the opportunity to tailor your flight model to suit your gaming style. At its least complicated level, TFX can be played as a pure arcade game, but its flexibility means you can choose the simple arcade model one day and the complex, military specification the next. The choice is yours.

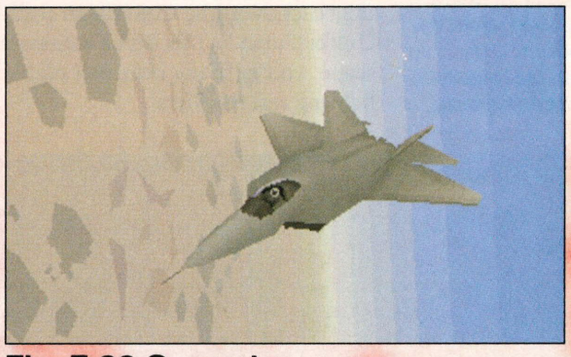
The overall sense of realism is heightened and enhanced by a number of features that include (amongst other things) a Strike Commander-esque padlock view, mid-air refuelling, G-Force effects, Infra Red night vision, TIALD laser bombing (as seen during the Gulf War), ILS and (although it's not very realistic) a very welcome auto-land facility which places you on an approach to the nearest allied runway. There are also five different autopilots to choose from, ranging from simple autothrottled speed to enemy aircraft acquisition and a 'time warp' mode to speed you quickly through all the boring A to B flying bits.

But TFX really stands out from the crowd, thanks to its fast and accurate 3D graphics technology. The graphic detail is quite superb, proving that if you have a good 3D engine you don't have to sacrifice detail for variety. Remember, Strike Commander used the latest visual techniques but wasn't really much of a sim, whereas Falcon 3.0 is a true-blue sim that can look plain awful. TFX? Well, DID appears to have managed to cram in Gouraud shading, texture mapping, grad-

UN Hardware



The European Fighter Aircraft (EFA)



The F-22 Superstar

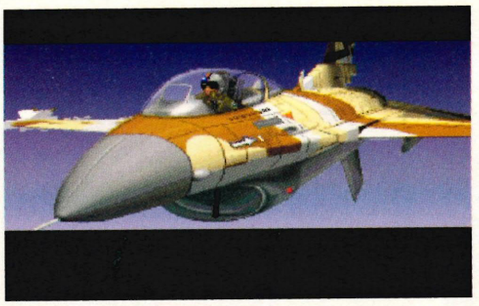


The F117 Stealth Fighter

Alternatively...



Tornado
Digital Integration, £44.99
Rated 9, Issue 22
Tornado is similar to TFX in that it has an abundance of ground detail. However, it has shunned Gourad to get this detail and as a result isn't as immediately striking. But Tornado is a great game with a superb mission planner, so you get to construct six plane missions and time attack runs down to the second.



Strike Commander
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Strike Commander used to be the game to play if you had a hugely powerful machine. Obviously TFX changes all that, but if you liked the Wing Commander series, Strike Commander with its semi-interactive animated cutscenes is still an excellent game, with superb music and a marvellous atmosphere.

uated horizons, lots of ground detail, a padlock view, multiple missions and numerous campaigns to boot without sacrificing anything at all.

I'm also not exaggerating when I say that TFX has the most realistic gaming world that I've ever seen. All the major cities, towns, rivers, hills and mountains are in their correct and proper geographical location. In fact, a total of one million square kilometres (equivalent to no less than 20 per cent of the Earth's surface) has been carefully mapped out, enabling you to fly over downtown Tripoli, buzz Port Stanley, dodge A-A fire over Sarajevo and follow the beaches on the Colombian coastline. Unlike Tornado, this isn't a fictional landscape, you're flying over real places and fighting real conflicts.

Top Gun?

OK, so TFX literally oozes realism and it's relatively easy to fly, but how does it play? The simple, uncluttered answer to this has to be brilliantly and here's why.

Because of the quality of the graphics, TFX actually manages to give you more of that elusive sensation of flying (as discussed in our feature on flight sims, Flights of Fantasy, in Issue 23). Switching to the full screen view, it gets quite exciting as you hurtle up above the cloud layer, dive back through, screech low over cities, bomb the odd bridge or two, barrel roll victoriously and return home to the fleet. In fact, with its stunning visuals and strong sense of image, flying TFX is often like watching a movie as you flip to the external views, create your own camera angles and dogfight to pounding stereo music in the background.

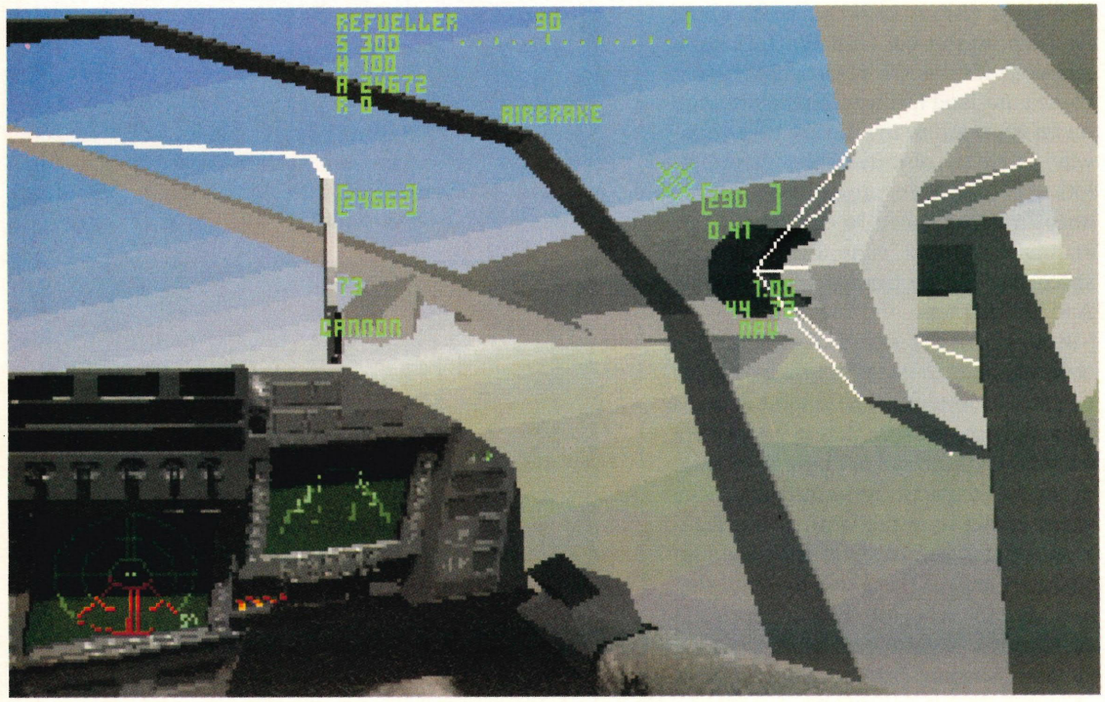
In TFX you definitely get the best of all aerial worlds. Like Strike Commander, it has terrific music and sound, and, like Tornado, it boasts a 'target-rich environment' with a large amount of ground detail to enjoy. In addition, TFX offers you the facility to fly both ground and carrier-based missions and since the game incorporates three different planes, you can fly two distinctly contrasting aspects of the aerial game.

For example, when flying the F117 Stealth Fighter it's practical to stay undetected for as long as possible whereas the EFA and the F-22 can go armed to the teeth and dogfight their little hearts out. Tornado's gameplay has been criticised as being rather dull (often like flying an F117) because as the plane wasn't designed to be a bomber and a fighter, it is often much safer to turn tail and run away than be outfought in a dogfight. Another Tornado, the ADV variant, takes on this air intercept role, and rarely does one plane do everything.

Apart from the graphics, it was the frantic music that, for me, made Strike Commander the exciting gaming experience that it was, and like Strike, TFX has about 16 loud stereo tunes that thump through your speakers as you dive, twist and turn above the Gouraud-shaded ground. Together with the whoosh of launching missiles and the cracking boom of flak barrages, TFX also has digitised speech ranging from a shouted "break left" and "AWACS gives you permission to fire" to a built-in speech synthesiser that translates any enemy aircraft's height, heading and distance into a metallic, artificial voice.

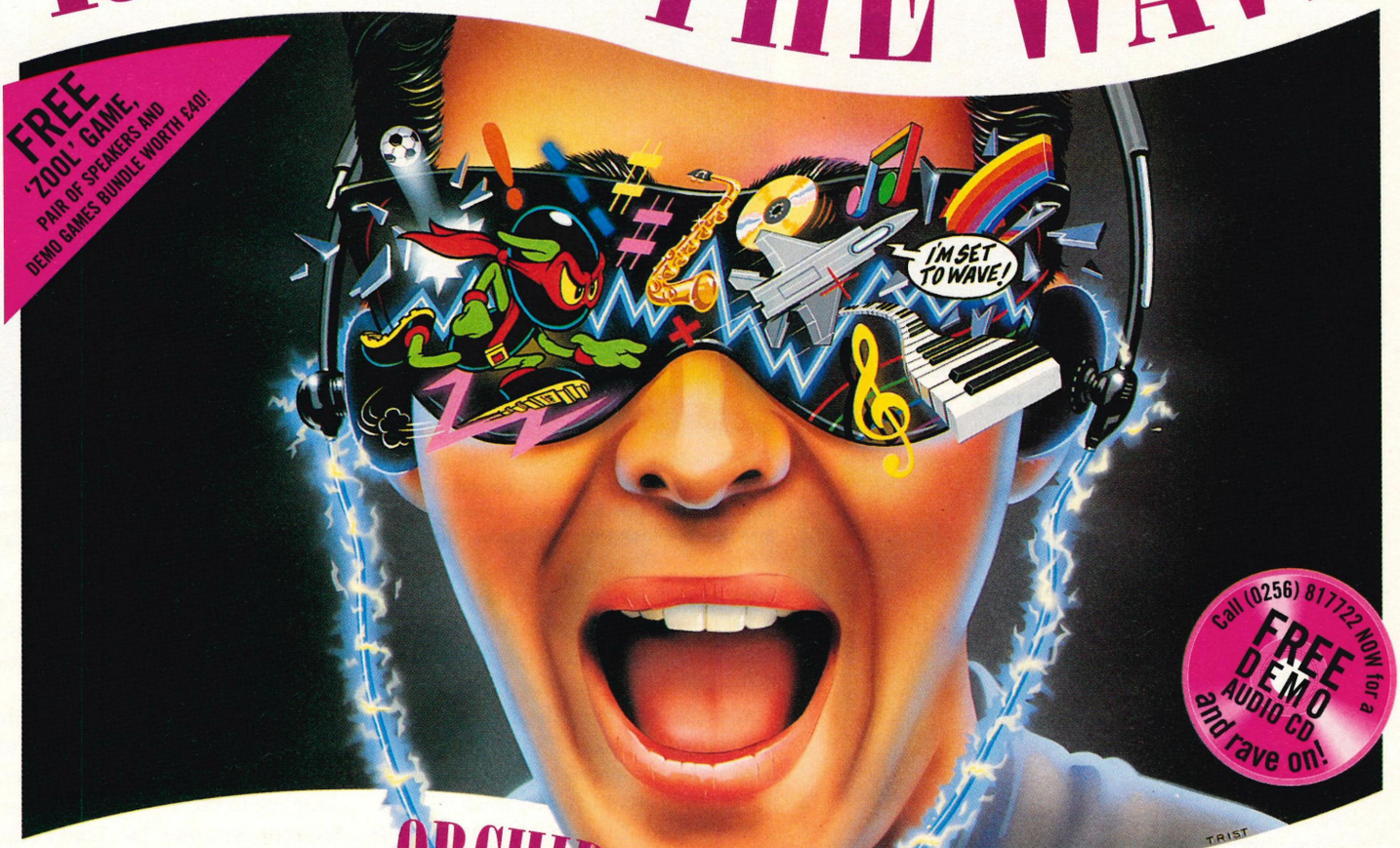
The speech synthesiser is a prime example of the care and attention to detail that has gone into the making of TFX. As well as the slick overall presentation, there are some nice touches like the missiles dropping from your aircraft before their rockets ignite and once you've destroyed a target it stays destroyed. Unlike some other sims, it won't have been miraculously rebuilt the next time you fly over precisely the same spot.

With the huge variety of gameplay that TFX undoubtedly has, it's difficult to see how it can fail to do well. It's more accessible than Tornado and Falcon while offering considerably more depth of gameplay than either Aces or Strike Commander. You see, even if you peel away all the sumptuous graphics there is still a damned good game underneath. Harrier Jump Jet had a marvellous

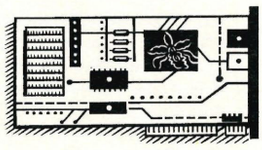


Using the highly impressive padlock view I can rotate the view about the cockpit. Linking up with the refueller is remarkably easy.

RAVE TO THE WAVE



ORCHID SOUNDWAVE 32

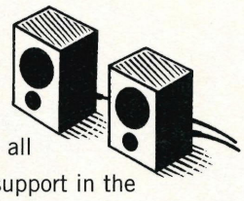


Hey, music to yer ears, the all-new wavetable synthesis DSP techno of the mega mind-blowin' Orchid SoundWave brings games ratatattin' to life with a realistic symphony of sense-tinglin' sounds as cool as yer programmer intended, alright?

Man, wavetable synthesis Digital Signal Processing techno knows no limits! Musically brilliant, with Roland support and over 100 actual sound samples stored on the board, whatever yer game, you'll sure know yer jumpjet from yer hedgehog!



Cool to install, it's fully SoundBlaster compatible and supports Roland MT-32, General MIDI and Windows Sound System simultaneous sound standards ... and as with all Orchid products, sound backin' support in the UK is just a phone call away!



Incredible as it may sound, for starters you can pulsate to your favourite fast-action platform game or play yer first gig with Orchid GameWave 32 from just £149 plus VAT!



Alright, shake to the sound of the techno-sensational SoundWave, buzz (0256) 817722 - lines are open daily 8 'til 8 - get down, chill out and rave to the wave!

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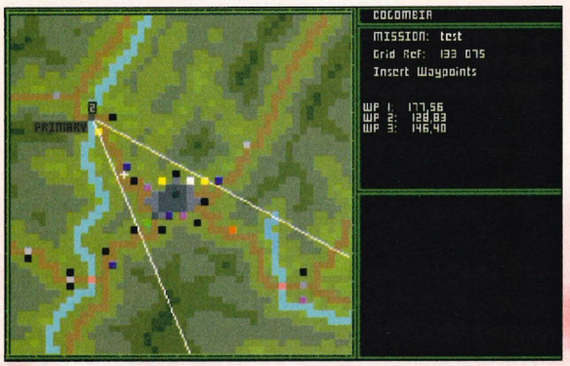
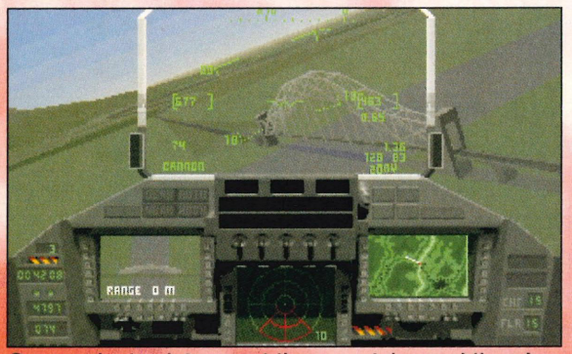
Commanding the UN



The UN Commander option enables you to design your own missions. You choose the plane, take-off point, targets and enemy strength.



Zooming in: with realistically mapped terrain, the Colombian Bridge I have targeted does exist and could probably be found in any atlas in W H Smiths.



Seven minutes later, past the mountains and there's the bridge. Rising to 10,000ft I can destroy it with my laser guided bombs.



Flight sims in the past have often had cold, purely functional interfaces, giving you technical option screens in abundance but not much in the way of user-friendliness. But TFX changes this by weaving these technical bits together with nicely drawn cut-scenes and like in Flash Points (above), these are used to illustrate the developing narrative.

Gouraud landscape but precious little gameplay while Falcon 3.0 has just the opposite. TFX, in contrast, has gameplay and atmosphere in abundance, whether through the impact of the sound and graphics or the narrative power of United Nations TV and WNN News footage.

My criticisms of the game are few and minor ones at most. Firstly, TFX's main failing is the complete lack of a modem or network option which would have made it a more complete and a much, much better game. Compared to Tornado, perhaps the mission planner could have been a touch more detailed, but I imagine that a game of this size and scope will doubtless spawn mission and add-on disks a plenty to increase the longevity.

Secondly, you're really going to need a fast computer to do TFX justice. You *can* adjust the detail level and that *may* help, but nothing short of a 486 is what's actually required. If a game like this is the shape of things to come, poor old 386 owners like you and me are going to miss out on some fantastic programs.

TFX has something for everyone. Like the Aces series you can tailor your flight model and for die-hard flight simmers you have realistic flight models and accurately rendered 3D environments. It's fast, good-looking and fun and when I first saw it my jaw dropped so far it took me 15 minutes to find it again. I strongly believe that it is quite simply the best all-round flight sim I have ever seen.

Games with planes have come a long way since the heady days of my childhood when I used to construct Air-Fix Phantom F-4s badly, fly them around my room shouting "whoosh" and "dacka dacka" and conduct low-level bombing missions on my sister's doll house.

With a computer, you can now fly a huge variety of aircraft over anywhere from Liverpool to the Kuwait desert. It's cheap, highly realistic and there's not the slightest trace of glue anywhere.

TFX captures the 'feeling' of flying better than any game I've seen this year and there are times when it is simply a breath-taking piece of software. I feel that someone is going to have to produce something pretty special to beat it. In the gameplay department, I think that Falcon 3.0 has just been surpassed because TFX does everything so much better: Gouraud shading, fast 3D environment graphics, realistic flight models, the works.

Quite simply, it's superb, stunning and _____ (insert your own word for 'fabulous' here). Is there really a better, more complete flight sim out there than this? Anybody seen one? No. I didn't think so.

■ Dean Evans

Techspec

You're only really going to appreciate this if you've got a high-end 486 (at least a 33MHz machine). As for memory DID has managed to do some clever things with virtual memory and so the required conventional memory is quite low.

Disk requirements					
High density	✓				
Hard disk only	✓				
Space taken on hard disk	**12Mb**				
Graphic modes					
CGA	✗	**EGA**	✗	**Tandy**	✗
VGA	✓	**SVGA**	✗		
Soundboards					
Ad Lib	✓	**Roland**	✓	**Sound Blaster**	✓
Control					
Joystick	✓	**Keyboard**	✓	**Mouse**	✓
Performance					
Optimum speed	**33MHz**				
Minimum memory	**2Mb**				
Free RAM required	**500K**				

Verdict

The best, the fastest and the loudest flight sim around

rating **9**

NFL™

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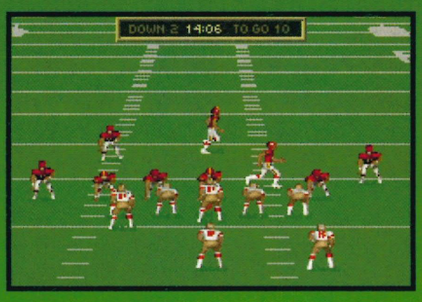

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MICROPROSE
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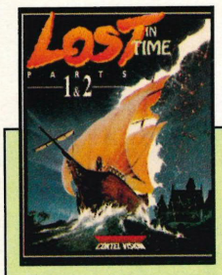
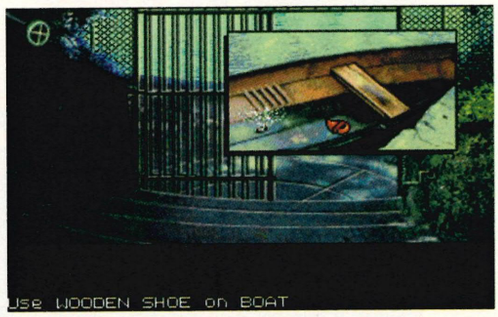


Title	**Lost in Time**
Publisher	**Coktel Vision/Digital Integration**
Contact	**(0742) 753423**
Price	**£44.99**

Doralice has explored the manor left to her by a distant relative, and has spotted a shipwreck just off the coast. But how does she reach it when the only boat around has more holes in it than a Tetley tea bag?



This little rowing boat could be salvaged if Dora can get the water out and find the leak. She doesn't have a bucket or a pump, but that wooden shoe she found in the lighthouse might just do the trick ...

Lost In

Find out 101 uses for a dead battery in this intriguing tale of time travel, treachery and garden hoses from Coktel Vision

Remember MacGyver? That sad American TV programme about a crazy DIY gadget freak who could always figure out a way to shoot down a helicopter using only a toilet roll, an empty washing up liquid bottle and a piece of sticky back plastic? If you don't, it won't mean a lot to you then when I say that Lost in Time has a fair bit in common with that wonderful series. Coktel Vision's latest adventure contains some of the most devious puzzles I've ever come across in a game, and they're all based on logic and common sense. Instead of using items such as dentures, exploding cigars and plastic vomit to solve your puzzles as you might in wacky games like LucasArts' Day of the Tentacle, you're more likely to find that your raw materials consist of such mundane objects as hosepipes, fire extinguishers and paint stripper. Unlike MacGyver, however, the person who manages to put all this junk to good use is not some all American macho man, but a rather attractive French woman called Doralice.

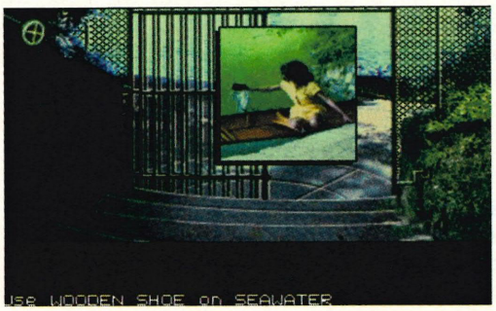


In each of the three sections, clicking on the map icon at the top of the screen will bring up a bird's eye view of your current location. This particular map shows the manor and its grounds.

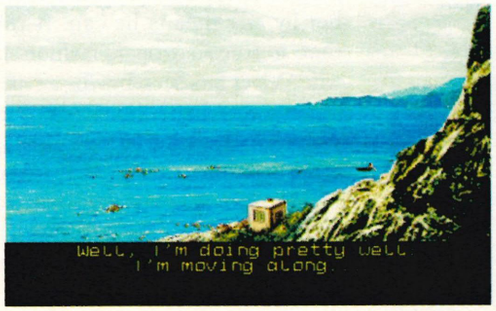
A woman for the 90s?

Doralice is something of an enigma. You see the adventure as if through her eyes, and she doesn't appear on screen other than in the quick bursts of video footage as she solves a problem. Although she's a bit of a looker, she's not the sort of woman who worries about breaking her nails. In fact, she's more likely to be getting them dirty tinkering under the bonnet of a car. She's a real 90s woman: smart, practical and very independent, and it's very refreshing to find a heroine who can mend a fuse, clamber up cliffs using a chandelier as a grappling hook, cut the ropes off prisoner with part of a dead fish and still find time to drink just about anyone under the table.

Lost in Time's plot is, to say the least, convoluted. At the start of the game,



It took a bit of time, but now Dora has managed to get rid of enough water to see the hole. The cork she has in her inventory is too small to plug it, so first she must use a rag in the hole to make it fit.



The boat is now watertight, and Dora paddles it out to sea using the oar she found in the manor. Unfortunately, it's choppy out there, and she's too busy fighting her mal-de-mer to see those rock ...



Fortunately, she's a tough gal and manages to swim back to shore. Trouble is, now she has to get back to the manor. Perhaps that fisherman's cabin contains a few clues, and one or two useful items.

Time



Something's cooking in the kitchen up at the estate. Snake fricassee, anyone?

Doralice wakes up on board a ship, wondering how on earth she got there (must have been one hell of a party is all I can say). The last thing she can remember is turning up at an old manor in Brittany which has been left to her by a distant relative. After some investigation, she discovers, much to her horror, that it's now 1840, and she seems to have become stranded in the past.

The first part of the game takes place on board the ship. Dora must find a way of escaping the hold in which she has been trapped, before she can get the chance to look around the ship. There she finds two other prisoners: Yoruba, the descendant of a tribe of Egyptian magicians who is being taken to St Cristobald island as a slave, and Melkior, apparently the ship's cook. On conversing with Melkior, Dora discovers that he is, in fact, a secret agent of the Space Travel Operational Police (STOP), and has travelled back in time from the year 2092 on the look-out for an evil criminal, Jarlath. Jarlath has stolen a newly discovered radioactive element which will help him take over the world (what is it with these adventure villains, eh?), but it takes 3,000 years to decontaminate the product. To achieve this, he travelled back in time to 908BC where he hid it in an Egyptian sarcophagus. Returning to 1840AD, Jarlath settled on a Caribbean island where he used the slave and spice trade as a cover for his operation. Once there he hired a pirate to retrieve the sarcophagus. This was to be hidden aboard his ship, and then sunken off the coast of Brittany near an old manor.

This, of course, is the manor which Dora has inherited. When she uncovers a secret passage leading from the manor to the wreck, she suddenly becomes a threat to Jarlath's plans. The second section of the game, a flashback to the present day, involves Dora's arrival at the manor and the events leading up to her discovery of the passage.

After the flashback, we return to the ship where Dora must find a way of freeing Melkior and Yoruba before the third



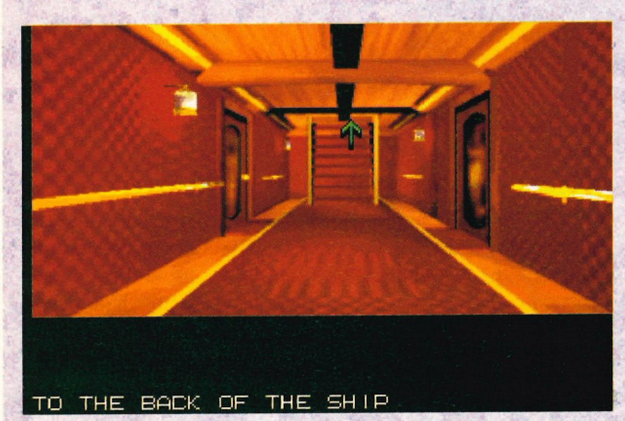
Delia is a clairvoyant who just happens to be enamoured with the island's medicine man. But how do you trick him into drinking the love potion that she gives you?

Pic 'n' mix

Lost in Time comprises of three sections, each using a different style of graphics.



The manor section features static, digitised backgrounds with which you interact. These are all based on photographs of a real manor, which Coktel Vision hired to make this game. Whenever you manage to solve a puzzle, video footage of your action appears in a small window on screen.



The interior of the ship is also digitised, but rather than static screens, the interiors are 3D and you can see the room revolve as you turn around. You don't get the same freedom of movement as you would in games such as Ultima Underworld, but it's impressive nonetheless.



The final section on St Christobald island also features static screens, but unlike the manor section in which backgrounds were based on photographs, here they have been drawn by French comic artist Segur. The illustrations were then digitised, giving this part of the game a very distinctive look.

part of the game, set on St Cristobald, can begin. She realises that the time-travelling crook, Jarlath, is responsible for her predicament, and he wants to get rid of her by any means he can. It turns out that, in true soap opera fashion, Jarlath's wife Velvet has been having an affair with Yoruba, and he is the father of her baby son, Maximillian. To make things even more complicated, Dora finds out that Maximillian is none other than her great, great grandfather, and Jarlath will attempt to do away with him in order to remove Dora from the picture.

Girls on film

Visually, Lost in Time is a very striking game. It has a different look to most other graphic adventures, partly because it's a first person perspective game and also because it has been created in full motion video, rather like a movie. Each of the three sections of the game, on board the ship, at the manor and on St Cristobald island, has its own distinctive style, (see panel on this page) but despite this the game manages to retain a consistent identity throughout. The section of the game where Dora visits the manor was shot on location in Brittany, and then the video footage was digitised to give the game an interactive movie feel. The third and final part of the game takes place on a tropical island, but rather than go on location, the backgrounds have been drawn by an artist, then combined with video footage of the actors who portray the various characters Dora meets on her travels.

Frederic Chauvelot, who was responsible for most of the game's graphics, gave his reasons for using the contrasting styles. Since the manor section is set in the present day (well, 1992, if we're going to be pedantic), he wanted to make it look as real as possible. The scenes on St Cristobald island, however, needed to have a dreamlike feel because they take place in the past, and the team decided that this was best achieved by using illustrations. If you ask me, I'm more inclined to think that they opted to use an artist because flying the Coktel Vision team over to the Caribbean for a spot of filming would have made too big a dent in the budget. But then I'm a terminal cynic.

The atmosphere on board the ship is tense and claustrophobic thanks to the sombre 3D graphics, whilst on the island Segur's colourful backdrops give that section a brighter and more relaxed feel. The atmosphere is further enhanced by a good musical soundtrack and sampled sound effects, such as creaking timbers on the ship and birdsong as you explore the gardens around the manor. Music can be turned off if it starts to get on your nerves, although I liked it enough to leave it on.

Tricky puzzles, wacky keys

I know I always say this, but beautiful graphics and jolly tunes don't count for much if the gameplay sucks. MicroProse's Return of the Phantom was one game which looked stunning, but had hardly any puzzles to keep the player entertained, and even LucasArts' classic Day of the Tentacle was, perhaps, a little bit on the easy side. Lost in Time, however, is testing enough to keep even the most experienced adventurers mentally stimulated for quite a while.

Some of the puzzles are distinctly unusual. For example, when Dora arrives at the manor, the door handle comes away in her hand, leaving her locked out. Examining the door will reveal that there's a key in the lock on the other side, so how does she get in? I've seen similar



Screens are based on digitised photographs, whilst video footage of your actions is displayed in a separate box, as shown here in this exciting hose repair sequence.

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are always present... its images are the most spectacular
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-JOYSTICK MAGAZINE

"The interface may be revolutionary [and] allows a richness
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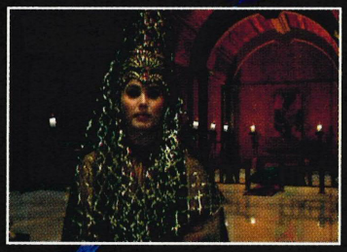
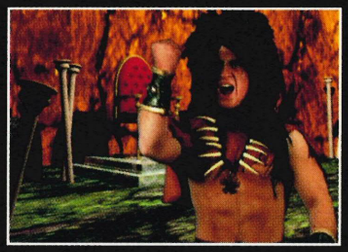


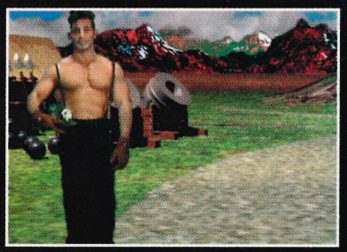
A Cast of Hollywood Actors



Over 1 hour of Spoken Dialogue



Revisit Flood Control Dam #3



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INFOCOM MUSIC BY NATHAN WANG AND TERI MASON SPECIAL EFFECTS BY WILLIAM VOLK BASED ON A DESIGN BY DOUG BARNETT EXECUTIVE PRODUCER EDDIE DOMBROWER DIRECTED BY PETER SPRAGUE ACTIVISION

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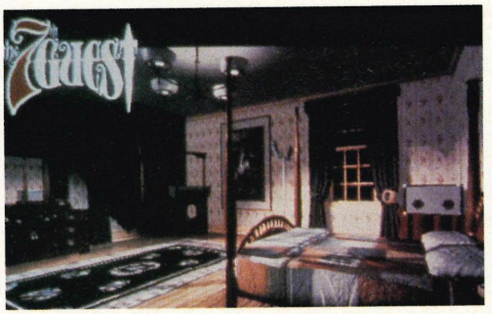
Alternatively...



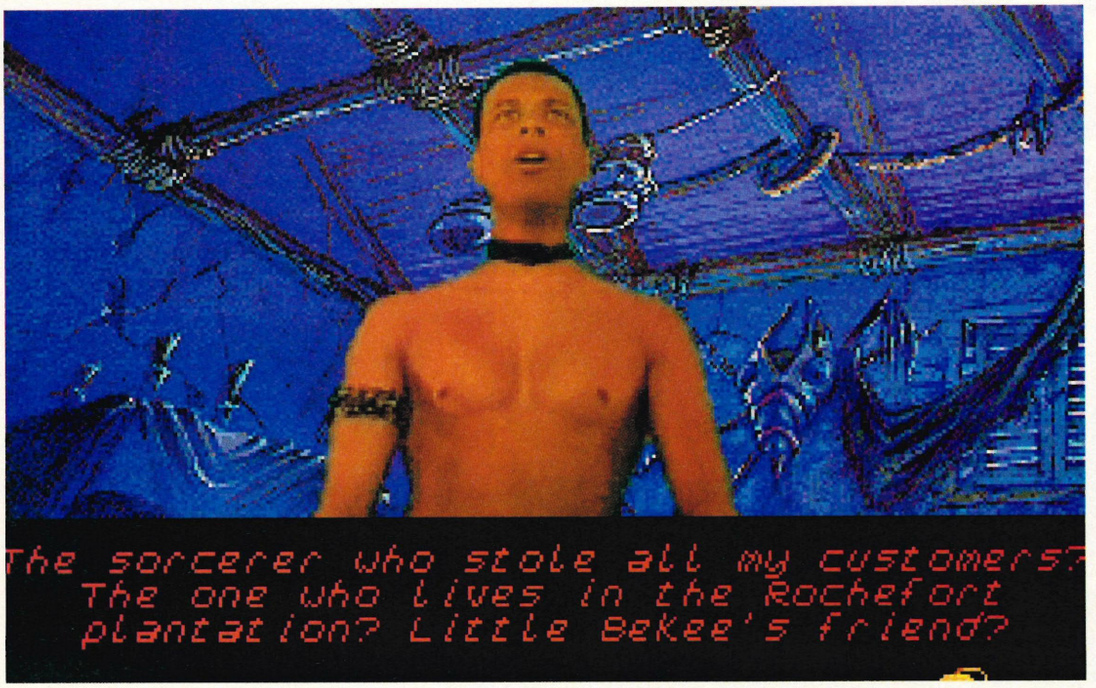
Simon the Sorcerer
Adventure Soft, £39.99
Rated 8, Issue 24
If you enjoy a challenge, but prefer the kind of adventure that tickles your ribs whilst teasing your brain, this might just be the game for you. It's a very different style of game from Lost in Time, and the interface bears some resemblance to LucasArts' SCUMM system (seen in Monkey Island, Day of the Tentacle, etc). Exceptional graphics, tough puzzles and tons of fun.



The 7th Guest
Virgin, £69.99
Rated 7, Issue 20
If you own a CD-ROM drive, you ought to take a look at this game. Set in a haunted mansion, you have to investigate the disappearances of six dinner guests. Like Lost in Time, graphics are digitised, and are very impressive. Puzzles are varied and require a bit of logic to solve, but there is definitely more emphasis on presentation than gameplay. It's also very expensive!

puzzles in many adventures (usually of the text variety), and the solution usually involves sticking a piece of paper under the door, knocking the key out of the lock with something sharp and then pulling the paper, on which the key has landed, back under the door. In this case, though, Dora has only a small piece of foil, and this doesn't do the trick. All she has in her inventory is an empty tractor battery, some vinegar, a piece of wire and the door handle. What she has to do is fill the battery with the vinegar to make battery acid, wrap the wire around the door handle and then attach the handle to the battery to make an electromagnet. Cunning, eh? Now you see what I meant when I said that this game reminded me of MacGyver.

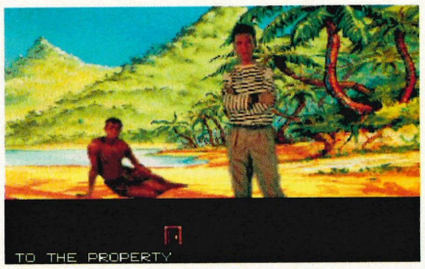
Most of the puzzles are of this type, and it's not too difficult to get yourself well and truly stuck. I'd recommend making good use of the save game facility to avoid frustration. However, I did find that the puzzles seemed to get easier, rather than harder, as the game progressed. Getting through the manor section without making a call to the helpline is quite a feat, but the same cannot be said for the final part of the game on St Cristobald island. I managed to whizz through that section quite quickly, and I don't think it was entirely because I had got used to the kind of problems presented in the game. Even so, it's by no means easy, and less experienced adventurers will find that they've got their work cut out for them.



Makandal is the local healer, but he doesn't give his services for nothing. However, he's terrified of women (silly man), so he shouldn't be too hard to deal with.

In all, Lost in Time is sufficiently different in style, both in terms of puzzles and graphics, to appeal to even the most jaded adventure player. It might also be of interest to those who find cartoon style games such as Monkey Island, Tentacle or Simon the Sorcerer a bit too whimsical for their tastes, since it contains, for the most part, a high degree of realism. There are some nice features, such as the map screen and the inclusion of 'jokers' which you can use to get through a problem if you're stumped. The interface also works well, and the icons don't intrude on the graphics since they only appear if you move the mouse pointer to the top of the screen. When it comes down to it, I found it a very enjoyable game to play, so if you fancy a challenge, I'd recommend you take a look at Lost in Time.

■ Cal Jones



While these two idle at the beach, you have to find a healer for your injured friend, help a dumb man speak and rescue your ancestor from certain death.

Techspec

Lost In Time comes in two separate sections. You need 17Mb disk space to install both parts, or 9Mb if you install one part at a time. It requires a 286 (386 recommended) or better running MS-DOS 5.0 with a Microsoft compatible mouse.

Disk requirements					
High density	✓				
Hard disk only	✓				
Space taken on hard disk	17Mb				
Graphic modes					
CGA	✗	EGA	✗	Tandy	✗
VGA	✓	SVGA	✗		
Soundboards					
Ad Lib	✓	Roland	✗	Sound Blaster	✓
Control					
Joystick	✗	Keyboard	✗	Mouse	✓
Performance					
Optimum speed	33MHz				
Minimum memory	640K				
Free RAM required	550K				

Verdict
An original and challenging game

rating **8**

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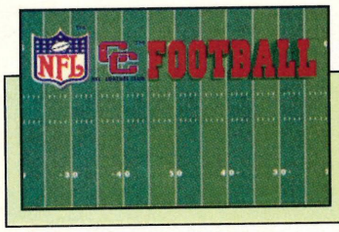
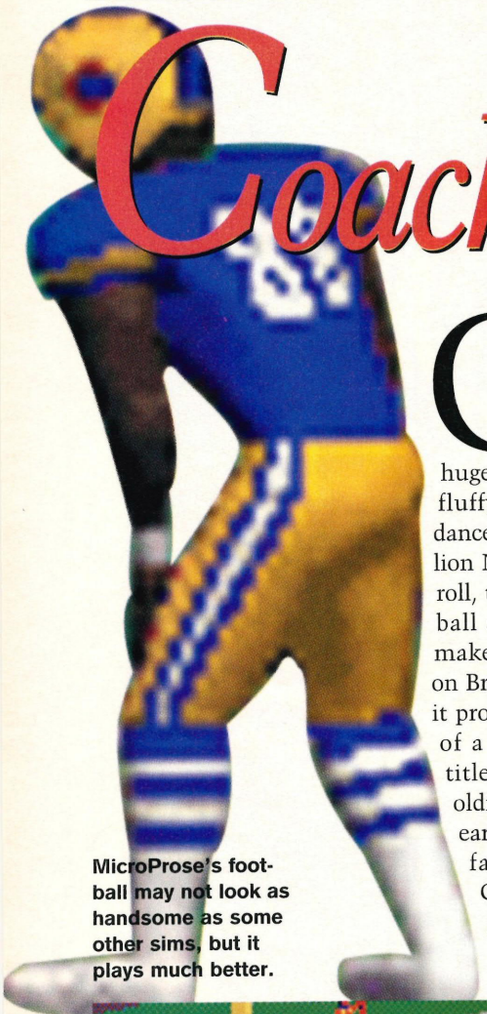


Title	**Coaches Club Football**
Publisher	**MicroProse**
Contact	**(0454) 326532**
Price	**£44.99**

After Madden, Ditka and Front Page Sports, yet another American football game wings its big and burly way across the Atlantic

Coaches Club Football



MicroProse's football may not look as handsome as some other sims, but it plays much better.

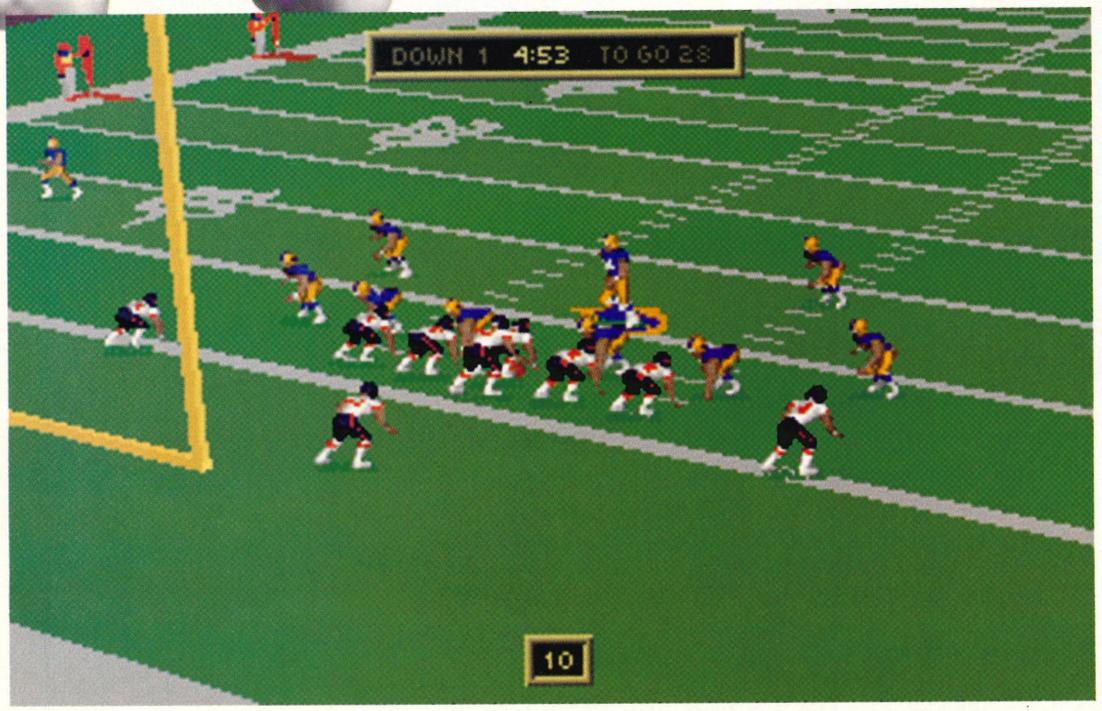
Once again the the US football season swings into action with huge crowds, razzamatazz, fluffy pom-poms in abundance. Just as the multi-million NFL roadshow starts to roll, the first American football sims are beginning to make hesitant appearances on British shelves. This year it promises to be something of a mixed bag with new titles and some renovated oldies battle for your hard-earned cash. In the field so far, MicroProse's NFL Coaches Club Football game are currently leading the way.

If you're a veteran of Mike Ditka and Front Page Sports, you'll find nothing drastically new here in terms of game structure. Like soccer games, most American football sims have remained basically the same (differing only in visual style and statistical heaviness) incorporating the standard isometric action view, digitised speech, video replays, play and team editors and full league season option. Obviously, Coaches Club Football has all these things but, in addition, it's an official NFL licensed game, so it can use all the current 1993 NFL team rosters and all the correct team names.

If you've never played US football before, have no fear. Once you've grasped the basics, Coaches Club Football will have you rushing, blitzing, faking and chalking up yardage as if you were born with a set of pads on your shoulders. The game is very easy to get into, striking a good compromise between arcade playability and skiploads of statistical information. But if you have played digital gridiron before, you really should give this game a whirl. Granted, all the features are the same as any other football game, but what sets Coaches Club Football apart from the gathering crowd is the way that it plays.

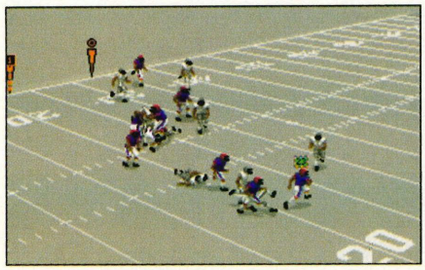
At first glance, Coaches Club Football looks the least attractive of the current batch of gridiron sims. But, like Sensible Soccer, Coaches Club Football hides an immense playability which it manages to deliver without sacrificing any of the necessary statistical and strategic extras.

This playability factor comes from two main sources. Firstly, Coaches Club Football appeals due to its distinctive graphic style. It boasts a wide range of new game views, from a ground-level player's view to an airship overhead view that enables you to see almost the whole pitch (even if you can't really tell what's going on!). And Coaches Club Football is not restricted to its limited predefined camera angles either. The pitch is fully rotatable through 360 degrees and you can zoom in out and even save your own user-defined camera views.



Two minutes of American football won't tell you anything about the game that you don't already know. So here for your gaming pleasure are some of the multitude of different playing views.

Alternatively...



Front Page Sports Football Pro
Sierra/Dynamix, £39.99
Rated 7, Issue 25
Slightly more than just Front Page Sports 'deluxe', this game gives you more stats than you know what to do with. Featuring realistic player animation, end-zone celebratory dances and snow (see above!), this is a good alternative if you want a game with even more depth. It doesn't play as well as Coaches Club, though.



Mike Ditka's Ultimate Football
Accolade, £34.99
Rated 7, Issue 3
Although an oldie, Mike Ditka is still one of the best football games around if you have a lower-spec machine. With multiple camera views, replays and all the usual features, I have to admit that I've played this game more often than Front Page Sports. Look out for an all new Mike Ditka game later in the year.

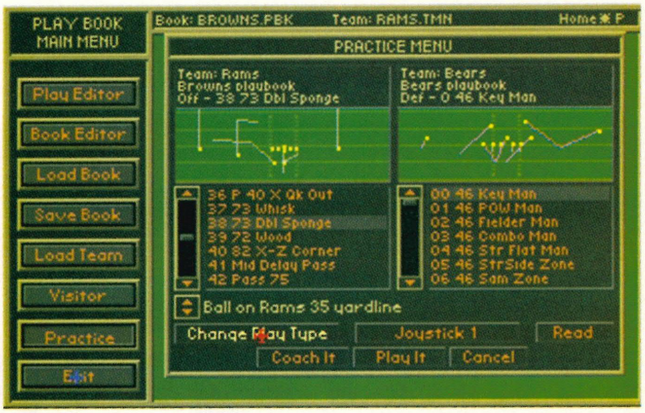
Secondly, what really sets Coaches Club Football apart from the other games is the way that it plays, especially the passing game. The reason for this is that MicroProse has overhauled and replaced the traditional football pass interface (ie, the pass goes automatically towards the receiver who must be moved to a flashing circle or star to catch it). One click still takes you into passing mode, but here you must move the flashing star around, it's not moved for you. You've also got to do this in realtime and it's all too easy to focus all your attention on moving the star, blind to the fact that a linebacker has slipped through the pass protection and is about to sack your quarterback. Now you've got to find the time and use your judgement to throw the ball into space making it closer to the real thing.

But what makes Coaches Club Football score a touchdown while others are still struggling to lace their boots up? Well, in addition to the gameplay and the rotating pitch, MicroProse has included half-time team talks where your coach tells you what you're doing right and wrong, an option to view game highlights, swap your starting players around, edit your playbook and so on. There's the usual two player mode (with quite a nifty mouse control system) and even an option that means you can play a two players game controlling the same team.

Like Front Page Sports (reviewed over the page), Coaches Club Football is one of the new breed of football games that retain their gameplay and stats but now have improved graphics, realistically animated players and improved AI. Once again the US football market has lurched into action, but it doesn't end here. The competition is going to get tough. Front Page Sports Pro is already at the line of scrimmage, Mike Ditka 2 is on the way and we're promised some SVGA Unnecessary Roughness from Accolade.

Coaches Club Football strikes just the right balance between playability and strategy, so unless you're already a 15 stone linebacker with the London Monarchs, prise open your wallet and reserve some shelf-space for it. In short, it's fun, fast, extremely difficult and, in my opinion, the best football sim on the market so far.

■ Dean Evans



With the playbook editor you can create or modify plays, then practise them against a variety of defensive positions.

Techspec

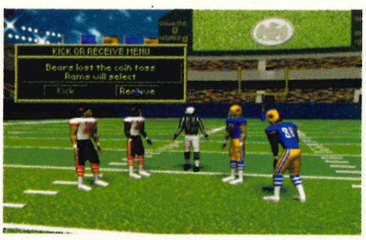
I experienced some problems with the game when using the Qemm memory manager, but apart from that, Coaches Club causes few problems. It ran painfully slow on my 25MHz 386, so I'd recommend as fast a machine as possible.

Disk requirements					
	High density	✓			
	Hard disk only	✓			
	Space taken on hard disk	***7.5Mb***			
Graphic modes					
	CGA	***x***	***EGA***	✓	***Tandy*** ✓
	VGA	✓	***SVGA***	***x***	
Soundboards					
	Ad Lib ✓		***Roland*** ✓		***Sound Blaster*** ✓
Control					
	Joystick ✓		***Keyboard*** ✓		***Mouse*** ✓
Performance					
	Optimum speed	***33MHz***			
	Minimum memory	***2Mb***			
	Free RAM required	***575K***			

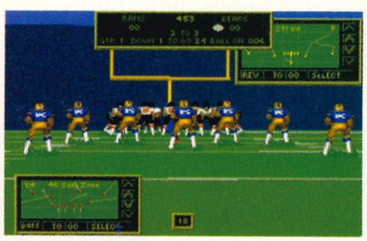
rating **8**

Verdict
As good as the real thing but without the bruising

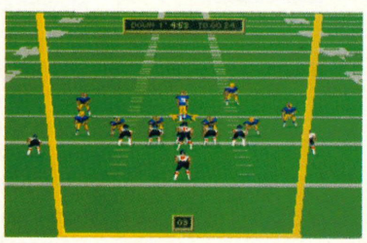
Two Minutes *of camera views*



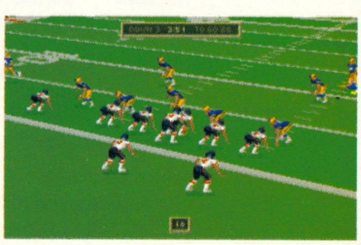
The coin toss has been lovingly drawn in 3D Studio, giving you an immense amount of detail but ensuring that your players look like they're inflatable dummies.



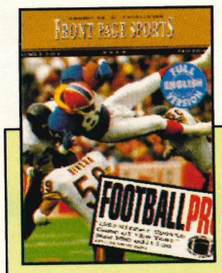
Coaches Club Football has viewpoints galore. Here, I've chosen the ground-level view, viewing the action as if I'm standing on the field behind the quarterback.



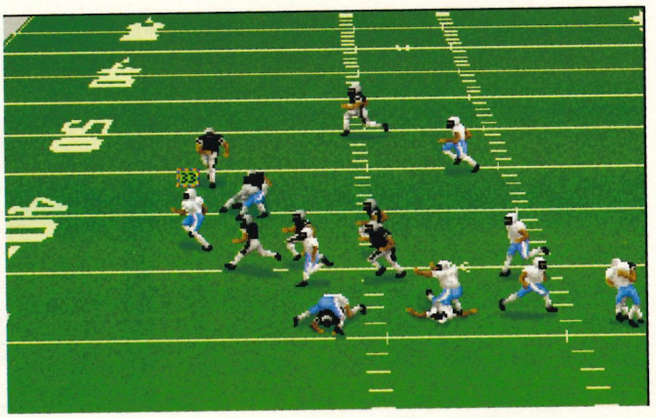
The typical coach's view is one of the better standard camera angles. Obviously the further away you view the action, the easier it is to pick out your receivers, run into gaps, etc.



Most impressively, the pitch can be rotated through a full 360 degrees. Twist, turn and zoom in for that individual and unique game view. Ultimately the choice is yours.



Title	**Front Page Sports Football Pro**
Publisher	**Dynamix/Sierra**
Contact	**(0734) 303322**
Price	**£39.99**



Pro's cartoon-like players move very smoothly and are the best animated footballers I've seen so far.

Front Page Sports Football Pro

When you get right down to the nitty gritty, Front Page Sports Football Pro is just an enhanced or 'deluxe' version of the original Front Page game. Of course, this is no bad thing but apart from some visual tweaks and increased statistical emphasis, FPSF Pro doesn't deliver anything radically different.

Like the original, FPSF Pro contains all the features that have become *de rigueur* in modern gridiron sims. There are the usual sound effects, speech, replays, playbook editor, 10 camera views and all the current 1993 NFL team rosters. You want to be Mark Rypien? Well, you got it. You want to run Barry Sanders bravely into the brick wall that is the New Orleans defence? You can do that too. You could even take the Patriots to the superbowl, and that definitely would be an achievement.

In fact, the game is nothing short of comprehensive, with almost everything that an NFL fan could need. In addition to the above, you can also play on four pitch types (astroturf, grass, snow and mud), coach your team, control the action and compete in a full conference season.

But what's new? What exactly merits the 'Pro' part of the title? Well, the game incorporates a shiny new team management option enabling you to have draft picks, make trades, set up training camps and sign free agents. Visually, the player animation has improved with endzone dances and realistic tackling and thankfully you can now finally see the ball being carried by your player. The artificial intelligence has also been enhanced to match even the most accomplished human coach and quarterback.

As for the bad points, there are still a few annoying niggles. Again, the other players can incur penalties on their own, which is really, really annoying and there are still major problems with the PAT and the field goal. When you kick, the view switches from the semi-overhead view to a useless animated view. This effectively means that there's little or no chance of blocking the kick, a feature which can turn a football game around.

So it's got better graphics, improved animation and stats coming out of its ears, but how does it shape up overall? Well, out of the two football games reviewed this month, I have to say that FPSF Pro is definitely the most stat heavy.

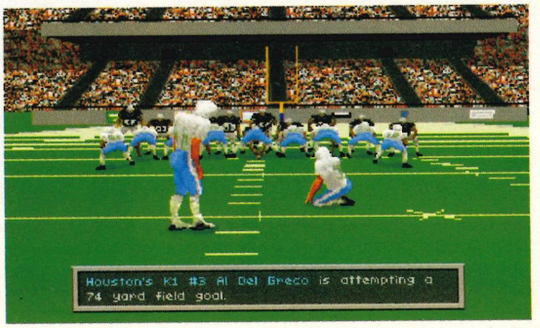
Indeed, there's so much information that the game is often bogged down by the sheer weight of it all. I mean, do you really need a quarter page report on who the ball carrier was, who made the tackle, the yardage gained, the name of the offensive and defensive play after every down? Surely all you really need to know is who actually made the play and how many yards they went.

But I don't want to give you the wrong impression, because FPSF Pro is a great game, especially if you're an intense gridiron fan who eats team statistics for breakfast. If you're not, and you wouldn't know a Jill Dog or a Hail Mary from a Razzle Dazzle Run then perhaps the MicroProse game (reviewed on page 80) is a better bet.

Front Page Sports Football Pro is a cracking sim but it's maybe a bit too similar to the original to be superb.

■ Dean Evans

Bottom right: The impossibly ambitious kick attempt. A digitised player attempts to boot the ball over for the extra point.



Techspec *Like many other games out these days, FPSF Pro will only run properly on a quick machine. You can turn off most of the detail and it runs happily on a 25MHz 386 but you lose a lot.*

Disk requirements					
	High density	✓			
	Hard disk only	✓			
	Space taken on hard disk	**9Mb**			
Graphic modes					
	CGA	✗	**EGA**	✗	**Tandy** ✗
	VGA	✓	**SVGA**	✗	
Soundboards					
	Ad Lib ✓		**Roland**	✓	**Sound Blaster** ✓
Control					
	Joystick ✓		**Keyboard**	✓	**Mouse** ✓
Performance					
	Optimum speed	**33MHz**			
	Minimum memory	**1Mb**			
	Free RAM required	**590K**			

rating **7**

Verdict
A great package, but not as playable as could be

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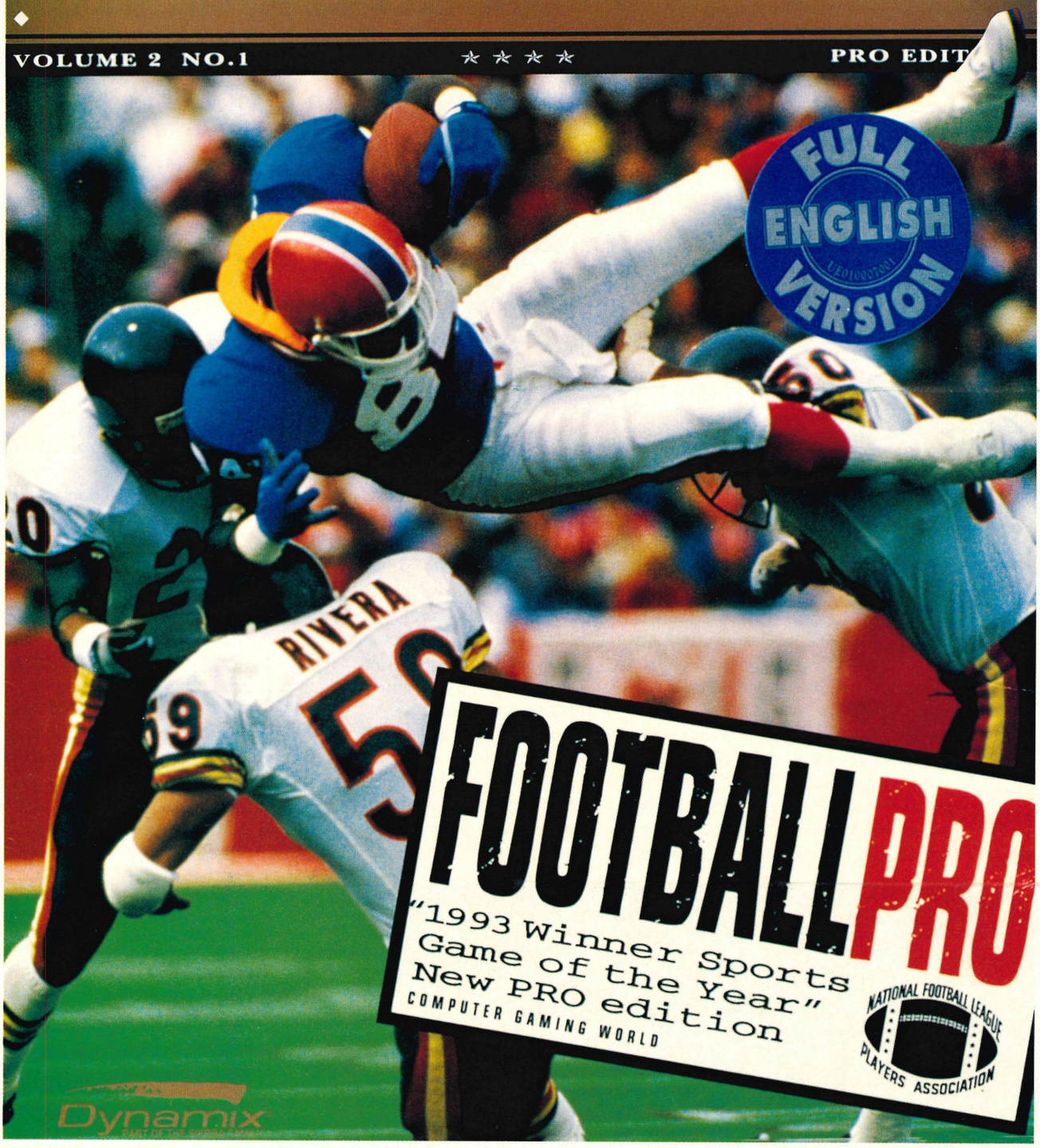

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Title	**Jurassic Park**
Publisher	**Ocean**
Contact	**(061) 832 6633**
Price	**£34.99**

After the book, the film, the T-shirt, the baseball cap, the lunchbox and the duvet, now you can play the computer game

Jurassic Park



Dr Grant backs up against the JP gate trying to avoid the venomous phlegm of the Dilophosaurus.

The stirring music plays, a huge computer generated Brachiosaur eats leaves from a tall tree and Richard Attenborough, dressed in an immaculate white safari suit, strides forward across the grass. "Welcome", says Dickie, the wizened and eccentric park owner John Hammond, "to Jurassic Park."

"Awesome", "scary" and "thrilling" were just a few of the words used to describe Jurassic Park, a movie that has broken all box office records and become as much of a media event as a cinematic event. So how do you bring Jurassic Park to the humble computer screen? How do you recreate the same excitement in a measly 640K? Well, you don't. It's a difficult and almost impossible prospect, and so Ocean, a veritable veteran of film licence conversions, has shunned the usual 'film licence = platform game' mentality and has turned JP into an arcade adventure.

Jurassic what?

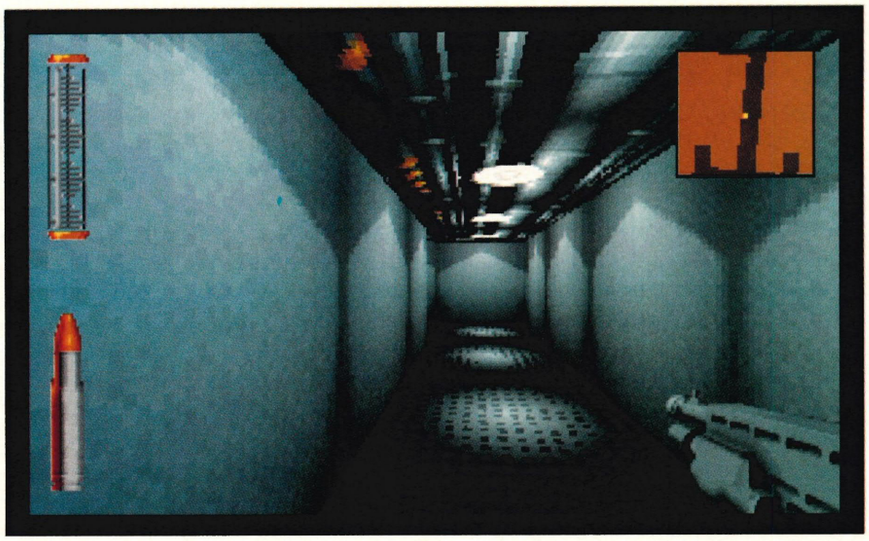
For those of you who've escaped the non-stop promotions, hype and interviews, Jurassic Park is set on a remote jungle island where billionaire John Hammond and his team of genetic engineers have created a dinosaur game park. However, on this tiny island off the coast of Costa Rica, where Tyrannosaurus and mankind meet after 65 million years of evolution, something has gone terribly wrong.

Jurassic Park's system programmer, Dennis Nedry, has sabotaged the park's main computer, stolen 15 dinosaur embryos and has fled without fixing the damage. As a result of his tampering, the security systems (the electrified fences and motion sensors) have failed and the dinosaurs have escaped their enclosures. Now this wouldn't be too bad if you were tucked up safely in bed, about 3,000 miles away. But you're not. You're trapped in the middle of the Tyrannosaur paddock, with two screaming kids and only a small tazer (a weapon that fires a bolt of electricity) to defend yourself.

As Dr Alan Grant, you've got to escape, rescue Hammond's grandchildren, guide them through all the dinosaur paddocks, get inside the Visitor's Centre, switch on the power, restore the park's systems, call the helicopter and fly to safety. No prob-



Having made it to the Visitor's Centre, it's been decided to reset the computer system to get rid of the Nedry's sabotaged code. All I have to do is go outside and switch on the power. Avoiding the velociraptors of course.



lem if you're a small well-equipped army, but a tad more difficult if you're an aging palaeontologist and part-time babysitter.

But enough about the plot, what about the game itself? Well, as you can see by the screenshots, Jurassic Park mixes two distinctly different gaming styles; an overhead isometric view (rather like the old coin-op Commando) and a Wolfenstein/Ultima Underworld 3D view.

The game begins with the isometric view, and the first 10 levels are basically a thinly disguised shoot 'em up with some rudimentary problem solving. In fact there's more 'arcade' here than 'adventure' as you first rescue the children and then wander around, zapping and running away from various dinosaurs (tyrannosaurs, brachiosaurs, dilophosaurs, stegosaurs, triceratops, etc).

Grant starts the game with only an ineffective tazer, but bigger and better weapons can be found scattered around the park. However, as JP is supposed to be a peaceful and safe theme park, there obviously aren't many of these weapons lying about. Other common pick-ups include ammunition and the odd first aid kit which can replenish Grant's energy.

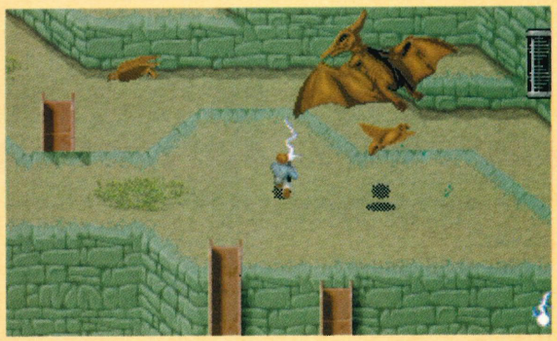
Above: The 3D sections are dark, dingy and gloomy but by far and away the best looking part of the game.

And that's not all. Some of the bigger objects (rocks, barrels, etc) can be pushed to overcome certain obstacles and Grant can also log on to the park terminals which enable you to call up information on the park and to receive important messages from the control room. These messages will tell you what you have to do to complete the level, because not only do you have to find the exit but there are also a number of sub-missions to be completed; namely rescuing the kids from a utility shed, retrieving the stolen dino embryos and getting a keycard from Nedry's jeep.

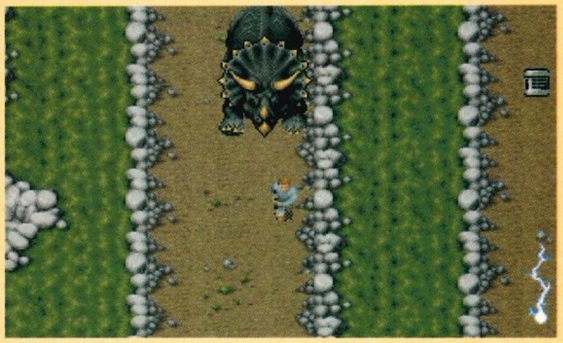
As the game is based principally upon the original Michael Crichton novel, there's also an aviary of hungry Pterodactyls to run screaming through as well, which is something you won't find in Spielberg's movie adaptation.

By current standards, however, the isometric levels are about as attractive as a monkey in make-up and have a look and feel that, for my money, is very dated.

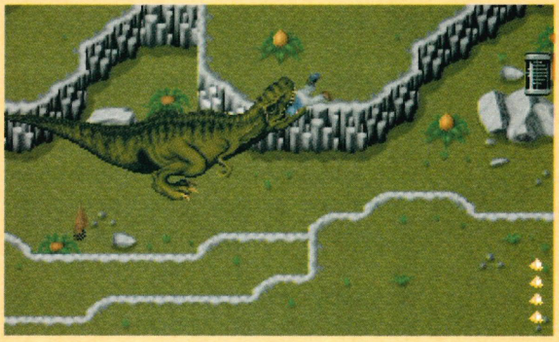
Know your dinosaurs



Pterodactyl
These flying lizards are fiercely territorial, defending their home by diving at you from a great height.

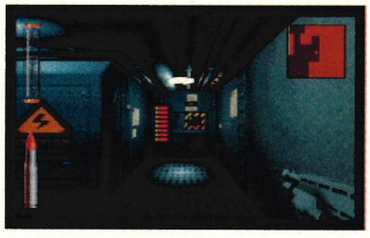


Triceratops
Almost the size of an elephant, the triceratops is easily startled and will charge you.

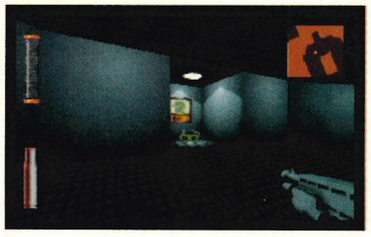


Tyrannosaurus Rex
18 feet tall and probably the most famous dinosaur predator. Jaws with legs.

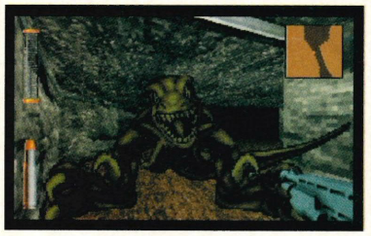
Two Minutes *of panic in confined places*



It's dark and gloomy in the Visitor's Centre as the power goes down. The energy bar and my ammunition are displayed on the left with an overhead map of the area on the right.



Down in the caves below the centre it's pitch black so I've been forced to retrace my steps to search for the night vision goggles. Lo and behold, there they are.



Trouble down below. As I make my way back I get jumped by a raptor. Less vicious than the movie raptors, I can take this one out with three or four shots.



At last I've made it outside. But to get to the maintenance shed and the power switch I've got to walk through the raptor pens. And there's lots of them this time.

Alternatively...



Space Hulk
Electronic Arts, £34.99
Rated 7, Issue 20
With huge derelict spaceships and blood-thirsty aliens, if you're after some 3D shooting practice then Space Hulk is more than just a challenge. With intelligent enemies in seemingly endless numbers, this will test your gaming prowess to the limit.



Jurassic Park: The Movie
Amblin Entertainment
£6.50 and under
If you don't like the idea of the game, why not go and see the movie just one more time? With the realistic computer generated dinosaurs and industrial size tubs of popcorn, Jurassic Park redefines the summer blockbuster. Truly an event. Will there be a Jurassic Park 2?

That having been said, the animation of the central character is actually quite good – even if the animation of the dinosaurs could have been improved.

When, or indeed if, you get safely through the seven dinosaur paddocks you finally enter the visitor's centre and it's here, reunited with Hammond, that the game switches from its isometric viewpoint to a nifty Wolfenstein 3D imitation.

In gloriously drawn, smoothly scrolling, texture-mapped 3D you must guide Grant up to the maintenance building to switch on the park's main power. Unfortunately, this isn't anywhere near as easy as it might sound because the velociraptors, six foot tall feeding machines with attitude, have escaped and are wandering the centre's gloomy, twilight corridors as well. Luckily you have a big gun. Unluckily you don't have many bullets.

But, these 3D sections, striking though they undoubtedly are, seriously lack the long-term appeal that would make them much better. You see, deep down these 3D bits offer the player nothing more than a simple object search and an endless raptor shooting alley. Beautiful the 3D technology may be, but it can't hide the fact that we're still firmly in shoot 'em up territory here, ie, the gameplay is fundamentally shallow and formulaic (although it's undoubtedly fun for a while).

On the plus side, some tension is created here as you wander rather cautiously down the shadowy passageways waiting for the raptors to spring out of the darkness and rip your head off. But sadly all this tension and suspense is lost when the raptors do attack, because, (a) they're not very deadly and, (b) the charge is a jerky, five-frame animated lunge. Ugh!

"They're lethal at eight months, and I do mean lethal," said Muldoon, the gamekeeper played by Bob Peck, of the velociraptors in Jurassic Park. But if the raptors are lethal in this game then this is obviously some new use of the word that I haven't come across. In JP these cunning and deadly hunters have been reduced to little more than cannon fodder. They don't kill you with one swipe but seem to try and bump you to death. They're not as intelligent or even as savage as the book and the film portray them. Even the genestealers in Space Hulk are more intelligent than these guys. The velociraptor was the film's (and indeed the book's) most dangerous animal. But not here.

Soundwise (on Sound Blaster and Roland) the music is very atmospheric. JP features several bass-heavy tunes and various sampled dino sounds from the Spielberg movie, including the ear-splitting roar of the T-Rex and the dying screech of the velociraptor.

OK, so let's put it all in context. Basically, Jurassic Park is a shoot 'em up and it would be unfair of me to review or rate it as anything but. So the question must be this: if we play it as an arcade game, is it challenging?

Well, the answer to this is both yes and no. The isometric half, for instance, is fairly difficult and frustrating, but because of the ineffectiveness of the tazer the paddocks resemble more of a dodge 'em than a shoot 'em.

The 3D sections, though, are much better and it's a shame that Ocean didn't decide to make the whole thing 3D. The engine is remarkably good, scrolling smoothly with superb detail and the game does actually have an outside 3D section (set in a misty velociraptor pen) so perhaps it might have worked. I feel that the only problem with the 3D part is you can (if you know what you're doing) rush right past the raptors without so much as a broken fingernail. But be warned, if you make a mistake and duck down the wrong passageway, when you double back you'll have eight or nine lizards waiting to rip your stomach open.

But despite these niggles, Jurassic Park is not a bad game. It's not a stupendous film conversion, but thankfully it's not a complete disaster either. Ocean, renowned for getting the big film licences (Terminator 2, Lethal Weapon, The Addams Family), but also renowned for not having done them very well (Terminator 2, Lethal Weapon, The Addams Family), might just have redeemed themselves with this one.

Of course, JP is bound to sell well. Anything that has the distinctive JP logo on it whether it's Jurassic Park towels, pens, mugs, boxer shorts, Tyrannosaurus Rex soap-on-a-rope or washing powder is bound to sell like hot cakes. And Jurassic Park the game is guaranteed to sell too, attached as it firmly is to the ever-rolling Jurassic media vehicle.

All in all, JP is a good, solid game but living as it does in the huge shadow of Spielberg's film, it's a pale imitation. Arcade fans might love this, but if you're a real fan of Jurassic Park, as I am, you'll probably be disappointed.

■ Dean Evans



Dr Grant is caught in a Gallimimus stampede on the first isometric level.

Techspec

Ocean recommends at least a 25MHz 386 and at least 800K of free expanded memory as well if you want the sampled sound effects. Disk compression is, as always, an unknown quantity.

Disk requirements

High density	✓
Hard disk only	✓
Space taken on hard disk	✓

Graphic modes

CGA	x	EGA	x	Tandy	x
VGA	✓	SVGA	x		

Soundboards

Ad Lib ✓	Roland ✓	Sound Blaster ✓

Control

Joystick ✓	Keyboard ✓	Mouse ✓

Performance

Optimum speed	25MHz
Minimum memory	2Mb
Free RAM required	588K

Verdict

A good arcade game which might fall short of expectations

rating **6**

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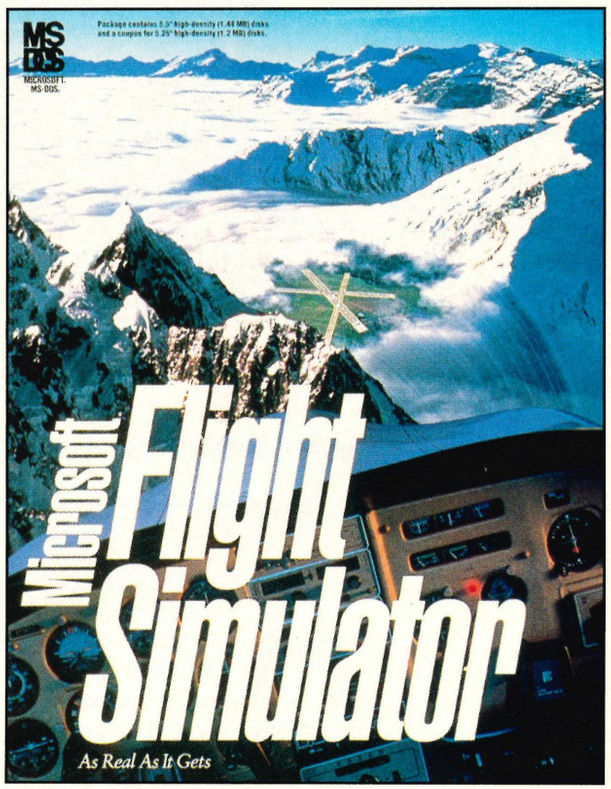

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Title	**Batman Returns**
Publisher	**GameTek**
Contact	**(0753) 553445**
Price	**£29.99**

BATMAN RETURNS

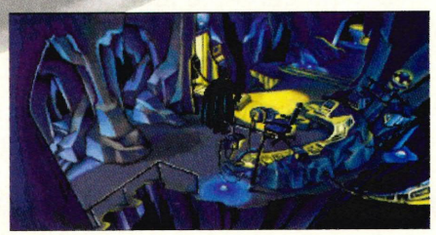
There's trouble down in Gotham City and there's only one man who can save the day. Quick, to the Batmobile: the adventure is about to begin ...

Ah, film licences – don't you just love them? Hastily created games rushed out to cash in on a film's hype as long as punters are buying up anything associated with their fave flick.

So Batman Returns comes as a bit of a shock. It won't win Game of the Year (far from it, in fact), but at least it tries to do something different with the film's plot. Instead of the beat 'em up Gametek might have churned out, this game is a graphic adventure which concentrates on what Batman does best: searching for clues, analysing evidence and preventing criminals from committing crimes.

The plot centres around the "hideous penguin creature" and his quest for power and fame. Much of our superhero's time is spent searching Gotham's seedy buildings, piecing together the movements of central characters so that when a crime is about to be committed Bruce Wayne can be there in his scary uniform to save the day. What Batman could have done to save time and effort is rented the video – the game's storyline is to all intents and purposes the same as the film.

Whether this is a bad thing depends on your personal preference. You may find it simply annoying and tedious. Or you may feel like you're really "playing the film", a phrase much used by software houses who believe stringing together a series of digitised clips constitutes a game. One thing's for sure – when playing



Batman Returns you sometimes feel like shouting, "look here, you dumb git, it's the Penguin who's behind all this."

Let's explain a little further. Batman can only explore locations when it will aid his investigation. The map screen offers three or four areas highlighted in red. By clicking on one of these, Batman is whisked to that part of the city and the laborious process of hunting for clues begins. This may not sound too bad, but when you consider that Batman has to 'discover' the



Batman's vast array of helpful equipment often aids moving from location to location so if you're not carrying the grapple or the rope you might be in a bit of trouble. You can either use these items by selecting them from the utility belt or by placing the cursor over the object you want to use it on.

It's all very well knowing that the Penguin is up to no good but how do you set about proving it? By collecting loads of damning evidence, of course, just like this ...

Techspec

Batman seems to take an age to install as it comes on seven disks. But apart from this half hour wait, the game causes no major problems. I recommend at least a 25MHz 386 but a 486 (if you have one) is better still.

Disk requirements

High density	
Hard disk only	
Space taken on hard disk	17.5Mb

Graphic modes

CGA	EGA	Tandy
VGA	SVGA	

Soundboards

Ad Lib	Roland	Sound Blaster

Joystick	Keyboard	Mouse

Performance

Optimum speed	386, 25MHz
Minimum memory	580K
Free RAM required	640K

Verdict
Nice to look at, but unfortunately that's about all

rating **5**

Penguin is behind the crimes before he can visit the zoo (when anyone who's seen the film could have told him that), you can see there's a problem.

That's not the only one. To pursue physically what Catwoman is up to, Batman must first discover her real identity. All information is obtained by finding objects, news clippings or scraps of paper and taking them back to the Bat Cave's central computer, feeding them in and noting down any fresh evidence. This may seem easy, but the game plays in real time – Batman has a strict deadline by which evil perpetrators must be safely locked away. This time (nine 'days', if you're interested) affects everything: the characters move around like you or I would, dropping key information at specified points in the game. If Batman isn't around to intercept them within a short space of time he'll miss out on some clues.

It's this puzzle element that lets the game down. Playing a computer game that simulates a grossly simplified investigation where all you do is trudge around every available location, searching each nook and cranny umpteen times in case you've missed anything and then nipping back to the Bat Cave with obtained treasure, analysing whatever it is before venturing back into Gotham's crime-infested metropolis and doing it again and again until you're satisfied that there's nothing new to report just isn't much fun. Even the combat element, which you'd imagine to be a tense affair, turns out to be nothing more than watching computerised boxers slug it out.

Which is a pity. I tried desperately hard to like this game – until I realised that solving the adventure isn't that tough, with the real time element shortening the game's playing time considerably. All the atmospheric and well-drawn graphics, the excellent animations, all the digitised film shots ... everything, really, turns out to be superficial. I reckon that once you've found your feet, you can complete the game in under an hour or so.

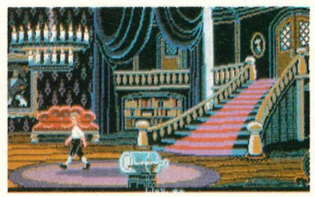
Of course, this may be why Batman Returns is released at its relatively low price. But I can't recommend it without stressing that it certainly doesn't live up to its potential. A pat on the back for trying something different, but a punch in the face for messing it up badly.

■ Simon Byron

Alternatively...



Day Of The Tentacle
US Gold £39.99
Rated 9, Issue 24
This brilliantly crafted graphic adventure may share Batman's longevity problem, but its charm and humour raise it far above anything else in the genre. If you liked Monkey Island, Tentacle is even better.



Police Quest 3
Sierra £39.99
Rated 7, Issue 2
Impressive graphics and a soundtrack by Jan Hammer make this game OK if you're into this kind of thing, but the puzzles aren't as testing as real police work. Still, adventure fans won't be disappointed.



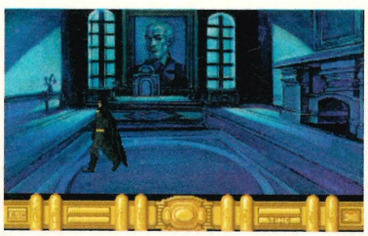
If you do come across any members of the trouble-making Red Triangle Gang then the best course of action is to rough them up a bit so Batman will automatically enter combat mode. Just select how aggressively you want him to attack by clicking on the panels at the bottom of the screen and Batman will do the rest.



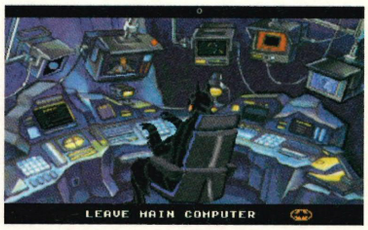
First, Batman needs to select some Bat weapons for use on the streets. Trouble is, there are so many to choose from, with Batman only able to carry eight out of a possible 10. Each item will influence what Bats can do.



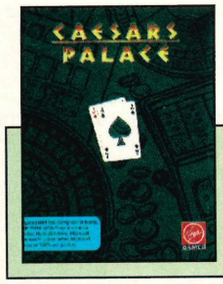
Inside the Batmobile, Batman can watch the news channels or call up the map screen and visit any highlighted locations. The eject button is on the dashboard – its purpose is to end the game prematurely. So hands off.



The Mayor's office is a good place to start looking for clues. Clicking on the two hiding places in this location calls up a screen which may hold a suspicious item. When you find the hidden videotape, go back to the Bat Cave.



With his central computer, Batman can input and collate collected evidence, which is then stored in the computer's vast memory banks. Once all possible facts have been gleaned, it's back on to the streets for more of the same.



Title	**Caesars Palace**
Publisher	**Virgin Games**
Contact	**(081) 960 2255**
Price	**£35.99**

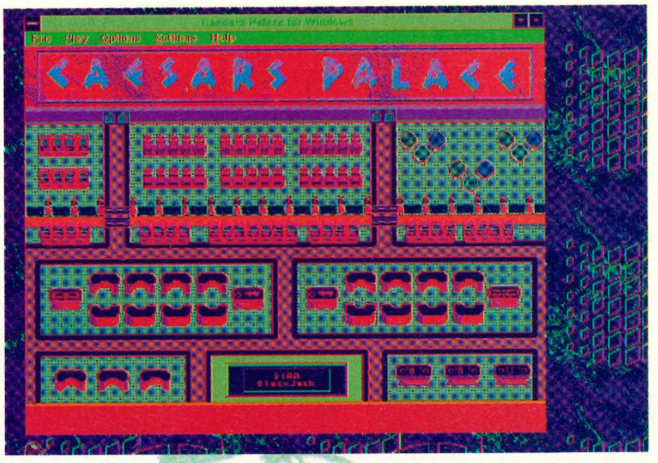


Caesars Palace

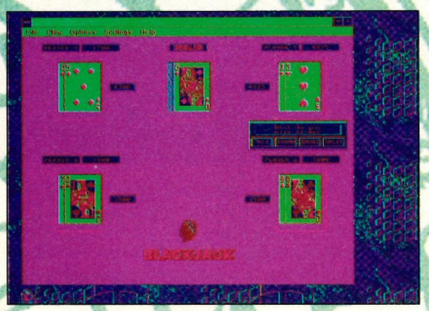
If your idea of gambling involves pumping the occasional pound coin into the fruit machine down the local public house, then think again. Vegas is coming to a PC near you and this could be your chance to lose serious amounts of money. This small but neat package is presented as a doorway into the actual Caesars Palace where rich people throw millions of dollars away on the fall of a dice, while poor people try to sleep with Robert Redford.

The menu screen is an overhead view of the aforementioned establishment, giving access to card tables, roulette tables, craps, slot machines, and various video games. The mouse describes each area of the floor as you skirt over it, making it very easy to jump from game to game. From here, it's also possible to alter the table settings; defining minimum stakes, maximum stakes, number of human/computer players, etc, as well as entering a tutorial which depicts clearly how each game works. It pays to read this first.

The card tables offer Blackjack, draw poker, five and seven card stud poker, Paiglow poker and baccarat. If you know these games, you will probably appreciate the variety of game playing this allows for – and if you don't, you won't. Using the table options you choose which seats are taken and in which order hands are played, and you can also sit back and watch the computer players play against each other with open hands – giving you the opportunity to view their strategies and techniques. The games themselves are played simply by clicking on various options shown in order to discard, raise, etc, as well as make your initial stakes.



From this plan you can join any of the games going on. There aren't as many as it seems – a lot of the tables are the same game, but with higher stakes.



This is the general look of all the card games - again simple, but what else are you gonna do with rectangular bits of card with numbers on 'em?

Video versions of the card games act as simplified versions of the real thing with lower stakes, while the slot machines do exactly what you expect them to do.

The roulette and crap tables are straightforward, and versatile thanks to good use of options, with the mouse controlling everything by picking the desired areas and amounts for each spin of the wheel or throw of the dice.

Presentation is crisp and simple , but the game still doesn't make much of an impression, and with no real sound there's a distinct lack of atmosphere – but, then again, card games are card games. I only really enjoyed Blackjack and the fruit machines. Otherwise, I ended up just being silly and risking my fortune in a desperate attempt to lose, but sod's law prevailed – I kept winning it back!

I want to be fair to this because it never pretends to be anything but a card game (and does this well), but ultimately I think you'd get more longlasting fun playing 'find the slipper' with your dog. Woof.

■ Matt Broughton

Techspec *All you need to run Caesars Palace is Windows 3.1 with a minimum processor of 386. No sound cards are supported and it's not exactly going to push your machine to the edge of its capabilities.*

Disk requirements

High density	✓
Hard disk only	✓
Space taken on hard disk	**4.5Mb**

Graphic modes

CGA	✗	**EGA**	✗	**Tandy**	✗
VGA	✓	**SVGA**	✗		

Soundboards

Ad Lib	✓	**Roland**	✗	**Sound Blaster**	✓

Control

Joystick	✗	**Keyboard**	✗	**Mouse**	✓

Performance

Optimum speed	**25MHz**
Minimum memory	**640K**
Free RAM required	**580K**

Verdict
Competent but unexciting – for committed gamblers only

rating **4**

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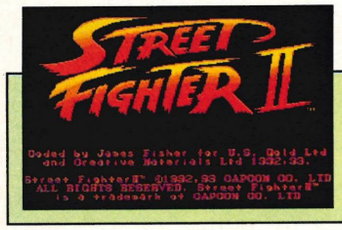


Title	**Street Fighter II**
Publisher	**Capcom/US Gold**
Contact	**(021) 625 3366**
Price	**£29.99**

I told the boys it'd all end in tears, but would they listen? Of course not. Even after all that money I spent on the dental bills last time. Honestly, what a load of macho ... nonsense.



Always a serious bit, this, where you get to choOse who you're going to be. Ken is a disciple of Master Sheng Long, apparently, and his "natural fighting skill fuels his giant ego". Nice guy.

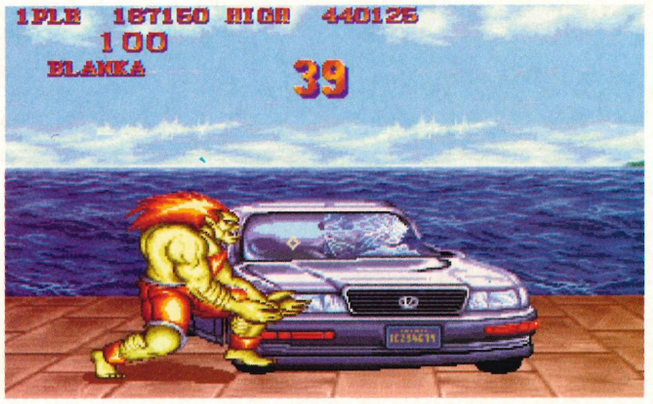
Street Fighter II

Street Fighter II — the beat 'em up even your granny may have heard of — finally kicks its way on to the PC screen

I packed up playing Street Fighter II in the arcades about the time it had reached the Mega Turbo Death Napalm Acid Hyper Edition (or something like that). It was just too bloody fast, and the kids hanging round the machines were just too damn good. 90 seconds play for my 30p was depressing, to say the least.

As game concepts go, it's one of the simplest and most effective there is. Two side-on characters with different skills attempt to pummel each other into submission over the best of three rounds. You control forward and backward movement, jumps, punches, kicks and blocks. A health bar for each character measures how much damage they've soaked up in the process. Now fight until you drop.

After battling your wat through the opposition, you get a bit of light relief. Bonus stages consist largely of premeditated vandalism as far as I can tell.



And Street Fighter II must be the granddaddy of them all. It's been years since it first made an appearance in the arcades, and it's been going strong ever since, under numerous guises and with innumerable imitators. It's also come out on just about every other computer game format commonly known to man.

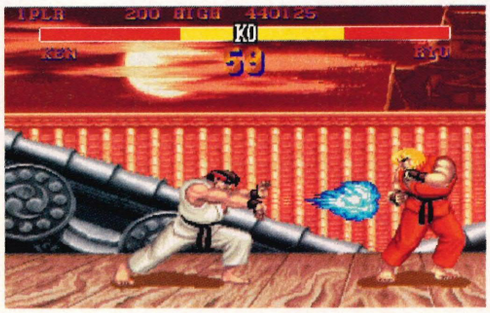
So, now the PC version. It had to happen, I suppose, because there are few



Two Minutes *of a severe kicking*



Dance like a butterfly, sting like a bee. It's first blood to Ken of the good old USA, as poor old Ryu gets a nasty slap in the face. Subtlety? Who needs it? Take the dirsct approach.



Ryu is now thoroughly hacked off with the whole business and is resorting to dirty tricks. There's nothing in the Queensbury rules about the 'fireball special move' as far as I remember.



OK, so I lost that one. But you get a second chance in the tournament, so now I'm back fighting as Blanka, and I'm going to bite Ryu's head off. If anyone says it's only a flesh wound, I'll kill them.

games publishers these days that can afford to develop a game and not port it across to every available format.

Down to business

In the tournament set-up, you fight a series of opponents in different locations. Every now and then, there are bonus stages where you simply welly away at, say, a car, in order to do as much damage as possible in the time allowed. Hey, if the police are going for a points for convictions system, why not points for vandalism as well? Maybe not ...

Beside the eight main characters you can choose to fight as, there are another three ready and waiting once you've beaten that lot. Get through them and you've reached the end of your game; your character retires to peace, happiness, domestic bliss – and the chance to bring up a whole new generation of talented muggers.

The other mode is a straight head-to-head (or headbutt to headbutt, take your pick) contest where you simply choose who to be, and who to bully. In both this and the tournament option, you can select single or two player games, set the difficulty level, and even handicap one player or the other in a two player game, which is a clever touch. The keys, sound and control options are also remarkably easy to define and set, and you can play without a timer if you so wish.

In action, Street Fighter II's greatest assets are the characters. These have been faithfully rendered from the coin-op, with all their unique special moves and close attacks. You tend to develop a loyalty to one

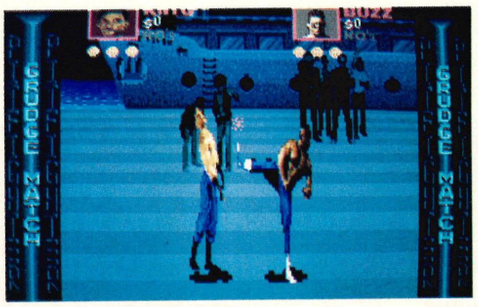


Below: Each character has his or her special moves and close attacks. Here Blanka makes like a Christmas tree.

Dramatis Personae ...



Alternatively...



Pit Fighter
Domark, £29.99
Rated 4, Issue 4
Not exactly a great advertisment for the genre, but Pit Fighter was still just about the best available on the PC for a long time. Cranky digitised graphics are offset by a gritty, American feel and the introduction of the 'kick the opponent in the nuts when he's down' move.



Mortal Kombat
Virgin, £TBA
Due out on the PC in November, Mortal Kombat is one of the most heavily hyped games of the year on the Sega and Nintendo consoles. What we do know from what we've seen so far is that it will be fast and furious, very violent, and definitely digitised. It also comes with added helpings of blood. Lots of it, in fact.

How many fire buttons can one game have?



The control system was always likely to be a problem with Street Fighter II. The coin-op had six fire buttons and a joystick, to allow for three different strengths of punches and kicks, used in conjunction with joystick movements.

The PC is somewhat ill-equipped for this kind of behaviour. There's no way I want to play spot the key with eight movement keys and six fire keys on a standard PC keyboard. So, the solution for the PC version of Street Fighter II is a choice of either one or two fire buttons linked with the direction of movement.

The two button control system is fine, enabling you to make all the moves without any difficulty. It takes a bit of getting used to if you've mis-spent your youth on the arcade version, like I have, but it's a perfectly adequate solution. The one button system was too restricting, though, and both were tricky when it came to making some of the special moves.

That's assuming, of course, that you have a joystick or gamepad. I've tried playing with the keys, but frankly I hated every minute of it, especially because you can't set the spacebar, Return, Shift or Ctrl keys as the fire buttons. Even if you can remember which keys to use, the special moves are all but impossible.

This also brings me back to the old PC problem with two player games. Having one player using the keys and one player on a joystick is totally one-sided. Street Fighter II is a good single player game. But it's a riot as a two player game. Unless you've got that rare luxury, a twin game port sound card, a twin joystick card or found a joystick splitter cable, you're stuck with a very uneven two player set-up. Through no fault of the game, I might add.

character in particular very quickly. Me, I've always fought as Guile. On the PC Review team, Cal goes for Dhalsim, Dean for Chun-Li. It's a game with a lot of personality, which is great.

Although the character movements are stylised animations, they are varied, fluid and they, well, 'feel' right. Compared with the digitised naffness and jerky movements of Domark's Pit Fighter, this is far more atmospheric combat, for all that it's a cartoon. Similarly, the animation looks streets ahead, excuse the pun, of Team 17's fast and furious Body Blows (see the review on page 110) where the figures sometimes move like they've got a large metal pin through each major joint.

Unfortunately, it's not always fast enough. I may be getting a bit slow in my old age, but I don't need this much help. Beat 'em ups are supposed to be lightning fast reaction games of cut and thrust; at times, Street Fighter II is more of a ballet. Leaping into the air, intent on dishing out a throat-ripping, bone-crushing, ninja death kick, or whatever, your opponent sails gracefully towards you. You wait, make a cup of tea, wander past the PC, stab the fire button and kick him right where it hurts before he's had a chance to complete the move.

That's exaggerating a bit, of course. Street Fighter 2 isn't unplayably slow or anything, nor does it drag too much on lower spec PCs. It's just a bit easy, that's all, and some of the more elaborate moves, particularly in the air, take too much time to execute. If you're any good at beat 'em ups at all, you'll be making mincemeat of the computer opposition on day one at the easier levels. Even the hardest setting probably won't be much of a challenge after a couple of weeks. This has to be worth considering before you part with your cash.

The sound is the biggest let down, though. Many of the effects that charaterised the original game are noticeably missing, like Chun-Li's manic giggle whenever she's successfully stomped someone into oblivion. The sounds of blows being struck are lousy, tinny little squeaks and 'boings' which don't do a great deal to conjure the atmosphere of a street punch up. And don't bother toggling the music on either, unless you have a thing for tinkly lift music.

Even so, of the beat 'em ups available on the PC, and having done a quick scan of what's coming up as well, this would still be the one I'd choose for my collection. It's an old game at heart, it's not perfect by a long shot, it needs to be faster, harder, and to sound a hell of a lot better. But, when I need a bit of mindless mayhem (quite often, these days) Street Fighter II has bundles more character and charisma than its rivals.

Watch out, though, if you're buying it for your kids (because they'll probably be tugging at your sleeve any minute now). Leaving aside the odd ideological problem, I doubt it'll keep them occupied for that long. They're already used to playing things far faster and meaner on consoles and in the arcades — these guys will be like cannon fodder to them.

■ John Bennett

TechSpec

The manual could be a whole lot more helpful than it is, but by and large there shouldn't be much in Street Fighter II that can go wrong. Occasionally the sound quality wanders a bit, though, and sometimes disappears altogether, which is more than a little irritating.

Disk requirements

High density	✓
Hard disk only	✓
Space taken on hard disk	3Mb

Graphic modes

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VGA	✓	SVGA	x		

Soundboards

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Control

Joystick	✓	Keyboard	✓	Mouse	x

Performance

Optimum speed	20MHz
Minimum memory	640K
Free RAM required	550K

Verdict
Good conversion of a classic game,. Maybe a bit long in the tooth, though

rating **6**

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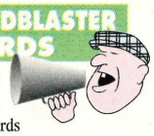

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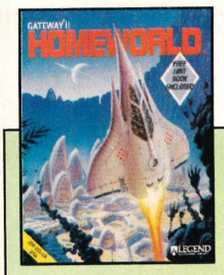


Title	**Gateway II: Home world**
Publisher	**Accolade**
Contact	**(081) 877 0880**
Price	**£34.99**

Text adventures? Surely a thing of the past? Not when Legend decides to bring Frederick Pohl's Heechee Saga to life

Gateway II: Homeworld

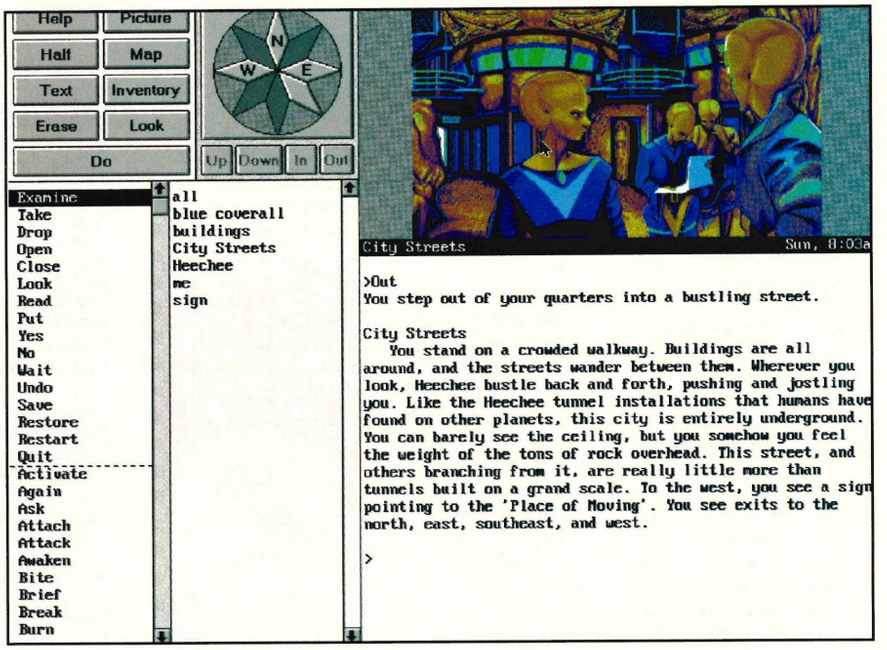
When you finally get to the Heechee homeworld, no-one seems that interested in talking to you. Somehow you have to find the bits of your ship that they've removed before you can catch up with the Assassins.

To sit down in front of a brand new text adventure comes as something of a culture shock these days, to say the least. Even the definitive text adventure, Zork, has bowed gracefully to the inevitable requirements for graphic and technological splendour, and the sequel boasts full-motion video with all the trimmings.

This leaves Legend as probably the last major producer of text input adventures, and it has had plenty of time to hone its text and graphics interface with the likes of Steve Meretszcy's Spellcasting series. Consequently, Gateway 2: Homeworld is a different kettle of fish from the simple text entry days of Zork, with direct text entry, menu- and mouse-driven verb or object selection, point and click windows, cut sequences and animations.

But the real reason Legend can carry on producing games like this is that in the adventure genre it does have several advantages over a standard graphic approach, because the combination of sophisticated text input and graphics adds flexibility, scope and depth to the game. Sure, it's not quite so pretty to look at, and you have to spend some time slugging it out with a keyboard. But you do get a different and more involved class of puzzle to solve than a simple point and click graphic adventure – something which is more usually limited to a basic five or six verbs.

But don't worry if the only adventures you've come across to date are the Day of the Tentacle-style simple point and click jobs, Gateway 2 isn't that offputting, and there are various ways to rearrange the interface to suit yourself, as well.



In fact, this game is most enjoyable when you've come up with an idea and are happily typing in sequences with complete disregard to the menus and the obvious listed options. The text parser is a good one, and manages to cope with some off-the-wall suggestions and still maintain a sense of humour. There's always the problem of mucking up the syntax and wasting time with duff typing, but by and large it coped with my ham-fisted keyboard instructions very, very well.

Is this really my apartment? Can't I afford anything better? What was I drinking last night? The answer to this and other world shattering questions will all be revealed shortly, but while we're at it, has anyone seen the aspirin?

Heechee? Heechee who?

The Homeworld story is based on the Heechee saga by sci fi author Frederick Pohl, and, to summarise the plot rather brutally, the Heechee once ruled the galaxy but vanished inexplicably thousands of years ago, leaving humans to find relics of their existence and technology. Now an earth cult plans to contact the Heechee's ancient enemy, the Assassins, and bring them back to purify the earth. Guess who's got to stop them ...

This takes you on a long and involved adventure divided into several sections and linked by animations and cut scenes. Gateway 2 is big, there's no denying that, and you can't really ask for more puzzles along the way – not if you're after quantity, anyway. In all, there are about 90 major puzzles or situations to extricate yourself from, and the clock is ticking away all the time you're playing. Mind you, I'm not convinced that the amount you can make out in the viewing window is always sufficient for a sci-fi game, whereas it's fine for the blunt 'fnah, fnah' visual humour of the Spellcasting series.

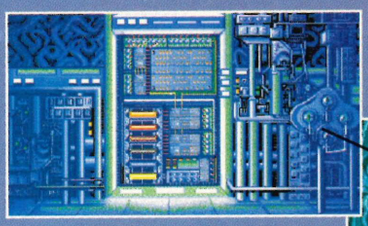
But using both detailed text and graphics, it brings a lot more variety to the problems you face, and the way that you can approach them. I admit it took me a while before I got out of the 'point 'n click' mentality and started to think things through more carefully.

It's really the level of detail and the amount of information you have to take in during the adventure that makes the problem-solving different.

In a standard graphic adventure, you simply 'use' Object A on Object B to get a result. In this game, you have to ensure that Object A is turned on, that the dial is on the right setting, that it's pointing at the right part of Object B, and that Object A isn't still in your back pocket all the while you're trying to do this. You'll need to have a good idea of what you're trying

Onboard the Heechee ship

Gateway 2 is split into several main sections, with plenty of room for adventuring in each of them. Here, you find yourself on the Heechee ship, and this is just a small section of it.



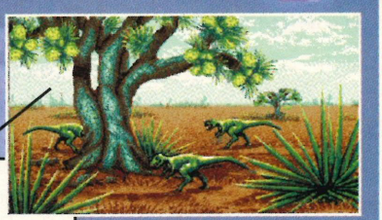
The computer data banks, left, need to be disabled. But to get to it you need to get past the blind Guardian Robot, below.

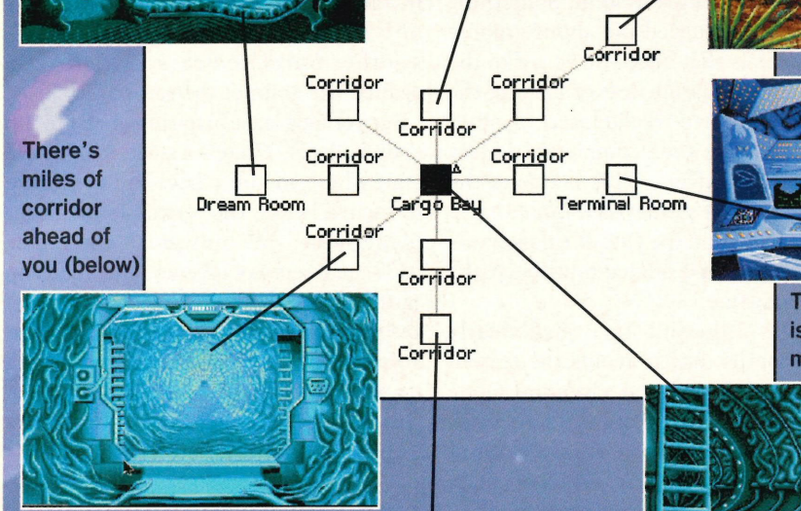


The best way to the computer data banks is through the various alien zoos (below). A game wouldn't be complete without dinosaurs, now would it?

The Dream Room (below) enables you to tune in to other people's thoughts.



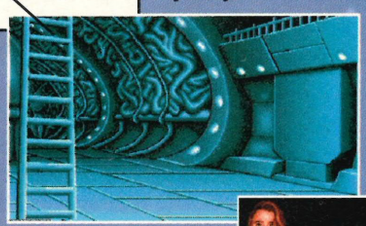




There's miles of corridor ahead of you (below)



The terminal room (above) is the key to solving the mystery.



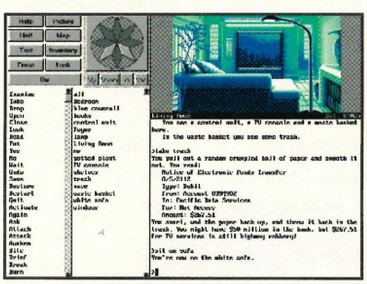


Safety, at least, on the bridge of your tiny probe ship (right).

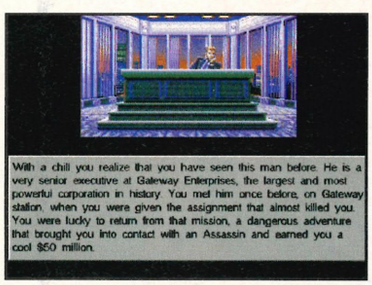


All roads lead to the cargo bay (above). Climb that ladder to find the obligatory damsel in distress.

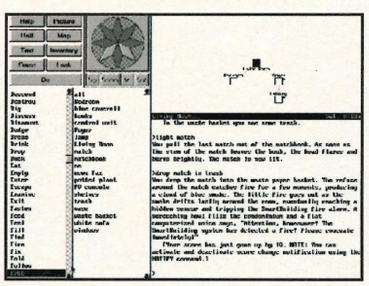
Two Minutes *of frantic typing*



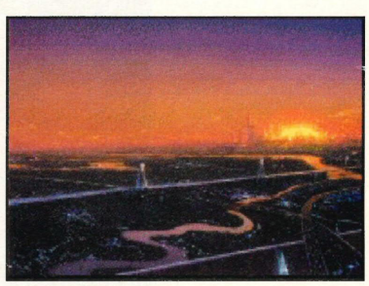
Home, sweet home. Now where did I stuff the TV remote? Oh, no. There's a psychotic cult trying to blow me up. And I haven't even had a chance to wash my hair yet ...



Meanwhile ... let me guess, another life-threatening mission in which I alone can save the world? No? You want me to give some lectures instead. Oh, OK, then.



A quick check of the map screen, but the exits are locked and there are terrorists on the starboard bow. I know, I'll overide the safety exits by setting fire to my bedroom. Seems fair.

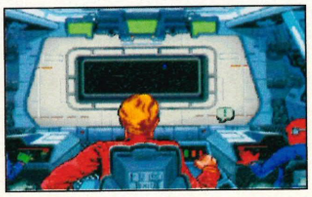


My impromptu vandalism worked a treat, and I had enough time to sneak out the back door. Next, a quick taxi ride to the launch pad, courtesy of a few handy cut-scenes.

Alternatively...



Spellcasting 301: Spring Break
Accolade, £34.99
Rated 6, Issue 14
Same company, same interface, but more rude. Spring Break puts you in a 'brains vs brawn' beach contest.



Space Quest V
Sierra On-Line, £39.99
Rated 7, Issue 19
About as daft as Spellcasting in the humour department, Space Quest V is a point and click graphic adventure about an intergalactic janitor.

to do, and do it properly – guesswork is simply not likely to be successful.

Another likeable feature of the game is that it has a scoring system. Something that's always bugged me about graphic adventures is that once you've got to the end there's no point in ever loading the game again. Two weeks later, or often less, and you've got a completely useless £45 box of software. This is one of the reasons why a game like LucasArts' Indiana Jones and the Fate of Atlantis was so successful, as it offered multiple paths to the endgame.

Gateway 2 doesn't have such clearly defined paths, but it avoids the trap of being a completely linear adventure. Quite often you can progress to the next stage of the game having avoided several mini-problems along the way, either by luck, judgement, or a combination of both.

Points vary for different problems, and for the way in which you solve them, which is little short of excellent. So the scoring system provides an incentive to replay a particular section, or even the whole game, for maximum points.

If you want to cheat and get the 'perfect' solution, there's always the hint book. This is neatly structured to provide first vague hints, then specific hints, and then the answers along with maps, diagrams and other useful info. I'd still rather not have had it, though. It's too tempting.

Not so hot

As with almost all games, there are some things that aren't so clever in Gateway 2. Some of these are minor, like the odd dull animation, a typo here and there, occasional lacklustre dialogue sequences, or the lack of a nice gory death sequence when you pop your clogs after a particularly dumb move (a boring 'start over' message just isn't the same).

More seriously, there are a couple of puzzles which aren't either well thought out or flexible enough. There's a sequence involving the scheduling of a lecture that only works when you've completed another unrelated task, which runs against the grain of the game.

But perhaps least inspiring of all are the sound effects. There's a stage right at the start where you only have so much time to escape before the terrorists break in. Sound wise, this bit's great; the music adds a real sense of urgency, and builds up nicely as the time runs out. Otherwise, the sound sort of burbles along, vaguely in keeping with the action, but hardly paying its way. Worst of all is the music which finishes some sections – Sale of the Century jingles I can do without.

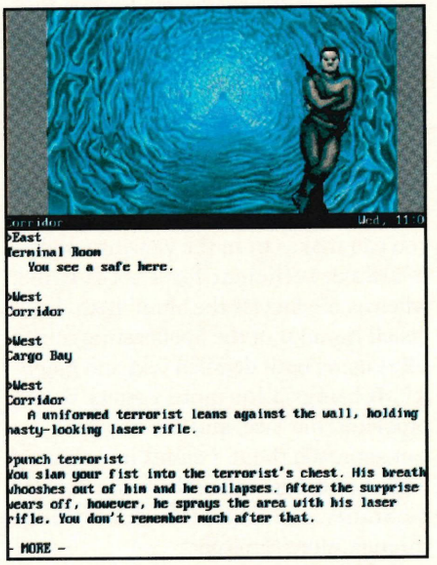
Last words

Reviewing Gateway 2 meant playing Gateway 2, not surprisingly, and as a game to play from start to finish it has been thoroughly enjoyable. It's not the best adventure I've ever played. It's not the toughest, either.

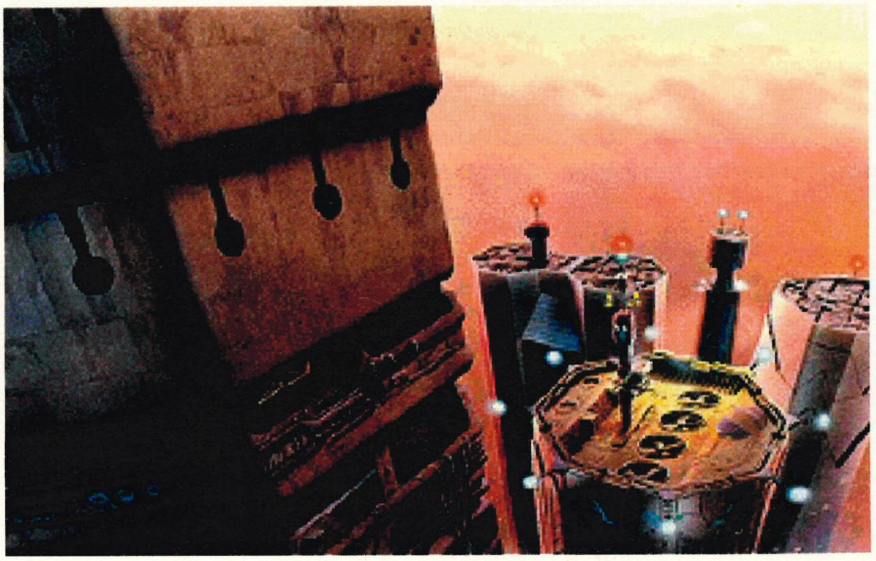
But it's still a good game for the money. There's plenty of it, it presents unusual challenges, it gets away from the somewhat stereotyped logic of many graphic adventures, and it tells a good, involved story. If you're an adventure fan looking for something a bit different, Gateway 2 is worth a look. If you've sworn never to touch your keyboard again while playing a game, forget it.

Oh, and I didn't use the hint book to get to the end, and anyone who says otherwise can talk to my lawyers.

■ John Bennett



Right: This really bugs me. I'm invisible. He's not. He can't see me. I can see him. So, by all that's holy, I should be on to a winner here. Not in this game, I'm not.



I've hardly started the game, and its cut-scene animation time already.

Techspec

Gateway 2: Homeworld really ought to provide a more complete installation routine. If a game needs changes to your set-up, it's nice if the game does it at installation, or gives you the option to make a boot disk automatically.

Disk requirements					
High density	✓				
Hard disk only	✓				
Space taken on hard disk	**9.5Mb**				
Graphic modes					
CGA	x	**EGA**	x	**Tandy**	x
VGA	✓	**SVGA**	✓		
Soundboards					
Ad Lib	✓	**Roland**	✓	**Sound Blaster**	✓
Control					
Joystick	x	**Keyboard**	✓	**Mouse**	✓
Performance					
Optimum speed	**20MHz**				
Minimum memory	**640K**				
Free RAM required	**575K**				

Verdict
Good all-round adventure, great puzzles but limited dialogue

rating **6**

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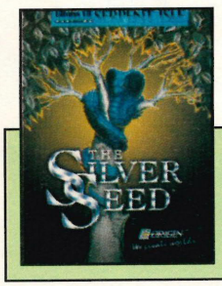
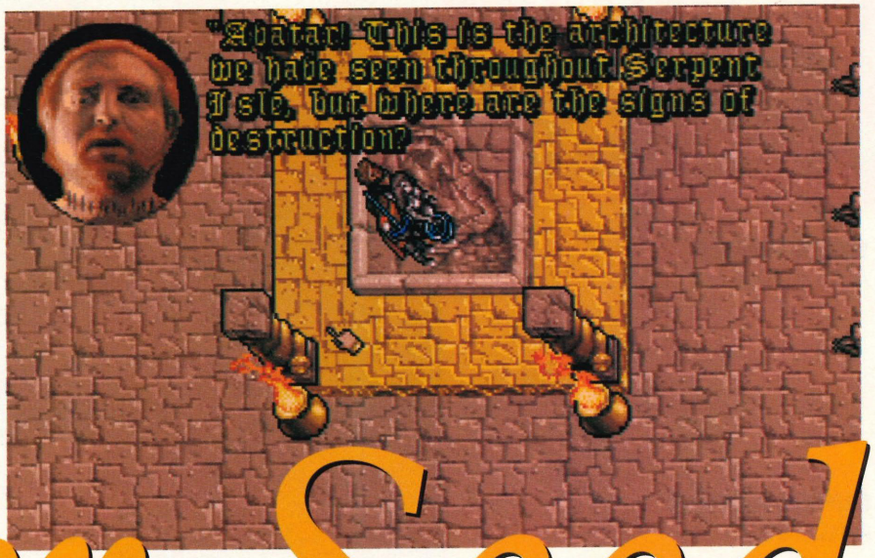


Title	**Silver Seed**
Publisher	**Origin/Electronic Arts**
Contact	**(0753) 549442**
Price	**£19.99**



Silver Seed

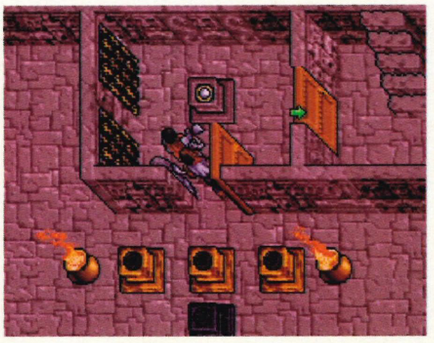
Ultima VII: Part 2, Serpent Isle is not exactly a bundle of laughs. Thanks to the evil Guardian's plans for world domination, this game contains more death and destruction than any RPG I've ever played. One minute you're helping your friendly Serpent Isle chums overcome the goblin hordes, the next you come back to find that they've all been slaughtered. It's more than enough to make anyone want to stick their head in a gas oven.

But worry not, for Origin has come up with a data disk which enables you to repair some of the damage. As the noble Avatar, that paragon of virtue, you must journey back into Serpent Isle's past to retrieve the sacred Silver Seed and then use it to heal the land. Hallelujah.

Silver Seed is to Serpent Isle what Forge of Virtue was to Ultima VII: an add-on. There really isn't any point in shelling out £20 for it if you've already finished Serpent Isle, but if, like me, you're still struggling, it might be worth putting it on your shopping list. What you actually get for your money is a few extra quests, a couple of bug fixes for Serpent Isle and some new hot keys which make the control system much easier to use. However, the most useful additions come in the form of six powerful magical items. I mean, never mind the seed, these things are worth the extra money on their own.

"Do you come here often?" Stumpy the Dragon tests your brains with a few riddles. Get them all right and you win a Teasmade. Honest.





Aha, the Silver Seed! Now all I have to do is kill the three dark monks, take the seed, plant it in the mystic glade and we'll live all happily ever after. Not.

As soon as you arrive at Seriss, the base for your new adventures, you'll be granted a magic key ring. After that, every key you add to your inventory attaches itself automatically to the ring, and, in addition, to unlock a door all you have to do is type K. This does away with all that scrabbling about in sacks for the right key.

The Helm of Light, in the maze, acts as a permanent light source, and the Ring of Shal enables you to cast spells without using magical reagents, so it won't be necessary to have all those torches, cloves of garlic and serpent scales cluttering up your inventory.

The remaining artefacts should boost your various attributes. Erimon's Axe gives you a stronger attack and the Gloves of Karas the Quick increase your dexterity. I won't tell you what the Belt of Strength does. I'll let you guess.

In terms of gameplay, Silver Seed is pretty much what you'd expect: running around dungeons, killing monsters and solving puzzles. If you like Ultima adventures, you'll like this, but then again, if you like Ultima adventures that much you've probably finished Serpent Isle anyway. Silver Seed doesn't add a great deal to the game in terms of size, and you can probably finish it in under a week (less if you read the clues contained in the manual). Even so, why would you want to add to a game that's already huge? As I said earlier, the main advantage of buying Silver Seed are the hot keys and the magic items, not the additional quests.

■ Cal Jones

Techspec

You must have Serpent Isle to run Silver Seed, since it is a data disk and not a game in itself. If you can run Serpent Isle, you shouldn't have any problems installing Silver Seed. Installation takes 4Mb disk space, but once in place Silver Seed takes up only 2Mb.

Disk requirements

High density	✓
Hard disk only	✓
Space taken on hard disk	**2Mb**

Graphic modes

CGA	✗	**EGA**	✗	**Tandy**	✓
VGA	✓	**SVGA**	✗		

Soundboards

Ad Lib	✓	**Roland**	✓	**Sound Blaster**	✓

Control

Joystick	✗	**Keyboard**	✓	**Mouse**	✓

Performance

Optimum speed	**33MHz**
Minimum memory	**640K**
Free RAM required	**550K**

Verdict
Takes the hassle out of Serpent Isle, but adds little to the game itself

rating **6**

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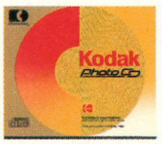

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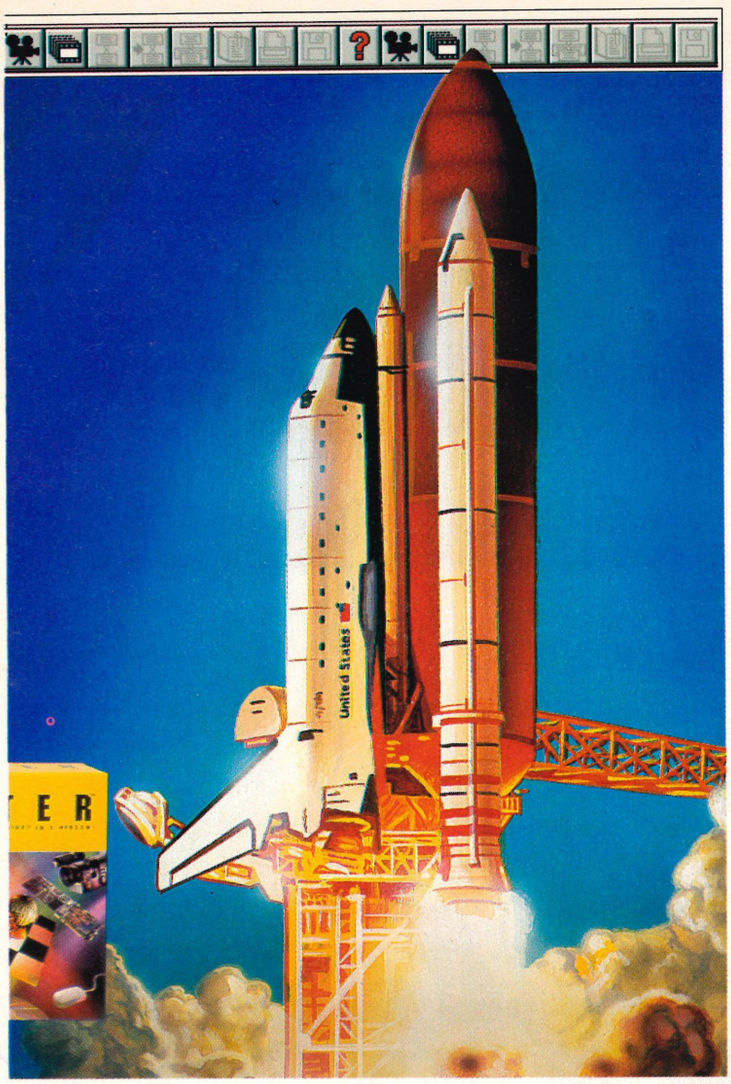

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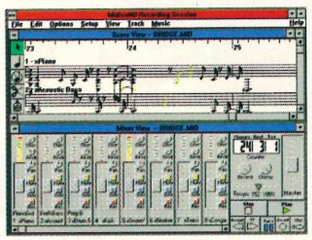

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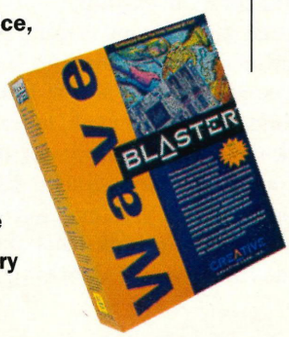

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MICROSOFT WINDOWS

Title	**Bram Stoker's Dracula**
Publisher	**Psygnosis**
Contact	**(051) 709 5755**
Price	**£39.99**



If I step on the pressure plate in front of me, that wooden wall will open up and let me through.



Bram Stoker's Dracula

Fetch the garlic and holy water, because Drac's back. Just remember, though, there's a lot at stake ...

"Wait just a minute," I thought on seeing Psygnosis's Dracula for the first time, "that looks awfully familiar." And then I twigged. "It is! It is! It's Wolfenstein with holy wafers!" Dracula is a sort of cross between a role-playing game and a shoot 'em up, and bears a striking resemblance to games like Wolfenstein and Ultima Underworld. It's a 3D first-person perspective game with texture-mapped backgrounds and multi-directional scrolling, and on first sight it all looks rather good.

Based on the film of Bram Stoker's novel, Dracula involves killing a lot of undead nasties and solving the odd puzzle before finally taking on the Count himself. Killing the monsters isn't quite as straightforward as it sounds. Although they can be dispatched with one or two well-placed silver bullets, unless you locate and destroy their graves, they'll keep on coming back. Placing a holy wafer on top of a grave will put it out of action, but the wafers are hard to come by and you always run the risk of running out.

Once you've neutralised all the graves on a level, Dracula will appear in one of his guises. You have to kill him in each of his different incarnations (wolf, bat, and so on) before you can win the game.

Despite its early promise, Dracula proved to be disappointing. It's too slow moving to be a shoot 'em up and doesn't have enough depth to be a role-playing game, but sits rather unhappily between the two, being neither one thing nor the other. It also lacks any real plot, which is a shame considering that it's based on such a good story, and after a few levels I began to lose interest. You could say that Wolfenstein 3D didn't have much of a plot either, but the guns were bigger, the action is more intense and on the whole I found it a lot more exciting.

The actual game engine is quite good, though by no means outstanding. It isn't quite as sophisticated as the Ultima Underworld engine; you can't, for example, walk up and down slopes or jump chasms, and the backgrounds pixellate quite badly when viewed close up. Basically, everything works that should work, but there really is nothing new about the technology and frankly I've seen it done better in older games.

When I visited Psygnosis's London office, I was told that Dracula would run on a fast 286 without too many problems. According to game producer Mike Simpson, it needs a 20MHz 386 to run well, which pleased me no end because that's exactly what I have sitting on my desk back at PC Review Towers. Sadly, that proved not to be the case in practice.

Chasing around a zombie-filled graveyard at night is not my idea of a good time, but if the heroes of all those books and films had spent their evenings tucked up in bed with a mug of Ovaltine, it wouldn't make for a very exciting story, would it?

Techspec

Dracula will work on a 286 but needs a fast 386 to run at anything like its best. It uses 545K with full sound, but if you are using the internal speaker, you may need as little as 450K free. MS-DOS 3.0 or higher is also required.

Disk requirements

High density	✓
Hard disk only	✓
Space taken on hard disk	1Mb

Graphic modes

CGA	x	EGA	x	Tandy	x
VGA	✓	SVGA	x		

Soundboards

Ad Lib	✓	Roland	✓	Sound Blaster	✓

Control

Joystick	x	Keyboard	✓	Mouse	✓

Performance

Optimum speed	33MHz
Minimum memory	640K
Free RAM required	545K

Verdict

An average game which could have been so much better

rating **5**

At that speed, Dracula is distinctly sluggish and I certainly wouldn't recommend it to anyone who owns anything less powerful than a 33MHz 386DX.

The interface is fairly straightforward, but not without its problems. Movement is controlled either by the cursor keys on the keyboard or by clicking the left mouse button. All other actions, such as firing the gun, picking up items or pressing switches, are handled by the right mouse button. The problem is that, unless you're in exactly the right place to pick something up or press a switch, you end up firing your gun by mistake and thus wasting your precious silver bullets. It looks as if the programming team have tried to keep things simple by not including icons, but the problem could have been avoided if the cursor had changed shape when placed over a usable item as opposed to a target.

The graphics themselves are fairly good, although the game has a very dark and gloomy setting. The soundtrack, which consists mainly of organ music, also has a tendency to get rather irritating after a while. Unfortunately, there's no option to turn off the music and just have the sound effects because you can either play with sound or without. This is a problem, because once you've turned off the sound it's difficult to tell when a zombie has come up behind you and is busily making a meal of your brain.

In retrospect, I'm not entirely sure who this game is meant to appeal to. If you're a big fan of Bram Stoker's Dracula, you might just want to take a look at it, but links with the film are tenuous, to say the least. You play the role of Jonathan Harker, husband of the bewitched Mina, and you have to kill Dracula in order to win her back. Having said that, there is really very little emphasis on the role-playing aspect of the game, and if you were to play it without any prior knowledge of the plot, it doesn't give you many clues as to what is going on. Consequently, I felt no sense of urgency at all when playing the game, and it might as well have been any old 3D arcade shoot 'em up.

All this simply goes to show that texture mapped graphics and multi-directional scrolling don't necessarily add up to an exciting game. The game engine has obvious potential and there's no reason why Psygnosis shouldn't be able to get a good game out of it, but unfortunately this isn't it. Whilst Dracula isn't terrible by any means and would probably keep you entertained for a couple of days or so, it just isn't very exciting. It attempts to appeal to everyone by including a bit of everything and ends up satisfying no-one because it doesn't just have enough depth. It has all the hallmarks of a game which has been rushed through development, and I'm sure it would have been a lot better if Psygnosis had been able to spend a bit more time on it.

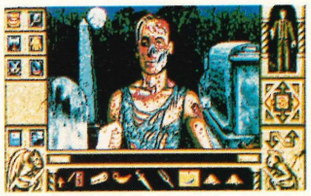
Still, it could have been worse. It could have been a platform game.

■ Cal Jones

Alternatively...



Wolfenstein 3D
ID. Transend, £24.00
Shareware version £5.00.
Reviewed Issue 12
It's fast, it's furious, it's extremely politically incorrect. Wolfenstein is probably the best 3D shoot 'em up around, and it won't break the bank, either. Gory and violent, it won't exactly appeal to sensitive types, but it's still a great way of working out your frustrations. Recommended.



Waxworks
Accolade, £34.99
Rated 7, Issue 15
An extremely gory 3D adventure from the makers of Elvira, Waxworks is definitely not for the squeamish. It contains four different worlds – ancient Egypt, Jack the Ripper's London, a zombie filled graveyard and a disused mine. Movement is square based rather than free, as in Dracula, and graphics are reasonable.



Yikes! A werewolf! These critters take a bit more killing than zombies and skeletons, so it's important to neutralise their graves before you run out of ammo.

Two Minutes *of a stakeout*



Suck silver, death breath! Early on, the undead can be killed with a single bullet, but the further you progress, the tougher they get. Once I've killed this chappie, I can destroy his grave and put an end to him for good.



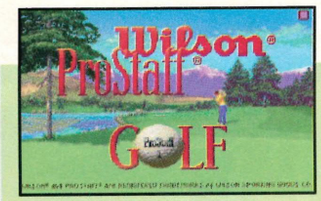
And here it is. Cosy, eh? Each grave produces one monster at a time, so that when you've killed one, another can rise to take his place. The only way to stop 'em coming is to place a holy wafer on the coffin.



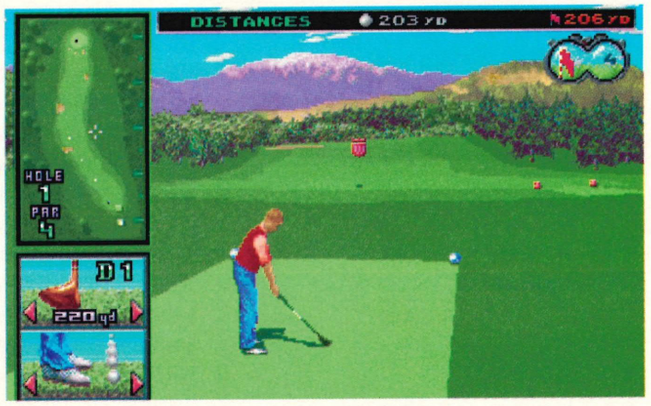
Just one wafer thin mint? The white stuff is the holy wafer I've thrown at the grave. These are in short supply, so you have to be sparing. More wafers can be found hidden in the game, but running out of them is a nightmare.



Right, I've overcome the rotter and now I've found a mysterious gate around the corner. It looks as though it leads to somewhere damp and cold, so I'm not too sure if I want to go down there. Ah hell, I'll do it anyway.



Title	**Wilson ProStaff Golf**
Publisher	**Gametek**
Contact	**(0753) 553 445**
Price	**£29.99**



Wilson *ProStaff Golf*

Do we really need another golf game? So many software developers these days are trying (or have tried) to approach the old golf game in a different way. Digitised graphics, Gourad shading, course flybys and even the odd innovative swing interface have made brief, comet-like appearances.

But in contrast, Wilson ProStaff Golf, one of the new low-price releases from new boys Gametek, sidesteps this race to reinvent the golf sim and keeps it all nice and simple instead.

If Wilson Golf has one principal strength it is this: it doesn't attempt to change anything radically. It retains all the features and options now regarded as 'standard' (club selection, multiple players, grid overlays, and so on), but concentrates on fun and gameplay rather than reams of stats and complicated control methods.

To start with, unlike Ocean's Golf (reviewed in Issue 22), the Gametek effort is attractive to look at. The screen redraws quickly and there is a wealth of individual and team competitions featuring match play, skins and an intriguingly titled bingo-bango-bongo option. Up to 10 players can compete and you're able to customise their handicaps, golfing stance and (a nod to the fashion conscious here) even the colour of their clothes.

When you eventually get down to the hitting part, things haven't changed too radically either. The strength of your shot is selected using the familiar power bar, and any fine tuning (fading, hooking, spin, etc) is achieved by stopping a moving red spot on a golf ball, or in other words, stopping it on the bottom of the ball for backspin. Thankfully, the control method is totally unlike the ridiculous bomb-like aiming of Ocean's golf and actually works quite well.

Unfortunately, when putting the system's design often makes it much harder to sink, say a short six inch putt, than a 27 yarder. You must click the mouse button pretty quick to avoid the power bar creeping too high resulting in your ball being whacked even further away from the hole. It's completely disheartening, frustrating and downright annoying.

So where Ocean's recent golf game was perhaps a wild hook shot into the water, Wilson ProStaff Golf is a short but thoroughly good-looking shot on to the fairway. So is it a Links beater? Well, sadly, no. There's really nothing staggeringly distinctive about Wilson Golf; OK, it looks good and it plays nicely, but ultimately there's nothing special about it. All in all it's 'just another golf game', an ordinary and highly average addition to the burgeoning golfing stable.

But despite the fact that ProStaff Golf doesn't make any sweeping format changes, take any generic risks or have much in the way of sound, its emphasis, as I have mentioned, is squarely on ease of use and fun. The game is simple to pick up and play, and although there is only one playable course, if you're looking for an cheap and gentle introduction to the world of digital golf, this is a good place to start. However, if you're looking for something with a little more depth and longevity, you'd best nudge your caddy, pack up your irons and head for Links 386 Pro instead.

■ Dean Evans

Wilson ProStaff Golf offers well-drawn, detailed golfing action on one single disk.

Putting can sometimes be a slight touch on the fiddly side, but it pays to persevere.



TechSpec *What's notable about Wilson Prostaff Golf is that it's so tiny you can even run it from your floppy disk. Now it's not often that happens these days.*

Disk requirements					
High density	✓				
Hard disk only	✗				
Space taken on hard disk	**1.2Mb**				
Graphic modes					
CGA	✗	**EGA**	✗	**Tandy**	✗
VGA	✓	**SVGA**	✗		
Soundboards					
Ad Lib	✓	**Roland**	✗	**Sound Blaster**	✓
Control					
Joystick	✗	**Keyboard**	✓	**Mouse**	✓
Performance					
Optimum speed	**25MHz 386**				
Minimum memory	**640K**				
Free RAM required	**512K**				

Verdict
Small and simple but less of a challenge than the bigger games

rating **6**

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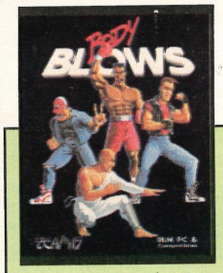
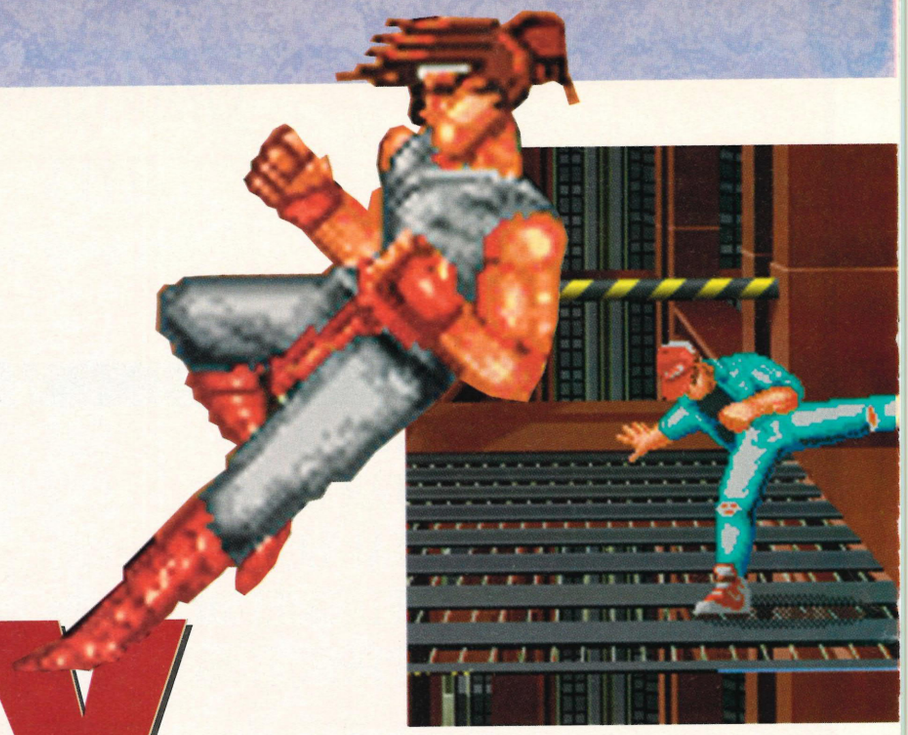


Title	**Body Blows**
Publisher	**Team 17**
Contact	**(0924) 291867**
Price	**£29.99**

Body Blows



As someone who was kicked out of the university Thai Boxing club for being too violent, it seemed somehow fitting that I should be the one to review Team 17's beat 'em up bonanza



Team 17's Body Blows is your standard beat 'em up: pick a character, learn the moves and then pit him against increasingly difficult opponents until he either wins or is knocked out of the contest. There are four different ways of getting your head kicked in: arcade mode gives you a choice of four characters; the single player game gives you a choice of 10; the two player game, where you go head to head with a friend, and the tournament, in which up to eight players take part against each other.

The main difference between the arcade and the single player game is that in arcade mode you get to see an end of game sequence once you've beaten Max, the ultimate bad guy. I ended up playing the single player game more than any other because, as luck would have it, none of the characters I favoured were included in the four available in arcade mode.

Each of the 10 characters has their own strengths, weaknesses and special moves. Kossak, for example, is big and powerful, and, although he's a bit lacking in the reflex department, he's perhaps the best

Two minutes? You'd be lucky to last that long against any of those tough Body Blows dudes. Playing the arcade game, I've chosen Dan 'cos he looks well 'ard. But watch out, appearances can be deceptive.



choice for beginners because he can take a lot of damage. Yitu, on the other hand, is impressively fast, but couldn't punch the skin of a bowl of custard.

Unfortunately, games like Body Blows can be a bit sexist. It's assumed that 99% of players will be male, so female characters are rarely included and, when they are, they're usually well-endowed and scantily-clad. Token girlie Maria fits into this category. She can't take much punishment, but then again, she's so blessed in the pectoral region that with all that jumping around, it's a wonder she doesn't knock herself out.

Still, never mind whether it's politically correct or not is it any good? This depends largely on your gaming experience. Body Blows is one of the best beat 'em ups I've seen on the PC, but then there isn't much to compare it with. Streetfighter II (reviewed page 92) is the only real competition, but as far as older games go, Body Blows wins hands down.

If, however, you're used to playing the arcade machines and consoles, you might find Body Blows a tad simple. This is no bad thing because it makes the game easy for a beginner to pick up, but it's something worth bearing in mind if you prefer your games a little more complex.

Like all beat 'em ups, Body Blows is at its best in two-player mode. Playing against the computer is one thing, but taking on a live opponent is quite another. After a single day's play I had trounced all but one of the computer-controlled characters, and I possess all the reflexes of an overweight hippo on Valium.

Human players are far less predictable. There's also much more at stake: it's infinitely more embarrassing to be beaten by a friend or colleague than by a machine.. But then again, if you win, it's nice to be able to sit there and gloat. Either way, you'll find that Body Blows is far more enjoyable with a partner.

One thing I liked about Body Blows was the control system. It's easiest played with a joystick, but if you don't have one or are one of those people who, for some perverse reason, prefers to use the keyboard (in which case, thank goodness, I thought I was the only one), you'll find using the keys is also quite manageable.

Of course, Body Blows isn't everyone's cup of tea. It's good fun in a mindless sort of way, but I lost interest rather quickly. Still, what better way to wind down after a frustrating day at the office? It's a far healthier way of expressing your aggression than kicking the cat, after all.

■ Cal Jones

Techspec **Body Blows requires at least a 286 running MS-DOS 3.0 or higher. Team 17 recommends allocating any EMS or XMS to your disk cache to reduce disk access time.**

Disk requirements			
	High density		
	Hard disk only		
	Space taken on hard disk	**1.7Mb**	
Graphic modes			
	CGA	**EGA**	**Tandy**
	VGA	**SVGA**	
Soundboards			
	Ad Lib	**Roland**	**Sound Blaster**
Control			
	Joystick	**Keyboard**	**Mouse**
Performance			
	Optimum speed	**16MHz**	
	Minimum memory	**640K**	
	Free RAM required	**580K**	

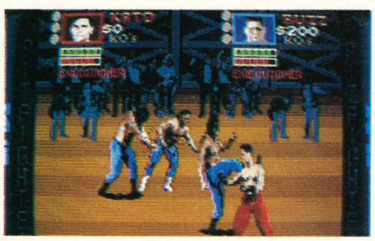
rating **5**

Verdict
The best beat'em up currently available on PC

Top left: Remember, boys and girls, don't try this at home. It's not big and it's not clever.

Far left: Double wipeout! Ninja and Yitsu have a head-on collision. Ouch.

Alternatively...



Pit Fighter
Tengen/Domark, £29.99
Rated 4, Issue 4
This ropey conversion of a ropey coin-op was probably the best beat 'em up on the PC in its day. It isn't sufficiently interesting to keep you busy for more than a few hours. Now that Body Blows is here, I can't see any real reason to buy Pit Fighter.

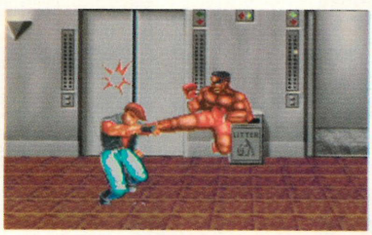


Double Dragon III – Rosetta Stone
Storm/The Sales Curve, £29.99
Rated 2, Issue 13
Instead of taking on baddies in a single location, this has you fighting your way through 10 short levels. The baddies are undemanding, so you should complete it in an hour. Sprites are badly drawn and animated; sound is unimpressive. Not recommended.

Two Minutes of low blows



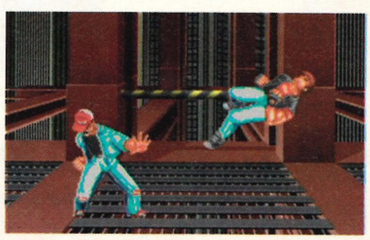
First up is Ninja, who is, funnily enough, a ninja. Apart from the usual kicks and punches, he also has an alarming ability to render himself invisible at the most inconvenient time. Still, I've got a few tricks of my own ...



Right, now I've stuffed Ninja, it's on to the second round of the contest. This time I'm taking on Junior, a boxer who was banned for hitting below the belt once too often. Queensberry rules? They're for sissies!



Yikes! This guy's a lot bigger than me and he doesn't look too happy. Kossak is one of the hardest characters in the game, because although he's slow, he's very, very hard. Run away! Run away! Shit. Too late.



What a close shave! Now I have to fight Nik (Dan's much hated brother) in a grudge match. Fighting characters with similar skills to your own is often a lot harder than taking on guys with other abilities. That's my excuse, anyway.

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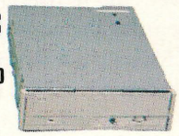

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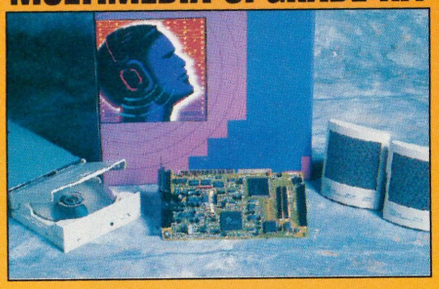

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Title	**Gearworks**
Publisher	**The Software Business**
Contact	**(0480) 496497**
Price	**£19.99**

Gearworks

If you haven't heard of The Software Business you won't have heard of Gearworks, an addictive puzzle game without guns, sex, platforms, or 3D polygon, texture-mapped graphics. Admittedly, at first glance, Gearworks looks about as interesting as a trainspotter's diary, but like Tetris, when you get down to playing it, even for a few minutes, it starts to grow on you.

The object of Gearworks is simply to convert 12 of the most famous monuments in the world (including the Sphinx and the leaning tower of Pisa) into huge time pieces. This remarkable feat of clockwork engineering is achieved by linking together a sequence of assorted gears or cogs. Each famed landmark has several sub-levels where the aim is simply to link up the rotating left-hand gear with the right-hand gear before the time runs out and your portable generator explodes.

If this sounds a tad too easy, believe you me Gearworks is far from being a breeze. Firstly, the cogs come in three different sizes (small, medium and large) and they don't necessarily link together with one another. Also, like Tetris, you have no control over what size or type of gear comes next. This ensures that when you desperately need a small cog, you can bet you'll be supplied with five huge and useless cogs instead.

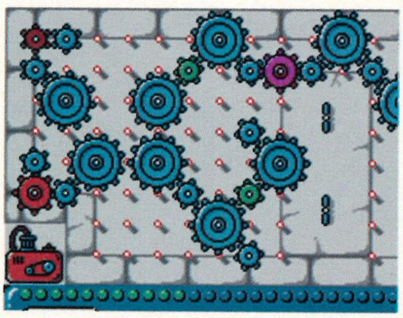
However, once a cog is placed, it can't be removed, the only way to get rid of it is to blow it up. Not only is time against you but two poffins, small gremlin-like creatures, wander about the screen trying to rust the cogs and break off the mounting pegs. To combat these, there are four specific functions: the gearbox (to show the size and colour of the current gear), the gunsight (to shoot the poffins), the bomb (to eliminate gears placed wrongly) and the oil can (to save oil gears rusted by the poffins).

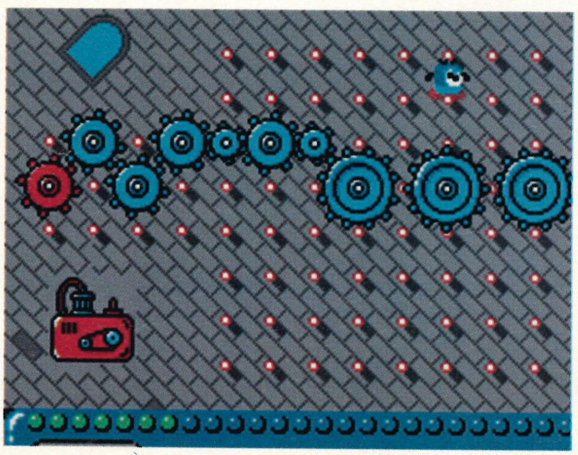
Linking bonus gears together (usually the green ones) will earn you coins which are used in a slot machine at the end of each sub-level. This bonus round enables you to gain more bombs, oil and points just by stopping the spinning reels on the item of your choice. In other words, if you desperately need five more bombs, clocking up three bomb icons on the slot machine achieves this.

On the sound side, Gearworks has the rather annoying habit of using your sound card for background music and PC speaker for the game effects. After the joys of a sound card, the PC speaker sound is awful. It's an uneasy mix – even if you haven't got a sound card I suggest you turn the sound off anyway.

All in all, Gearworks is a simple and quite addictive puzzle game. As you work through the levels, more starting gears are introduced, some gears turn clockwise only and obstacles appear between the pegs making linking the gears that bit harder. I don't know if it will keep you hooked forever, but for a mere £20 you can't go too far wrong. If you fancy whiling away a few hours, Gearworks should keep you more than happy.

■ Dean Evans





On the later levels it gets a bit harder. Here you must build your own sequence around the huge gap right in the middle of the screen.

The early screens are relatively simple, and once you get to know which gear combinations work best, it's much easier.

Techspec ***At less than 1Mb, Gearworks doesn't even need to be installed on to your hard disk. Be warned, the PC speaker effects are really bad and you should turn them off.***

Disk requirements

High density	✓
Hard disk only	✗
Space taken on hard disk	**810k**

Graphic modes

CGA	✗	**EGA**	✗	**Tandy**	✗
VGA	✓	**SVGA**	✗		

Soundboards

Ad Lib	✓	**Roland**	✗	**Sound Blaster**	✓

Control

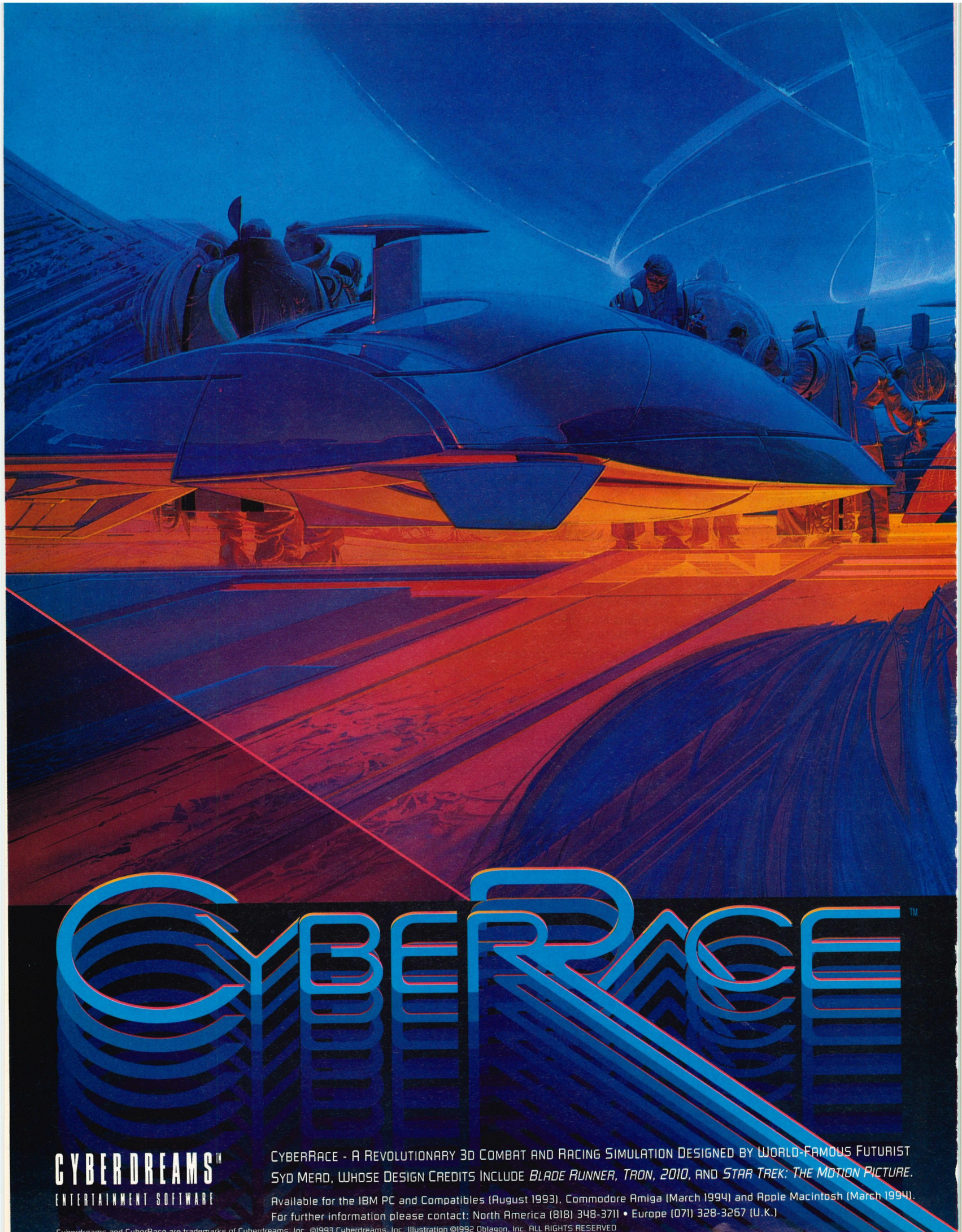
Joystick	✓	**Keyboard**	✓	**Mouse**	✗

Performance

Optimum speed	**286**
Minimum memory	**640K**
Free RAM required	**580K**

Verdict
An addictive puzzler, but for how long?

rating **6**



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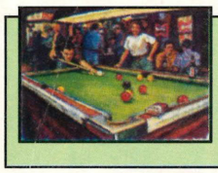
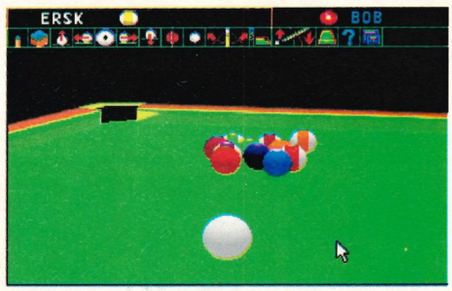


Title	**Archer Maclean's Pool**
Publisher	**Virgin Interactive**
Contact	**(081) 960 2255**
Price	**£34.99**



The shading on the balls is a bit more subtle with 256 colours, especially in close-up, but it doesn't make much discernible difference for the balls further away.

Archer Maclean's Pool

256 colour version

Pool finally hits the market, packaged with both a 16-colour version and a 256-colour version. Has it been worth the wait?

Archer Maclean's Pool has been finished for months, but Virgin wanted a 256-colour version to give the game the graphic polish of many of its peers. In this package, you get both the original EGA/VGA version and the new one.

Call me a Luddite if you like, but I'm not convinced the difference is startling. Maybe we've just seen too many shiny, cleverly lit, 3D-modelled screens recently, but basically, the 256-colour version still plays identically, at the same speed, with the same animation. If you elect to play UK 8-ball pool (the other variants on offer are US 8-ball and US 9-ball), you do at least now get to play spots against stripes, as opposed to reds against yellows, but that's about it.

The blocky graphics for the table itself haven't changed, and neither has the control matrix – it's just a new set of balls. The shading on the balls is now slightly more subtle, and yes, perhaps they really are just a bit less blocky when down at the far end of the table.

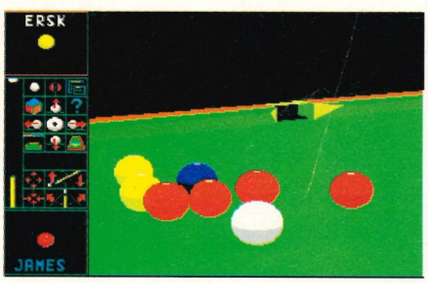
However, none of this moaning takes away from the fact that Archer Maclean's Pool is a cracking good game. It doesn't need to be in 256 colours, unless you were going to go the whole hog and render all the graphics properly, which would make it slower and more memory hungry, rather than a nippy little roadster.

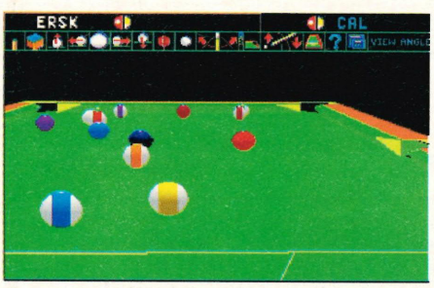
The program is itself a derivative of Jimmy White's Whirlwind Snooker, which remains the most accessible and playable of snooker programs. Pool uses the same engine and interface, so those familiar with the first game will pick up Pool's controls straightaway. The game plays quickly and the controls enable you to pinpoint angles and spin accurately – about the only downside is that the animation as the balls slow down and come to rest is a bit wobbly.

The packaging states that at least a 386-based PC is needed, and while this is true for the 256-colour version (an SX will do), you can install the game on a 286 and play the 16-colour version.

The game is worth playing in 256 colours if you have the choice – especially as the graphics aren't Pool's strongest point, but this option certainly doesn't turn it into a 'must-buy' if you've already decided that Pool isn't for you, or you're still perfectly happy with Jimmy White's Snooker. Hence the rating is unchanged from our original review in Issue 19.

■ Christina Erskine





Spot the difference – or is it in the stripes? Where 16-colour Pool gives you reds against yellows, the 256-colour version has seven authentically striped balls. The table, however, is still a series of plain-coloured blocks.

Techspec *The game requires a mouse to play, and the 256-colour version needs 1Mb of RAM configured as expanded – 386SXs and upwards only. The 16-colour EGA/VGA version can be played with just 640K on a 286. Use a sound card: the PC speaker effects are excruciating.*

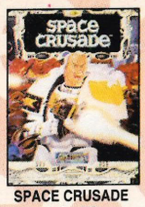
Disk requirements					
	High density	✓			
	Hard disk only	✓			
	Space taken on hard disk	1.6Mb			
Graphic modes					
	CGA	✗	EGA	✓	Tandy ✗
	VGA	✓	SVGA	✗	
Soundboards					
	Ad Lib	✓	Roland	✓	Sound Blaster ✗
Control					
	Joystick	✗	Keyboard	✗	Mouse ✓
Performance					
	Optimum speed	25MHz 386			
	Minimum memory	<550K			
	Free RAM required	<550K			

rating **8**

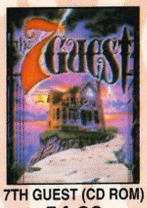
Verdict
256 colours doesn't make as big a difference as you might expect.



B17 FLYING FORT
17.49



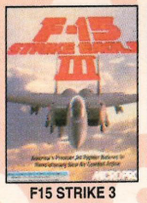
SPACE CRUSADE
14.49



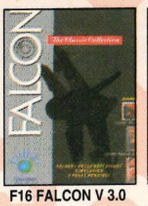
7TH GUEST (CD ROM)
54.99



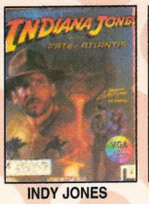
STUNT ISLAND
29.49



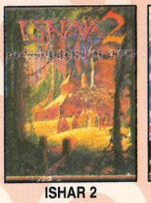
F15 STRIKE 3
17.49



F16 FALCON V 3.0
21.49



INDY JONES
16.49



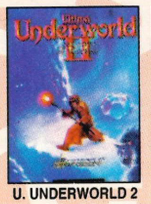
ISHAR 2
20.49



FIRST SAMURAI
17.49



MEGALOMANIA
17.49



U. UNDERWORLD 2
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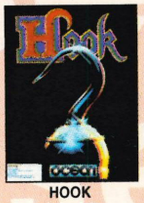
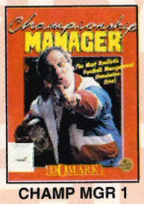


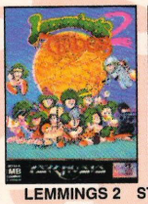
HOOK
11.49



CHAMP MGR 1
9.49



CHAMP MGR 93/94
20.49



LEMMINGS 2
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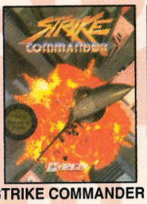
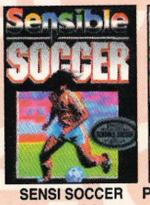


STRIKE COMMANDER
32.49



X WING
30.49



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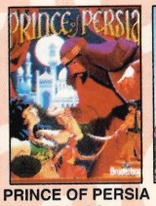

PRINCE OF PERSIA
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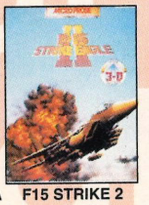
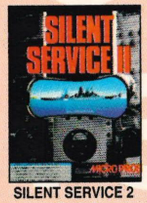


F15 STRIKE 2
14.49



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F1 GRAND PRIX
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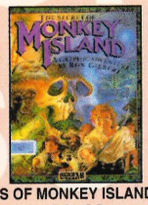

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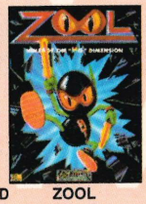
13.49



ZOOL
17.49



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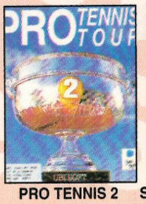

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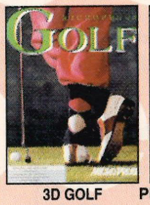

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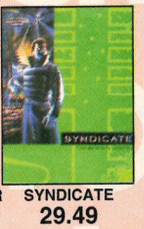
14.49



SYNDICATE
29.49

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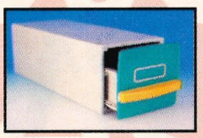

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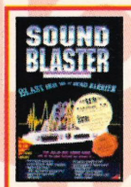

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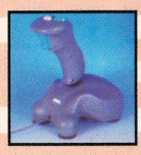

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PC review Readers' survey

Your interests and opinions are of prime importance at PC Review, and we need to know if we're catering properly for your PC leisure needs in the magazine. So, we'd be grateful if you could spare some time to fill in the following questionnaire. This year's survey is a bit longer than usual, but as usual, there are perks and incentives involved, with some top-notch Sierra software to give away to 100 survey entries picked at random. Send your filled-in questionnaires to PC Review Survey, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. We look forward to hearing from you.

About you

1. Age .....

2. Sex

Male ❒ Female ❒

3. Profession. Are you:

at school ❒
at college/university ❒
in full-time work ❒
in part-time work ❒
unemployed/resting ❒
retired ❒
other (please specify) .....

4. What is the specification of the PC you play games on?

Processor: (please specify).....
RAM size: .....
Hard disk size .....
Floppy disk(s): 3.5" ❒ 5.25" ❒ low density ❒ high density ❒
Graphics card: CGA ❒ EGA ❒ VGA ❒ SVGA ❒
other (please specify).....
Sound card: none ❒ Ad Lib ❒ Sound Blaster ❒ Roland ❒
other (please specify).....
Which version of DOS do you have? MS-DOS.....
DR-DOS ❒ also use Windows ❒

5. Do you have, or intend to buy in the 12 months, any of the following?

	Own	Intend
Mouse	❒	❒
Game card and joystick	❒	❒
CD-ROM drive	❒	❒
Modem	❒	❒
Printer: dot matrix	❒	❒
inkjet	❒	❒
laser	❒	❒

Other add-ons or peripherals (please specify).....

6. Where do you buy PC games from? (tick more than one if applicable)

High Street chain store ❒
PC 'superstore' ❒
Specialist local shop ❒
Mail order ❒

7. What type of PC games are you interested in? (tick all that apply)

Arcade-style games (shoot 'em ups, etc) ❒
Board and puzzle games (chess, Tetris, etc) ❒
Flight sims ❒
Graphic adventures (Tentacle, Monkey Island, etc) ❒
Platform games (Flashback, Zool, etc) ❒

Role-playing games (Ultima, AD&D, etc) ❒
Sports simulations (Sensible Soccer, Formula One, etc) ❒
Strategy games (Civilization, Populous, etc) ❒
War games (V for Victory, Fields of Glory, etc) ❒
Other (please specify).....

8. A bit more on types of games ...

Do you buy the following:	mainly	sometimes	occasionally	never
Full-price games	❒	❒	❒	❒
Budget games (ie, £20 or less)	❒	❒	❒	❒
Shareware/public domain titles	❒	❒	❒	❒

9. What are the major factor(s) which determine which games you buy?

Magazine reviews ❒
Advertisements ❒
Word of mouth ❒
Displays or demos in-store ❒
Magazine cover disks ❒
Brand name (eg, of programmer, publisher) ❒
Other (please specify).....

10. And how much do you spend on games per month?

£0-£30 ❒
£30-£60 ❒
Over £60 ❒

11. How many PC games do you currently own?

1-10 games ❒
11-20 games ❒
21-30 games ❒
Over 30 games ❒

12. What other home computers or consoles do you own, or have you owned in the past?

.....
.....
.....

13. Is games-playing the main use for your PC (be honest!)?

Yes ❒
No ❒

14. Even if you do mainly play games, what else do you use the PC for in your spare time?

a) Word processing ❒
b) Database ❒
c) Accounting ❒
d) DTP ❒
e) Music ❒
f) Graphics ❒
g) Programming ❒
h) Comms ❒
i) General admin ❒
j) Other (please specify) ❒

15. Would you be interested in seeing more articles in PC Review on the above subjects?

Yes ❒
No ❒
If yes, please specify which subjects (a-j, question 14).....

16. Which other computer magazines do you buy?

Computer Buyer ❒
Computer Shopper ❒
PC Answers ❒
PC Direct ❒
PC Format ❒
PC Home ❒
PC Magazine ❒
PC Plus ❒
PC Today ❒
PC User ❒
PC Zone ❒
Personal Computer World ❒
What PC (formerly What Micro) ❒
What Personal Computer ❒
Which Computer ❒
Other (please specify) .....

17. Which non-computer magazines do you buy (eg, Viz, Q, Car magazine, etc)?

.....

About PC Review

18. How often do you buy PC Review?

Subscribe ❒
Every month ❒
Usually ❒
Occasionally ❒
This is the first issue I've bought ❒

19. Where do you buy your copy of PC Review?

Subscribe (please tick again) ❒
Multiple outlet (eg, Smiths, Menzies) ❒
Supermarket ❒
Local newsagent on regular order ❒
Local newsagent ❒
Other (please specify).....

20. How many OTHER people read your copy of PC Review?

None ❒
One other ❒
Two others ❒
More than two others ❒

21. What is the main reason you buy PC Review? (if you want to tick more than one box, please indicate the main overriding reason)

Cover disks ❒
Cover picture/headlines ❒

SURVEY

Features	❒
Reviews coverage	❒
Tips (QED section)	❒
Other (please specify)	❒

22. What do you think would be the best cover disk policy?

No disks at all	❒
One low density disk	❒
One high density disk	❒
Two low density disks	❒
Two high density disks	❒

23. What do you think of the amount of coverage of the following subjects in PC Review?

	Too much	About right	Not enough
Cover disks	❒	❒	❒
News	❒	❒	❒
Comment and opinion articles	❒	❒	❒
Game previews	❒	❒	❒
Game reviews	❒	❒	❒
Hints and tips (QED section)	❒	❒	❒
Shareware reviews	❒	❒	❒
Hardware features on products	❒	❒	❒
Non-games software features	❒	❒	❒
PC tutorials	❒	❒	❒
General industry features (eg, company profiles, future PC developments)	❒	❒	❒
Technical articles	❒	❒	❒
Competitions	❒	❒	❒
Special offers (eg, Print Shop, disk demos)	❒	❒	❒
Readers' letters and queries	❒	❒	❒
Buyers' guides (hardware and games)	❒	❒	❒

And if you think all that hasn't covered what you want to say about the magazine, feel free to make suggestions or offer any other thoughts on a separate piece of paper!

Many thanks for your time and trouble. If you would like to be considered for the prize draw, please add your name and address below. One hundred surveys drawn at random will receive a special Sierra preview pack of demos, posters and games. Twenty of these will also receive a copy of either Betrayal at Krondor or Freddy Pharkas: Frontier Pharmacist.

Individual survey results are confidential and your name and address will be used only in the event of you winning a prize in the draw, *unless* you tick the box agreeing to take part in further research.

Name.....

Address.....

.....

.....

.....

❒ I would be interested in taking part in further questionnaires regarding PC Review. This does not mean that my details will be given out to third parties for mailing purposes.

Completed surveys should be sent to PC Review Survey, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

24. Last month, a copy of Interaction magazine was bundled with PC Review. What did you think of it, on a scale of one to five, where one is "terrible" and five "excellent"?

Terrible → Excellent

1 2 3 4 5

25. What did you think of the reviews in Interaction (on the same 1-5 scale)

Terrible → Excellent

1 2 3 4 5

26. Did you feel that the reviews in Interaction gave you a greater insight into the games than you normally see in mainstream media?

Yes	❒
No	❒
Don't know	❒

27. What did you think of the other articles in Interaction?

Terrible → Excellent

1 2 3 4 5

28. What did you think of the layout and design in Interaction?

Terrible → Excellent

1 2 3 4 5

29. Would you have preferred more of the following in Interaction?

Previews	Yes ❒	No ❒	Don't know ❒
Reviews	Yes ❒	No ❒	Don't know ❒
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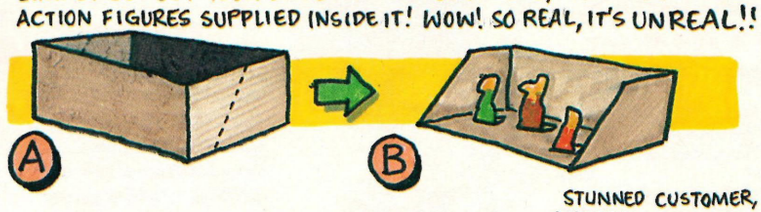

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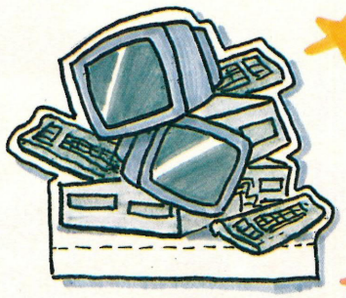

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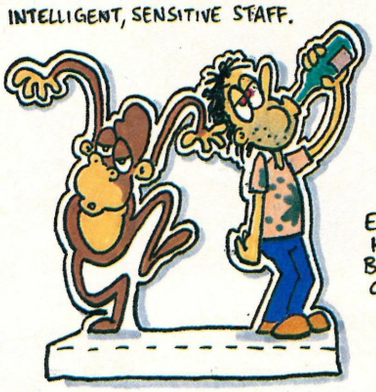

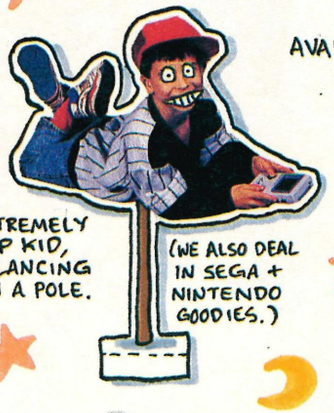

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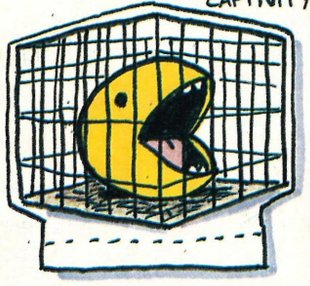

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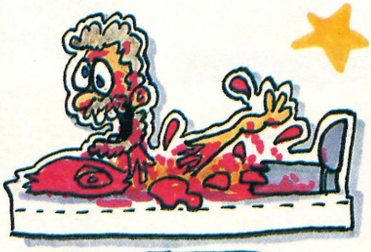



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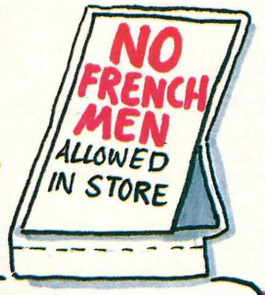

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Flight Simulator 5

The grandfather of PC flight simulators gets a fresh coat of paint

Flight Simulator 5 arrived on our doorstep literally as we were going to press. There wasn't the time to do it justice with a full review, but to miss out on a game with this sort of following would be tragic, especially as it will have been in the shops for a couple of weeks by the time you read this. So what this amounts to is a 'first look' at what it has to offer the avid PC flyer.



And 'look' is the operative word. Flight Simulator has never been one to boast impressive graphics in the past. But the majority of the work in FS5 seems to have gone into bringing the graphics up to scratch with, if not better than, the latest hi-tech flight sims. I'm sure this will have some die-hard fans throwing their arms up in horror; "Flight Simulator's not about pretty pictures! It's about flying."

Well, FS5 *is* still about flying first and foremost. But the digitised graphics, shading and texture-mapping, in the cockpit, on the planes and the landscape are a million times better than the cronky 16-colour blocks in FS4. The level of detail of the landscaping of buildings and vehicles in particular is exceptional. Rather than spoil it, this can only add to the atmosphere of simulated commercial flying.

Mind you, the claims of 'photo-realistic' scenery are just marketing baloney. Okay, they've been digitised from satellite pictures and all that, to complete the world mapping, but that doesn't make them photo-realistic. If this was the best I got from a photograph I'd shoot the chemist or throw away the camera.

Now comes the catch. Previous versions have been only too happy to run on the lowliest of PCs. Not so with FS5, which needs a 386 PC. That's to be expected these days, but when you turn on all that graphic detail the game drags massively – even on a fast 486 – which is a shame, because unless you compromise with the settings you won't have a playable sim.

I also came up against some bizarre messages on occasion; like 'crash' when I baled out in the sea, and 'splash' when I wiped out on a concrete runway. Weird.

I also think that Microsoft could have tidied up the interface. I don't mean the flight controls, which are in a class of their own for realism, just the poor layout of options and menus,and the clumsy windowing system. External views could be easier to use and more flexible.

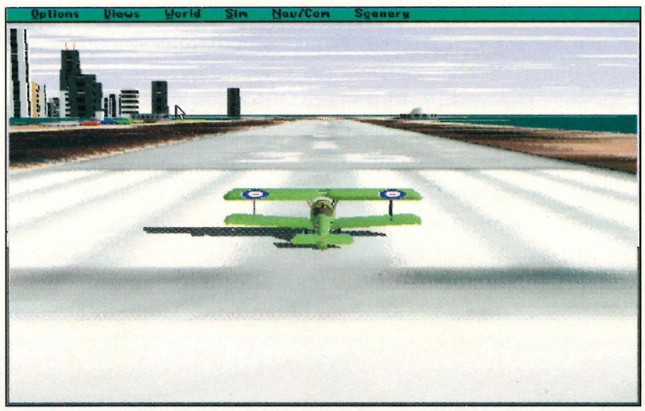
But Flight Simulator has always been the only PC flight simulation with sufficient complexity and realism to be considered as a training aid to real flying.

This hasn't been lost in FS5. There are four planes to start with; a Cessna, Learjet, sailplane and a Sopwith Camel, with accurately modelled cockpits, air traffic control, navigation and communication features. Improvements have been made to the environmental modelling: with time of day (day and night transitions), season, winds, clouds and turbulence options.

New training scenarios, flight options and in-flight instruction have been added for the benefit of newcomers, as well as a new 'Land Me' auto-landing option for lazy pilots. Even so it's still going to be a hefty challenge for novice flyers.

I've bunny-hopped around Paris, buzzed an aircraft carrier and caused aerial mayhem over Munich, but until I've logged a hell of a load more flight time I wouldn't dream of trying to give a rating to FS5, or saying how accurate it all is. But it managed it before, and it's a good bet that they've done it again.

■ John Bennett





Left: Night landing in a Learjet, thunderstorms and all.
Below: A Sopwith Camel ready for take-off.
Bottom: At the controls of a Cessna, with the map view on the right.

Title	**Flight Simulator 5**
Publisher	**Microsoft**
Contact	**(0734) 270001**
Price	**£34.99**

CD-ROM reviews

CD-ROM drives are getting cheaper, and more and more games are being released on CD, often as 'enhanced' versions of their floppy disk counterparts. Here, the latest CD-ROM releases are put through their paces

Title	**Walkthroughs and Flybys**
Publisher	**Pitman Publishing**
Contact	**(071) 379 7383**
Price	**£26.95**

Walkthroughs and Flybys

This extraordinary program comes in the form of a paperback book with a CD attached to the back cover. The book is an informative guide to the CD, which contains a massive 538Mb of material. What kind of material? That's a tricky one to answer. The author, Phil Shatz, describes it as a collection of PC-based art, "a full motion photo album to inspire your imagination". It certainly inspired mine.

Walkthroughs and Flybys is an original and fascinating concept. It's a kind of sampler, or graphics anthology. Put simply, all Shatz has done is to ask an international assortment of artists for some CD demos, but the quality of the offerings is never less than good and is frequently stunning.

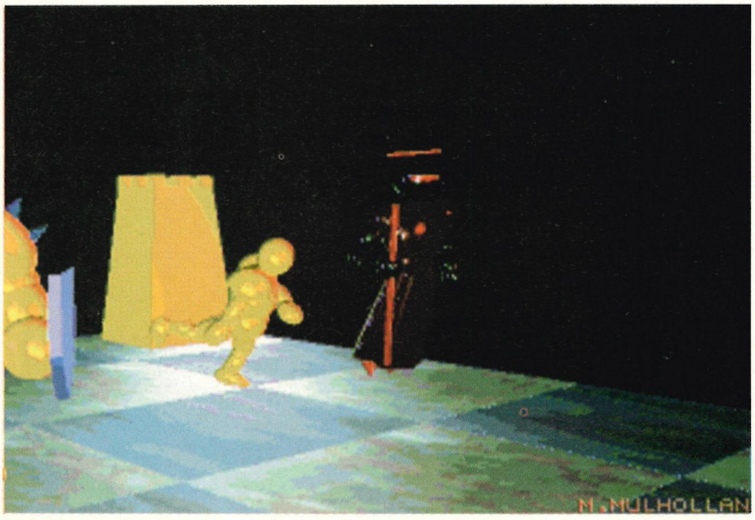
The images are also consistently more interesting and better realised than the kind of fare we're used to seeing in most computer games, a state of affairs which begs a few questions. I ran it on an ordinary 386SX at 25MHz and in almost every case the animations were wonderfully smooth. They were also wonderfully watchable. I never thought I'd find myself just staring passively at a series of unconnected images on my screen for half an hour and wanting them to go on and on. But I did.

In the midst of such riches it's almost invidious to pick out examples, but if I had to select a personal favourite it would be Michael Mulholland's Killer Chess, which is considerably more atmospheric than anything Messrs Kasparov and Short came up with recently. It's also considerably better than any other animated chess program I've seen, though of course you can only watch, you can't play.

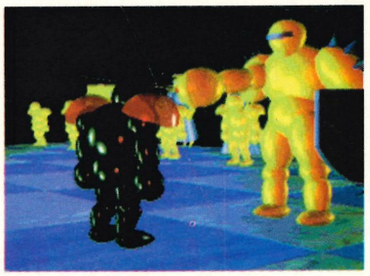
Apparently Michael is an A-level student hoping to pursue a career in graphic design. If this is typical of his work, I shouldn't imagine he'll be standing in the unemployment queue for long.

The point of the paperback is so that you can mug up on the various programs and programmers. In effect it's a manual, but unlike other manuals it's also a very good read, and it's full of fascinating insights. I have to confess that when I first picked up Walkthroughs and Flybys I was dubious about the concept, but I've been completely converted.

I would have to recommend it not only to aspiring graphic designers but also to anyone interested in the future development of computer entertainment: if these images are are as indicative of the potential of CD-Rom as I think they are, then interesting times certainly lie ahead for all of us.



A shot from Michael Mulholland's riveting Killer Chess program: the white pawn is literally about to kick the black bishop off the board. Individual pieces 'kill' each other in a variety of entertaining fashions — it's particularly worth waiting for the electrocution of the king.



It strikes me that this program could have one other, unadvertised use. It's far better than any commercial screen saver, and is also cheaper than many. The only drawback is that you might end up watching it so much you'll wear the screen out anyway. Nonetheless, I recommend it highly.

Techspec *Requires a 386 or better and a sound card; takes up only 80K of disk space.*

Graphic modes

VGA ✓ ***SVGA*** ×

Soundboards

Ad Lib ✓ ***Roland*** ✓ ***Sound Blaster*** ✓

Control

Joystick ✓ ***Keyboard*** ✓ ***Mouse*** ✓

Performance

Optimum speed	***33MHz***
Minimum memory	***640K***
Free RAM required	***599K***

Verdict
Unusual and fascinating

rating **8**

Title	**Microsoft Golf for Windows**
Publisher	**Microsoft**
Contact	**(0734) 270001**
Price	**Under £35.00 (street price)**

Microsoft Golf for Windows

Call me a hardened cynic if you will, but CD-ROM packages which come blatantly daubed with slogans like "Multimedia Edition!" tend to make me narrow my eyes and sniff suspiciously for rodents. This is one of them, and it's a pity.

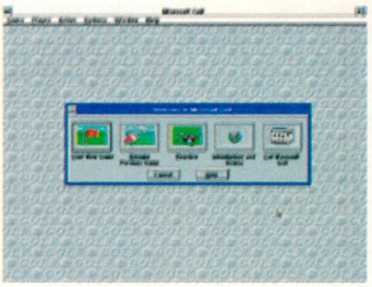
It's a pity, because Links is my out and out, all-time favourite golf game and currently I'm thoroughly enjoying playing the Torrey Pines course on this fully compatible Microsoft version. But as for all this multimedia baloney, please do me a favour ...

If you should need to ask for a tip then you will get a digitised video of an expert giving you his ha'penworth opinion, but a snatch of natter from a talking head is hardly revolutionary now, is it?

In fact, it's a bit of a mystery to me exactly where all the 97Mb of material apparently on this CD-ROM is going, and you still need to load up about 5Mb-worth on to your hard disk before you can start playing the game. This is almost as much as the original floppy disk version took up in the first place. Why bother, then, with the CD-ROM versions at all?

It's true, of course, that this game is an obvious natural for the Windows environment and subsequently you will be able to run your other Links courses through it.

It's equally true that the game is a fine one, but the leap on to the multimedia bandwagon has been poorly judged, unfortunately. This is shovelware, and the CD-ROM version tells us nothing we didn't know already. I'm disappointed.



Techspec *Minimum 386SX; 4MB RAM; 5MB hard disk space; VGA/SVGA; Windows 3.1 or later; sound card.*

Graphic modes

VGA ✓ SVGA x

Soundboards

Ad Lib ✓ Roland ✓ Sound Blaster ✓

Control

Joystick ✓ Keyboard ✓ Mouse ✓

Performance

Optimum speed	*33MHz*
Minimum memory	*640K*
Free RAM required	*599K*

Verdict Not worth upgrading

rating **5**





A spectacular view of the Red Spot of Jupiter, one of the many hundreds of authentic deep-space photographs included in the program. You should also have a look at Mars Explorer, a veritable symphony in rouge.

Title	**Distant suns for Windows**
Publisher	**Emerald Creative Technology**
Contact	**(081) 715 8866**
Price	**Under £109.95**

Distant Suns for Windows

Distant Suns is a thoroughly detailed and highly impressive desktop planetarium. The vast map of the night sky can be viewed not simply from any location on earth but also from a variety of moments in time (as they say on Match of the Day) — the database contains all the relevant data from 4,713BC to 10,000AD inclusive. The program also includes over 1,500 full-screen images, ranging from photographs of the planets to shots of spacecraft and astronauts in action.

In truth, many of these pictures are a little on the fuzzy side, and once you've seen one indistinct black and white rendition of Neptune you've probably seen them all, but the comprehensiveness of the photo library helps to give the program an encyclopaedic feel. It's a genuinely educational, fascinating, comprehensive guide to the solar system and universe. And you shouldn't just take my word for it: Arthur C Clarke confesses to being "really boggled" by it all.

Unfortunately the cosmic scale of the undertaking also extends to the price. Obviously a tremendous amount of work has gone into it, and it's one of those programs which really does exploit the massive storage potential of CD-ROM, but at £109.95 it isn't going to attract much casual passing trade. This is a specialist tool which demands to be studied seriously. The same company has also produced a Mars Explorer, an equally detailed graphic essay on the subject of the red planet composed with the aid of photographs from the Viking missions. Aspiring Patrick Moores may consider it more of a snip at £69.95.

Techspec *Requires 386 or better; VGA or SVGA graphics; 2Mb RAM; Windows 3.1; approx. 3Mb hard disk space. Manufacturers also recommend a maths co-processor.*

Graphic modes

VGA ✓ SVGA x

Soundboards

Ad Lib ✓ Roland ✓ Sound Blaster ✓

Control

Joystick ✓ Keyboard ✓ Mouse ✓

Performance

Optimum speed	*33MHz*
Minimum memory	*640K*
Free RAM required	*599K*

Verdict Serious and impressive

rating **7**

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GET THE GIRL! (1) Adult role playing game.
WINFISH (1 x 1.44) Multimedia fishing simulator.
MASTER OF THE MAZE (1) 3D maze game.
PRAIRIE DOG HUNT (1) Blast the Prairie Dogs.
RUNNER (1) Animated levels game.
SIEGE! (1) Capture enemy territory.
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SPIN 'N WIN (1) Animated Wheel of Fortune.
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LEGEND/MYRA (1.44Mb)
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X-WING MANAGER (1)
X-WING MISS. DESIGN (1)
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ANCIENTS (1)
GALACTIX (2)
1993TRIS (1)
STARFIRE (1)
DUKE NUKEM (1)
KEEN DREAMS (1)
HOOSIER CITY (1)
PAGANITZU (1)
BOLOBALL (1)
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BUDGET reviews



Secret of Monkey Island
Kixx XL
£15.99

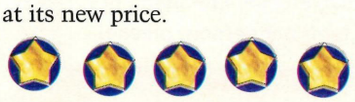
Back in 1990, Ron Gilbert's tale of young Guybrush Threepwood and his quest to become a pirate in the Caribbean started the whole Monkey Island ball rolling.

For ease of play, for a cracking good story, for a deliciously absurd sense of humour, Monkey Island had it all in spades.

The game uses LucasArts' SCUMM interface: at the foot of the screen are the options for action you can take at each screen. Simply click on these to see your wishes carried out. The rest of the screen is given over to the graphics and dialogue — character interaction is all-important in Monkey Island. The illustrations are always atmospheric and you can see where the distinctive crooked houses of Day of the Tentacle started out. Indeed, you know you're in for a treat from the minute the calypso-style music starts and the credits roll.

Monkey Island's strengths are the story, which is engrossing and always entertaining, and the way in which you are guided towards the right places to go and the appropriate things to do, without sudden death being imminent if you make just one wrong move.

If you're new to this sort of thing, or discovered LucasArts' games around the time of the sequel, LeChuck's Revenge, this is a must at its new price.



Grand Prix Circuit
Hit Squad
£12.99

GPC was the first Formula One simulation, designed and developed by the same team as produced the Test Drive series. You can choose from three cars (Ferrari, Renault for Williams or a Honda for Maclaren) and the complement of tracks from Silverstone and Monza to Detroit and Monaco. For each track there is a qualifying lap before the race proper with other cars.

You can play the game at five levels. In beginner mode, you have automatic gear shift and you won't damage the car if you come off the track. From level three on, you need to change gear manually and you can blow your engine if you put too much strain on it. At level five, the opponents on the race track are nothing short of ferocious. Other parameters aside, the car is simple to control via acceleration, braking and directional moves.

All that's really awry with GPC is the polish. The game is over four years old and it shows. Graphics are CGA or EGA, sound is speaker only, and Formula One Grand Prix has lavished so much detail on this style of game that this can't hope to compete. However, if your machine isn't up to F1GP, or you don't fancy myriad options for refining the mechanics of your car, but have a yen for whizzing round approximations of Formula One tracks, this is worth a look.







Hard Drivin' II
Hit Squad
£12.99

Hard Drivin' was a great racing game in its day. Unfortunately, that day was nearly four years ago and the PC version was never its shining hour anyway. In Hard Drivin' II, a course designer was incorporated so that you can create your own death-defying race tracks to zoom around, and that, plus different tracks in the main game, was pretty well that.

This is a racing game, not a simulation. The four pre-built tracks make no claims to being reproductions of anywhere, the cars aren't authentically based on any particular model. Just press on the gas pedal, stay on the road and negotiate the obstacles.

It's in EGA graphics throughout, which means the action replays of the crashes on the plain green background look about as terrifying as watching a snooker ball approach the corner pocket, and there's no sound card support, so the PC speaker just grinds through its stock car/jet engine growl.

Compared with other games currently on the market — Formula One Grand Prix, of course, or Car and Driver, or even Indy 500, which is just as old as this — Hard Drivin' is nowhere near its competition. The thrills are less believable, the detail is sparse, while the graphics, well, the graphics are just old.



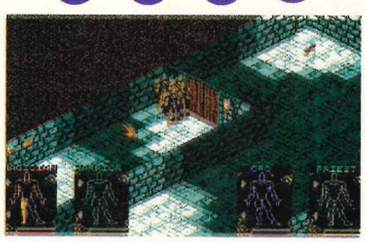
Shadowlands
Hit Squad
£12.99

Just over a year old, Shadowlands' major feature is the 'photoscaped' graphic style: an isometric view of the cavernous scenery with light sourcing, so your party moves through light and shade in an atmospheric manner. The need for light at certain points also plays a major part in solving some puzzles.

Having created your party of characters, you can send them adventuring on their own or stick together, which adds considerably to the flexibility of game play.

Although it has all the staple role-playing ingredients, such as varying skills for each character, combat and its own magic system, this probably has more in common with other isometric puzzle adventures. It certainly doesn't trouble the likes of Underworld for depth and complexity but it's well worth the re-release and is refreshingly different o many RPGs on the market.





Budget ratings

***** Essential purchase

**** Well worth adding to your collection

*** OK if this is your kind of game

** Not really worth it even at budget price

* Avoid

PC review recommended

The best games around, the best-selling games around, a light-hearted look at games 'jargon', and your chance to win this month's Recommended game. Games billed as PC Review Recommended are few and far between, because they have to be, in our opinion, outstanding. A PC Review Recommended award is a guarantee of excellence

RECOMMENDS RECOMMENDS RECOMMENDS RECOMMENDS



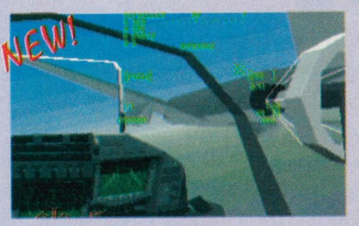
Day of the Tentacle
Lucasarts/US Gold, £42.99
If you're feeling a bit glum, cheer yourself up with the funniest adventure since Monkey Island. The graphics and sound are outstanding, if quirky, and the puzzles will have you tearing your hair out. Great fun.



Syndicate
Bullfrog/Electronic Arts, £44.99
A successful combination of action and strategy in which you head a huge corporation bent on world domination. Set in the near future, it's extremely atmospheric, absorbing and fun to boot.



Tornado
Digital Integration, £44.99
Tornado shows just what can and should be done with the flight sim. Ignoring flashy graphics for variety and playability, Tornado ranks up there with Falcon 3.0 as one of the best tech-heavy sims on the market today.



TFX
DID/Ocean, £39.99
A very versatile and playable flight sim with separate gaming modes to cater for the more technically minded as well as those who simply want to shoot the enemy out of the sky. Graphically, it's also a cut above the rest.

PC Review Recommended

Your chance to win a copy of TFX: recommended this month

Only one game, TFX, has been awarded a Recommended accolade this month. Answer the following question correctly, and send your entry to PC Review Recommended, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU, to reach us by November 7, 1993, and your answer will be placed in the prize draw for a copy of TFX.

❑ TFX

Q: Name the three planes which you can fly in the game TFX.

A: .....

.....

Name .....

Address .....

.....

.....

WIN!

PC Review Recommended games

Not only do you have the advantage of knowing that these are currently the best games in their class, but we give you the chance to win a copy of a PC Review Recommended title. We have five copies of each newly Recommended game to give away to the winners of this competition.

How to enter

If you'd like the chance to win a copy of TFX, simply answer the question on the form, left, and send your entry on a postcard or back of a sealed envelope to PC Review Recommended, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

The closing date is Noevmber 7, 1993, and any entries received after that will not go into the prize draw. All normal competition rules apply, particularly the one about not sending in multiple entries. One form per person, please!

Charts: *the PC Top 10*



1. Flight Simulator 5	*Microsoft*
2. Railroad Tycoon Deluxe	*MicroProse*
3. Links: The Belfry	*Access/US Gold*
4. X-Wing	*LucasArts/US Gold*
5. Day of the Tentacle	*LucasArts/US Gold*
6. Imperial Pursuit	*LucasArts/US Gold*
7. Sensible Soccer 92/93	*Renegade*
8. Fields of Glory	*MicroProse*
9. Syndicate	*Bullfrog/Electronic Arts*
10. Stronghold	*SSI/US Gold*

Charts courtesy of Virgin Retail.

The alternative jargon-buster

Computer hardware jargon is bad enough, what with RAM, and 25-way parallel interfaces and MODE CON CODEPAGE PREPARE and the like, but games are fast acquiring a coded language as well.

So, as part of PC Review's 'mission to explain', we present the Cynic's Lexicon of Computer Jargon, or Euphemism Made Simple:

CLASSIC: More than a year old
LEGENDARY: More than two years old
LEGENDARY CLASSIC: More than three years old
A GAME WHICH SETS NEW STANDARDS, or WITH WHICH OTHER GAMES WILL IN FUTURE BE JUDGED: Expensive
CD-ROM: Very expensive
AVAILABLE SOON: If you're extremely lucky you might just be able to buy it in 1995
CRITICALLY ACCLAIMED: Got a 5 in PC Review
GAME OF THE YEAR: It's the only one we've got, so please buy it
GAME OF THE DECADE: Please, please buy it
GAME OF THE CENTURY: All right, we're desperate
INTERNATIONAL BEST-SELLER: The manual is incomprehensible in seven languages
EASY TO INSTALL: An idiot can use it
USER FRIENDLY: Even an idiot like you
486 ONLY: But not you
DELUXE EDITION: Do you like the new picture on the box?
ENHANCED GRAPHICS: We've finally cottoned on to the fact that CGA is out of date
FREE POSTER INSIDE: the marketing people haven't a clue how to sell this one

● Simon Shaw

REVIEWED THIS MONTH

TFX	**9**
Archer Maclean's Pool (256 colours)	**8**
Coaches Club Football	**8**
Lost in Time	**8**
Front Page Sports Football Pro	**7**
Gateway 2	**6**
Gearworks	**6**
Jurassic Park	**6**
The Silver Seed	**6**
Streetfighter 2	**6**
Wilson ProStaff Golf	**6**
Batman Returns	**5**
Body Blows	**5**
Bram Stoker's Dracula	**5**
Caesar's Palace	**4**

CD-ROM GAMES

Walkthroughs and Flybys	**8**
Distant Suns	**7**
Microsoft Golf for Windows	**5**

The PC Review elite

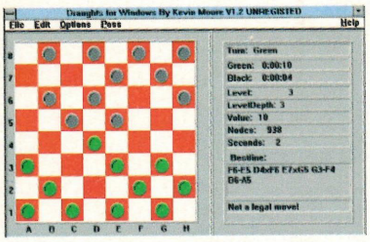
In 25 issues and 338 reviews, only 12 games have been awarded a mark of 9 out of 10 (and no game has yet scored 10 — one day, one day ...). The elite that have made it into the nines club are:



Alone in the Dark
AV8-B Harrier Assault
Chessmaster 3000
Falcon 3.0
Indiana Jones and the Fate of Atlantis
Jimmy White's Whirlwind Snooker
LeChuck's Revenge: Monkey Island 2
Sensible Soccer
Syndicate
TFX
Tornado
Ultima Underworld

Shareware reviews

Sam Mackenzie goes to war for the first time, improves his draughts, and has fun with a graphic adventure, a Pacman for the PC, some biomonsters, and a graphics-friendly DOS word processing package



Draughts for Windows

I can't claim to be a fan of draughts. I think that it's a slow, boring and trivial game – which I always seem to lose at! Windows is a good reason for revamping all those old traditional games and Draughts for Windows does just that, and well, to boot. You can alter the skill level that the computer will use against you and at the very lowest setting I can just about win!

More seriously, the program plays so fast that you can zip though a game rather quickly and this enabled me to appreciate what the basic strategies are. For the first time, I managed to see exactly what my opponent was doing to get an advantage. When I adopted the same strategy, however, my opponent still won, but at least for different reasons this time! I never managed to learn to play draughts against human opponents because they took so long over their moves that I lost interest!

To help you along with the learning process, you can backtrack a particular game to the point where you went wrong. You are also able to save and load games if you are interrupted and there is a hint line facility which can be switched on and off, as you require.

The program prevents you from making an illegal move and it forces you to take, if at all possible. If you have never played draughts before then you will need to look up the rules elsewhere because unfortunately there are no help files or instructions provided – apart from basic installation, that is. When you register you are given a manual, online help and a copy of Chess for Windows.

I don't think that Draughts for Windows is going to be an enduring hit, but I, for one, am glad I found it!

Supplier:	*Springsoft*
Tel:	*(0352) 770049*
Product code:	*Draughts*
Price:	*£1.99*
Registration price:	*£19.95*
Registration package:	*Up to date version plus chess for Windows*
Minimum specification:	*Any Windows video mode, mouse, any Windows 3.1 MAchine*
Disk space:	*760K*

Product
Draughts for Windows

shareware tech spec 1993

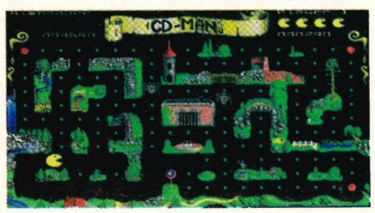
CD-Man

A long time ago, PacMan was such an obsession that the cheery little disk became a famous personality along the lines of the Mario Bros. If you remember that far back then you might have been looking for a good PC version of the game at that time and surprisingly until now there hasn't been one.

CD-Man is an up to date implementation that makes good use of sound and graphics. It also expects to suit a range of machines of different power. You can adjust the speed of the game very accurately and this can be used to compensate for a slow machine *or* a slow player!

If you aren't familiar with the idea of PacMan it doesn't take more than a moment to pick it up. You steer the character around the screen eating dots. The spiders (or whatever they are) come out and try to get you. If you run into one, you lose a life – unless you have eaten a power pill, in which case the spider dies and you get extra points. The trouble is that the effect of a power pill only lasts for a certain amount of time and the only way that you know it is active is that the spiders change colour and run away.

Apart from this, there is nothing much to it! You can also pick up bonus points by eating various other objects placed on the trail. If you pick up a key then you can open the gates and there is a tunnel that you can disappear into and reappear at another point in the maze.



Supplier:	*PDSL*
Tel:	*(0892) 663298*
Product code:	*3729*
Price:	*£6.00*
Registration price:	*29 Swedish Krone*
Registration package:	*another two levels*
Minimum ppecification:	*VGA, Ad Lib, Sound Blaster, keyboard, joystick, any PC*
Disk space:	*400K*

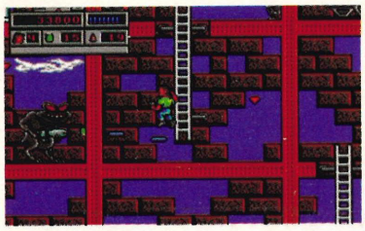
Product
CD-Man

shareware tech spec 1993

Once you have cleared a level you move on to another one. The first is spiders and spooks, the second sharks and pirates, and the third, unfinished in the review copy, is a space scene.

It doesn't sound promising, does it? But it is – as long as if you manage to get the speed right. If you play at too high a speed setting, the spiders get you so quickly it's frustrating. Too slow a speed and the danger is that you will nod off to sleep. When you complete the game your name, the number of points and time it took is recorded. In this way, there is a pressure to run the game as fast as you can manage it.

If you want a PacMan game then I doubt that you will find better than this one.



Bio Menace

Bio Menace is a new platform game from Apogee – the people responsible for more shareware platform games than anyone else. If you know Duke Nukem, or almost any platform game, you will recognise the standard formula – your character bounces about, climbing ladders, going in through windows, opening doors, etc. On the way, he picks things up, fires his weapon and throws grenades.

In this case, the basic storyline is that you have to wander through a building rescuing people and gaining points while avoiding or zapping mutant biomonsters.

The animation of the biomonsters is particularly nice: they disintegrate into globs of goo when you hit them! In fact, this is the real fundamental difference between this game and Duke Nukem – the VGA graphics and animation in Bio Menace are even better.

The overall aim of the game it to get the mad scientist who caused the problem in the first place, but when you get that far, look out, because he fires back.

Yes, this is just another platform game but if you enjoyed Duke Nukem and even the Commander Keen series before, you will enjoy Bio Menace. I don't know that Apogee can continue with the basic formula much further, though – they need something new.

Supplier:	*Transend*
Tel:	*(0274) 622228*
Product code:	*15325*
Price:	*£2.50*
Registration price:	*£26.50*
Registration package:	*2 extra games*
Minimum specification:	*VGA, Sound Blaster, Ad Lib, keyboard, joystick, 286 or better*
Disk space:	*1Mb*

Product
Bio Menace

shareware tech spec '93

PC Write

PC Write is a well established DOS word processor which has just been released in a new version (4.1) that includes graphics for the first time. The drawing facilities included with the program are pretty basic, but it also provides a screen capture utility (Inset) and enables you to import or convert images from other applications such as drawing packages and spreadsheets or from digital scanners. Sample clip art is supplied.

Although you can view images before inserting them into a document while you are editing a file you simply see place holders for graphics. The analogy used by PC Write is that of mounting photographs in an album. Pages can be laid out by just positioning, sizing or framing the photos and, for more ambitious effects, you can use scaling.

Other features include envelope printing and a customisable status line. One of the new items that can be included on the status line is a repetitive stress injury (RSI) indicator. Repetitive stress is cumulative which means that the program can base this indicator on typing speed and length of time the user has been working. The amount of stress that has accumulated in the user's hands is shown on the status line and when this exceeds 100%, the indicator turns red and does not change colour until the user takes a break. Users can customise the values for typing speed and maximum accumulated stress to ones that suit their typing ability and stamina.

Although it is a DOS program, it can be run under Windows and supports the Windows clipboard for copying and pasting test to and from other applications. You can also customise screen colours to look like a Windows word processor if you don't like its default blue scheme.

Supplier:	*Shareware Marketing*
Tel:	*(0297) 24088*
Product code:	*WP2*
Price:	*£10 (two disks)*
Registration price:	*£49*
Registration package:	*reference manual and getting started booklet. 90 days free technical support.*
Minimum specification:	*EGA, VGA, keyboard, mouse,640K PC*
Disk space:	*from 300K to 4Mb disk space*

Product
PC Write v4.1

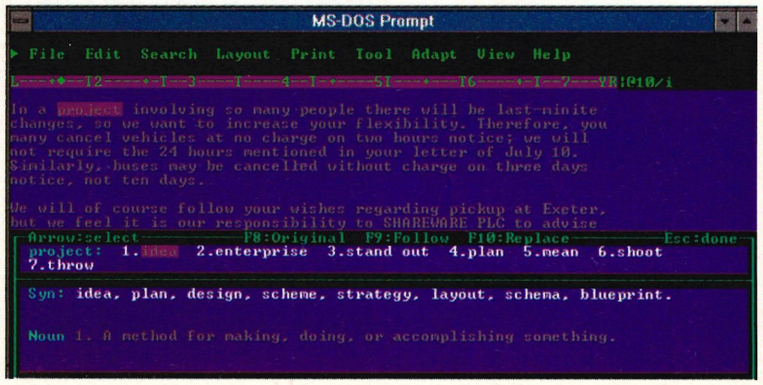
shareware tech spec '93

The drawback with concentrating on the latest developments is that of not giving information about a program's core features which, in this case, are many and various.

The feature I welcome the most, given that it is a DOS program and I am accustomed to working with a Windows word processor, is that it supports a mouse for all operations as well as having key press shortcuts. I also like the facility for multiple windows which can be on to the same or different files.

It has a well implemented UK spell checker and includes a thesaurus for finding synonyms. Its advanced facilities include headers and footers, footnotes and endnotes, index and table of contents. It also provides conditional mail merge.

Its context sensitive help is extremely good indeed. When you press F1, you are given help appropriate to the current task. Clicking with the mouse on a highlighted word provides you with information specific to that particular topic. It also boasts an on-line tutorial which demonstrates how to make the best use of PC Write while working on your own documents.





Rapid Response

As with many war games, Rapid Response would win no prizes for graphics. You are presented with a number of battlefield scenarios as depicted on fairly low resolution maps. All forces, weapons and men are shown as symbols on the map. As the game progresses the symbols move, engage in battle and win or lose. You can set movement paths for your forces, but don't expect them to zip from one place to another. They plod slowly along according to their type and the terrain. What makes the game different is the way that you see the effects of decisions you have made unfolding before you.

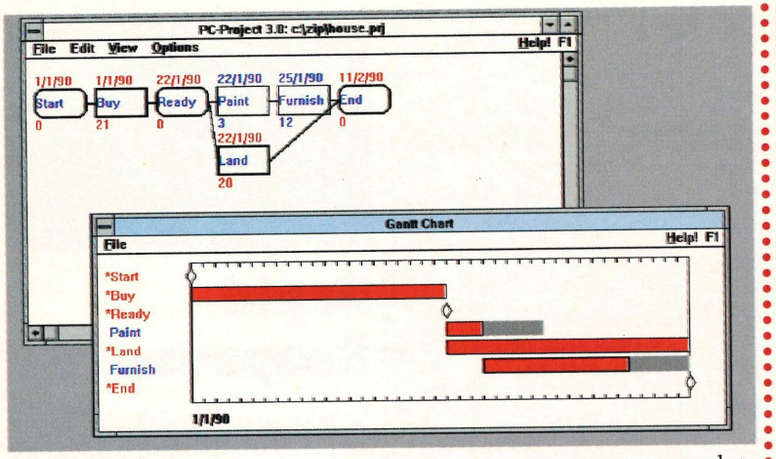
Sadly, the game is very technical: you need to spend time learning what the symbols mean and what the controls are. This is not obvious to the beginner – the only way to find out is from the on-line help or by reading the supplied text files. So if you're not prepared to read the instructions (several times!) don't bother with this game or, I suspect, with any war game simulation.

This doesn't claim to be a realistic simulation – it describes itself as "a graphics strategy game" and includes nuclear weapons! Even so, it makes war gaming quite accessible to the beginner.

Supplier:	*Testware*
Tel:	*(0423) 880471*
Product code:	*05292*
Price:	*£3.00*
Registration price:	*£17*
Registration package:	*Volumes 2 and 3*
Minimum specification:	*CGA, EGA, VGA, joystick, keyboard, any PC*
Disk space:	*300K*

Product
Rapid Response

shareware tech spec '93



PC-Project

You may not have considered project management as something of great interest, but it's not as dry as it sounds – honest! Although it seems very technical, project management in practice gives you help in doing a set of related tasks as efficiently as possible. The tasks could be anything from revising for exams to decorating a room or even building the Channel Tunnel, if you're at all ambitious!

With PC-Project, you can enter specific factual details of tasks – such as, how long they are going to take to complete and how they are related to each other – into the program which subsequently prepares a schedule of dates on which the tasks should start. All in the name of maximum efficiency!

It also shows you a handy diagram of how the tasks actually affect each other. From this, you can work out which tasks in particular are responsible for determining how long the overall project will take to finish – that is, the critical path. Any delay in these tasks will inevitably lengthen the project. Conversely, these are the ones to look at if you need to speed things up.

PC-Project is a Windows program and, as such, it is very straightforward to use, but it isn't very powerful. You can record details of the resources necessary to complete each given task, but nothing much is really done with this information except to make work lists. This is a great shame – I don't know if I am exceptionally inefficient but I definitely need more help than this!

The graphics are reasonable but extremely basic. For example, you can look at the project using a Gantt chart display – a standard project management graph – but you cannot customise it.

It is also limited in the range of task types that it is equipped to represent. All tasks are assumed to be scheduled As Late As Possible (ALAP – hardly surprising given the all too human tendency to procrastinate!) and the only sort of task dependency is Finish-Start: in other words, one task has to finish before the next can start.

PC-Project is worth a try if you are interested in finding out about project management packages, but you ought to keep in mind just how limited it is. There are many types of behaviour that it cannot incorporate into a project model.

The principal drawback is that if you should find you do need a full project manager package, as a rule they tend to cost between £500 and £1,000 or more! Given that PC-Project is freeware, ie, no registration is needed, perhaps it doesn't look that bad, after all!

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Registration price:	*n/a*
Registration package:	*n/a*
Minimum specification:	*all Windows modes, mouse, keyboard, any Windows 3.1*
Disk space:	*900K*

Product
PC-Project

shareware tech spec 1993

Supplier:	*Softcell*
Tel:	*(0443) 238630*
Product code:	*2143*
Price:	*£3.00(3.5") £2.50 (5.25")*
Registration price:	*$31*
Registration package:	*the full game*
Minimum specification:	*CGA,EGA,VGA,keyboard, PC with 550K free*
Disk space:	*740K*

Product
Majik adventure

shareware tech spec 1993

Majik

Majik is a graphic adventure that runs well on nearly all PCs. You materialise inside a dungeon-like maze which reveals more and more of itself as you move around. The maze appears to be generated as it goes along so you never get the same scenario twice. The graphics are fairly low resolution but effective nevertheless.

As you move through the maze, a commentary at the bottom of the screen informs you of what is going on – even at the level of letting you know when you have bumped into a wall! This commentary is important, though, because it tells you all the things that are happening which may not be clear from the graphics alone. Various entities which you encounter also communicate with you by printing messages at the bottom of the screen.

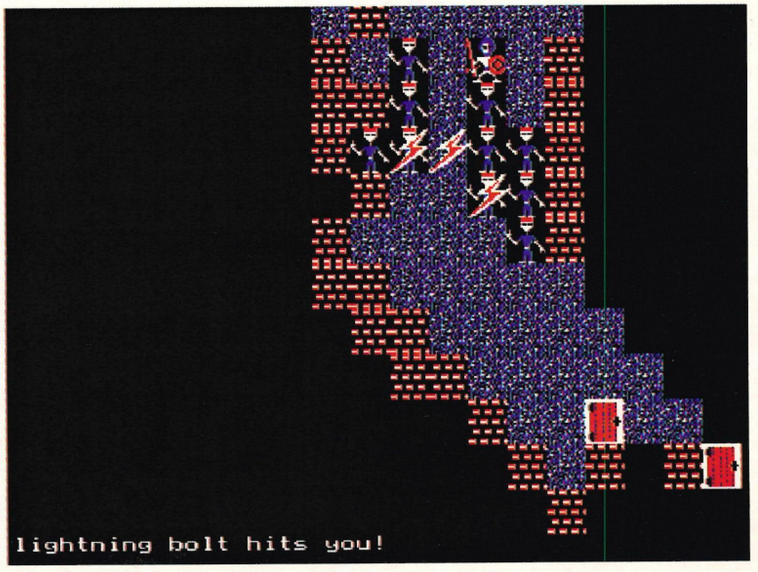
There are lots of single letter commands which enable you to decide what to do in any given situation. You can pick things up, open doors and boxes and use the objects that you have collected. Of course, there is the usual mixed bag of spells, mysterious bits of trickery and lots of monsters – but then I suppose it wouldn't be an adventure game without them, would it?

The biggest problem with Majik is that it is quite possible to materialise in a vulnerable position where you are immediately under attack and so die before you have even had time to read the messages at the bottom of the screen!

This is not exactly great for beginners, so if you are a victim of this rather unjust sequence of events, be sure to give it another go. Also give yourself time to learn the commands pressing "?" displays a full list of single letter commands.

If you register then you will receive a 40 page manual and user guide. I must confess, I would have liked a bit more help in getting started in the shareware version.

It turns out to take quite some time to learn the list of commands and you do need to know them because it is the only chance you have of planning what to do before something kills you. Once dead, you are back to the MS-DOS prompt and you have to start the game over. That about sums the game up –frustrating at first but more rewarding the longer you give it.



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QED

Simon the Sorcerer

Giving away the complete solution would spoil your enjoyment, so Dean Evans offers a brief extract from the PC Review super sorcery hint guide

It's never easy being a teenage hero, and this is especially true in Simon the Sorcerer. So here is a gentle introduction, brazen in it's honesty yet an introduction that is not going to spoil it all trying to giving everything away.

At the beginning of the game, life in the village of Fleur Deli should be fairly simple. By the time you've found your way to the outside gate, you should have the following objects: magnet, hairdressing scissors (from cottage), rope, bell clapper (from blacksmith), the ladder (outside rruid's house), specimen jar, cold remedy (inside druid's house), the matches, the dwarf's beard, and the beer voucher (from the drunken druid).

From the outside gate, walk east to the first crossroads. Then walk north and east until you get to the owl. The owl is a shameful on-line hint facility, but unfortunately for you he's of little real use. But talk to him anyway and get the feather that falls from him. When you've got it, retrace your steps back to the crossroads.

Walk east until you get to a distressed ogre, talk to him and then remove the thorn from his foot. He will overact to your kindness, telling you that he is forever in your debt and giving you a whistle as a present. Double back on yourself again and return to the crossroads.

Go south and then east until you get to a tree stump. Don't try and walk past it but instead head south and then west until you get to a ruined and rather dingy witches cottage.

Move the handle on the well and take the bucket of water. At a later stage in the game, you will be able to use the water to cause the giant to knock down the tree over the icy chasm. This same problem was solved in the Simon the Sorcerer review in the last issue.

When you get back to the tree stump, try to walk past it and watch the animated sequence. Talk to the woodworm until you find out what sort of wood they want. When they've finished ranting, walk east until you get to the troll bridge.

Talk to the troll (any old small talk will do) until he notices the shiny whistle hanging around your neck. He'll blow it and get dumped hilariously into the stream by your friend the ogre. Pick up the placard and walk east until you get to the oaf. Talk to him and use the water on the beans (as described last month).

Go east once again and you'll find yourself at another crossroads. North-east will take you to the Tolkien Appreciation Society jamboree while going south-east will take you to Repulser's tower. Go south-east.

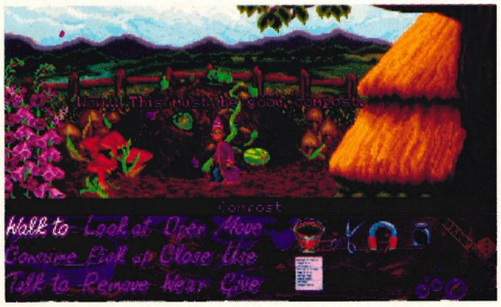
At the foot of the tower, use the bell clapper with the bell and move the bell. Repulser will then let down her hair and you can climb it. In the tower chat to Repulser and then snog her for all your worth. She will turn into a pig and you can store her safely in your hat.

Go back to the crossroads and return to the village by taking either of the western paths. At the troll bridge, take the upper path and you'll pass the guy with the tuba. You can't get the instrument now, but remember, last month's PC Review will help you if you can't figure it all out.

To get inside the goblin village find the shopping list under a stone outside their very door (take this to the olde shoppe in the village). The milrith can be found somewhere under the snow and ice and remember a rope and hook makes that old favourite, the grappling hook.

If you're still stuck, and you can't get out of the Goblin village, or have no idea where to find the powerful-looking staff of Nafflin the Necromancer, why not try writing to QED Guides (you can find the information on page 140). QED has a full solution and should be able to help with all your sorcery problems.





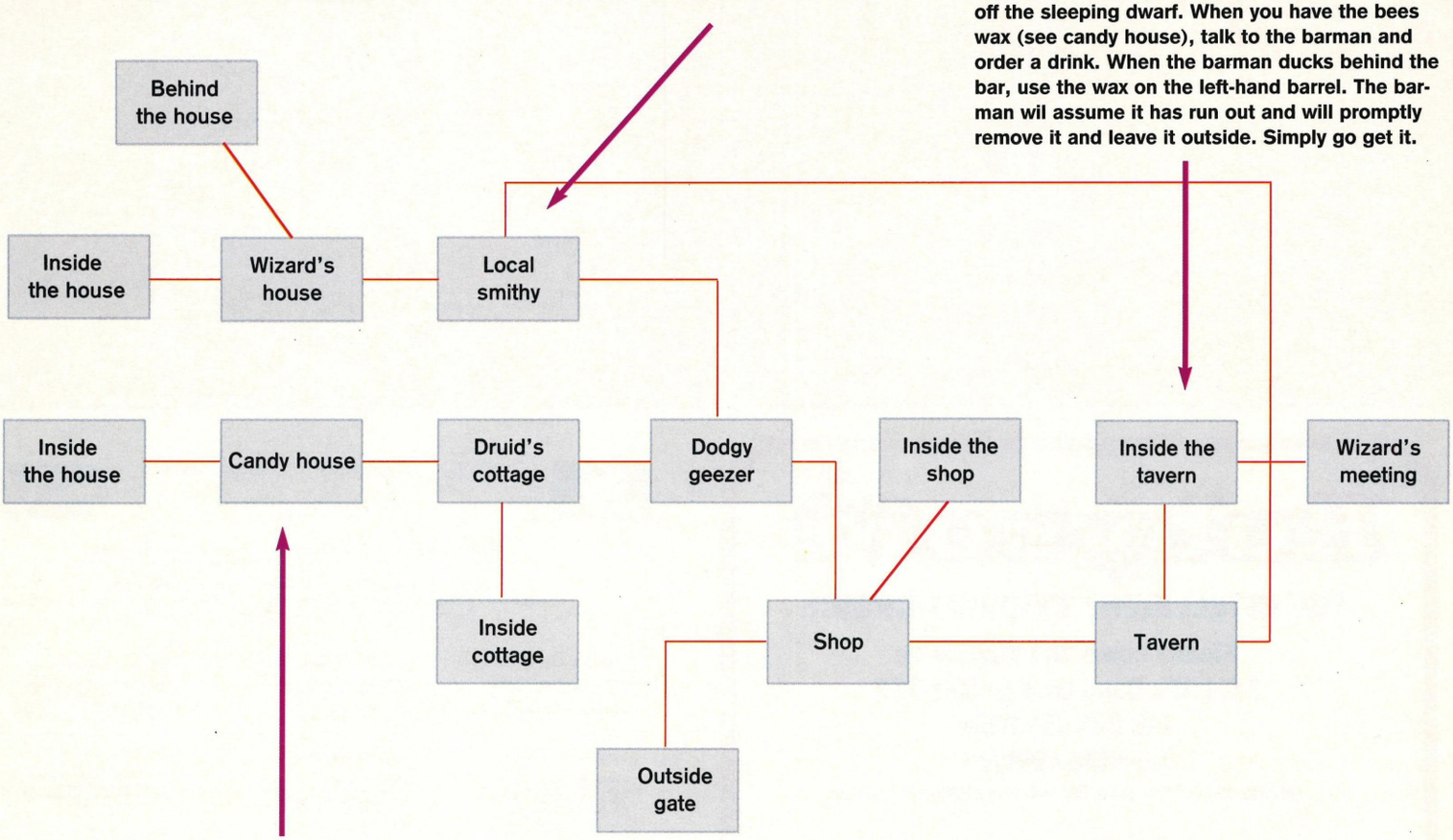
Featured in the Simon the Sorcerer review last month, Simon must use the magic beans (the ones he stole from the oaf) with the compost heap to produce a melon. The melon can then be hurled into the funnel of the tuba to break it. The tuba is then used to wake the sleeping giant.



The local Blacksmith is a quiet chap. Try talking to him and you'll never get an answer. But he is useful. To get the fossil, bring the stone (found in the icy wastes) to him and use it with the anvil. When you've got the Milrith, put the ore on the anvil and let the smithy smash it into an axehead.



There's a whole host of things to be done here apart from talking to the wizards and the nubile valkyries. Firstly make sure you take the matches from the fruit machine and the beer voucher from the barman. Next, using the hairdressing scissors you found in the Calypso's cottage, snip the beard off the sleeping dwarf. When you have the bees wax (see candy house), talk to the barman and order a drink. When the barman ducks behind the bar, use the wax on the left-hand barrel. The barman wil assume it has run out and will promptly remove it and leave it outside. Simply go get it.





The candy cottage. This fairy tale house is firmly locked and the only way to get in is to use the pig Repulser (who can be found way over the other side of the map in the tower) with the chocolate door. Once Repulser has eaten through the door, you can go inside and pick up the beekeepers hat and the smokebox. Use these on the beehive outside the house to get a dollop of yellow beeswax. Now use the beeswax in the tavern.

The problems with dwarves

As I've already mentioned you should now have enough items and enough knowledge to be able to solve the puzzles in the dwarven mine.

How do you get in? Well if you pick up the stone near the entrance you'll see that there's a word chalked on it. Amazingly enough the word is "beer" and this is the dwarves' password. When you get inside, talk to the guard and offer him the barrel of beer as a bribe. He'll graciously take it from you and ask you to carry it downstairs. Follow him and when the guys hit the booze, use the feather on the sleeping dwarf. He'll roll over to reveal a key. Take the key and go back up the stairs.

At the guard post, go down the other flight of stairs to a room where three dwarves are singing and happily mining. Pick up the hook that's hanging from the gantry and use the key to unlock the big, golden door that leads to the vault.

On the other side of the door is the gem room and an anxious, slightly angry guard. As soon as you get the chance, tell him that there's something you have that he wants. As he waits expectantly, give him the beer voucher. He will ask how he can help you and you tell him what a nice pile of gems he is guarding. He'll wander off, pick up a large sparkler and give it to you. This is now your cue to exit.

Go back to the village. There's a dodgy geezer who might just do you a deal on the gem.

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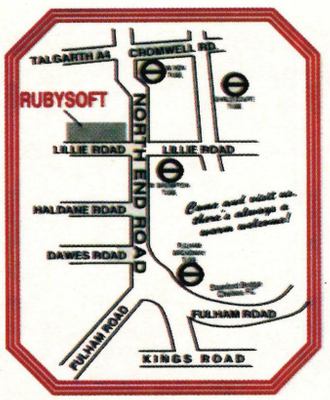

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Stronghold

Stronghold is an unusual mixture of D&D and kingdom building from SSI. John Bennett suggests a few tips and strategies to stop the peasants from revolting and to keep the uglies from your front porch

In the beginning

Probably the most important thing to do is to take as much care as possible in placing your stronghold. Use natural barriers and surround yourself by rivers; this won't stop the winged beasties, but it will keep out the rest and give you a bit of protection.

Build quickly at first, but don't expand too much. This is when you're at your most vulnerable, and a simple marauding hobgoblin will make mincemeat out of your people and wipe out your citadel. If necessary, put up the odd wall to block their passage, but remember this needs to be maintained constantly, which can become expensive.

Send out the odd suicide squad to find out where the bad guys are based, and build a tower or two on high ground as soon as you have the cash. If you find you're too near an enemy stronghold, then go get 'em — genocide's the name of the game.

Don't necessarily start up in the mountains for the quick returns that the mines give you. These run out quickly. It's better to look for a balanced settlement, with water nearby (increases crop values), plenty of trees (long-term income and food) and good mining possibilities.



While you're at it

Dwarves are prone to blast spore disease.

Always, always use dwarves to mine rock: they have a much better chance of finding stuff. Then swap ownership to even things out.

Charisma is often the least rated ability in D&D. But a high charisma score determines how quickly you recruit new troops. So keep rolling till you get a good score.

Use mainly wizards in battle once they've got past the third level, and use fighters as cannon fodder to protect them. This is because there are plenty of monsters that can't be attacked with non-magical weapons (like obsidian statues).

Build well-balanced armies: attract unassigned low-level characters to look after the home, send the high-level characters off to do some damage. Build a big enough army of surplus men, point them at the enemy and leave them to it. You get on with the economics while they slug it out towards the nearest stronghold. Check on them every now and again, and set a low-level dwarf mining any rocks they come across.

Always leave enough men to protect your strongholds in case of surprise attacks (like the odd red dragon).

Airborne pests seem to take the same flight paths, so station two or three experienced units in their way and hack them down. Then forget about them.

Demolish strongholds; this stops the monsters regenerating.

Awkward so and sos

- Trolls: regenerate so they're harder to kill than they look. They also hide under bridges. Honest.
- Cocatrices: these will turn people to stone. Never attack unless you outnumber them massively as they'll cause a lot of casualties.
- Ants: very territorial. There's always lots of them, as well.
- Purple worms: steer well clear of these. If men keep disappearing in an area and you can't see what got them, ten to one it's this lot. Brainless and deadly.
- Lord Mindark: not so hard. If you've got, say, 10 or 15 characters of levels seven to 10, you'll take him out without any difficulty.

Useful buildings

- Markets: essential, as they let you in on the common fund. Bazaars aren't so useful, unless you have big surpluses of food.
- Vaults: build one straight away. Otherwise you're just throwing money away.
- Magician's university: great when you can expand it to its highest level. It'll train wizards to the 36 level. Just sit them there and wait.
- Granaries: build these for winter food storage. Make sure you maintain them, they have a nasty habit of collapsing during the winter.
- Inns and Pubs: I'm sure about their strategic value really, but building them makes you feel like you've got your minion's interests at heart.

QED Tips



Do not attempt the tips marked with this icon unless you are sure you understand what you are doing. In any case, it's sensible to make back-ups of the files before you start tinkering around with program editors. PC Review is not going to accept any responsibility for damage to data incurred when trying out tips, so be warned! Send all your cheats to QED Tips at the usual PC Review address. We'll print as many as possible each month and the sender of the highlighted Star Tip wins a software prize – so don't forget to include details of your PC's configuration with your letter.



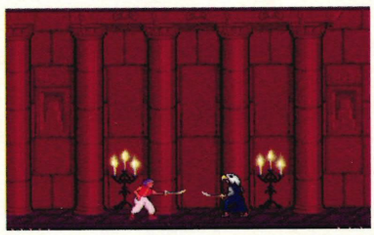
Lost Vikings



Erik the Swift slowing down? Olaf the Stout just picking his nose again? Well, if your three small Norsemen are going nowhere fast, then why not take the briefest of peeks at the complete set of Lost Vikings level codes. Yes, they're absolutely free with this magazine, because Colin Sleigh from Glasgow (a furry boots and horned hat man if ever there was one) has leapt, fallen, inflated and battled his way through to the end of this excellent platform game.

So without further ado, here they are. Please note that the codes use numbers as well as letters so all of the '0's are in the codes are zeros. If you don't want to cheat at all, look away now.

01. STRT	02. GR8T	03. TLPT
04. GRND	05. LLM0	06. FL0T
07. TRSS	08. PRHS	09. CVRN
10. BBLS	11. VLCN	12. 0CKS
13. PHR0	14. C1R0	15. SPKS
16. JMNN	17. TTRS	18. JLLY
19. PLNG	20. BTRY	21. JNKR
22. CBLT	23. H0PP	24. SMRT
25. V8TR	26. NFL8	27. WKYY
28. CMB0	29. 8BLL	30. TRDR
31. FNTM	32. WRLR	33. TRPD
34. TFFF	35. FRGT	36. 4RN4
37. MSTR		



Prince of Persia 2

If you are still having trouble guiding the world's most famous prince to his lost and deceived love, then cheat. Hard on the heels of last month's hack comes something far, far easier. So, if by chance you didn't fancy mucking around with the game code, Mr Ng Fook Choon from Perak in Malyasia, will tell you how to cheat the easy way.

If you start the game by typing PRINCE MAKINIT, pressing the following keys allows you to do these wonderful things.

Shift and N	- skip to next level
Shift and I	- invert the screen
Shift and T	- gain a life
Shift and + (plus)	- increases time
Shift and - (minus)	- decreases time
R	- resurrect prince
K	- smart bomb

Legend

If anyone is having trouble on Legend, old campaigners Andrew Spalding and Kieron Scott have gathered round the campfire to impart an invaluable cheat that can create a near invincible runemaster.

Firstly, when designing your characters at the start of the game, create your runemaster with an AC no better than +11. No hefty armour, just a sack will do. After a short wander round the first level of the Guild's dungeon, leave it amd save the game. Now go out window shopping, looking at all the armour in the different towns. Search for any armoury that stocks bracers (don't worry if you can't find any, just go and do a bit more dungeoneering and try again later).

If you're worried about the amount of time you've just wasted searching for these blasted bracers, do not fret. Once you have located the armoury, all you need to do is revert to the saved game and go straight to the shop.

When you're happy with everything, buy the bracers and deck you're runemaster out with them. Fiddle with his AC and lower it to about +7.

Now just simply remove the bracers and your runemaster with have a stupendous AC of -255.

Syndicate



However you play it, if you're going to be a real contender in the annual 'world domination' competition, you've got to have oodles of money.

The following hack, from Daniel Cummings in Bournemouth, is guaranteed to increase your bank balance and make your countries happier places for your people to live.

First of all, start a completely new game and save it immediately in the first saved game slot. Now exit to DOS. Using a hex editor like PC Tools, Norton or Xtree Gold, edit the 00.GAM file.



Scroll to the top of the file where on the second line you should see four sets of 00's followed by four sets of numbers. Replace these numbers with FF so the line reads as follows:

00 00 00 00 FF FF FF FF

This will give you an infinite amount of money, so you can lower your taxes to nothing (0%) and keep your populace in an ecstasy of happiness.

Eric the Unready

Philip Bearfield from Cheshire writes in to aid Clare Boreham who cried for help in issue 22. So if you've been foiled by the Land of the Gods, here is the answer.

Simply call '1-800-Dominus' and wait for 30 minutes. A delivery boy will arrive and give you a cake. Pull the dragon's tail to cause a stream of fire to issue forth. Use these flames to light the candles on the cake and give it to the North Wind. He will be delighted, blow out the candles and freeze the pool where the goddess was bathing. You can now enter the glade and grab the golden key. Next simply return to Agora, climb the staircase, unlock the door and get the Crowbar of the Apocalypse.

Space Quest 3

Adventurers are a close-knit lot, liking nothing better than to aid a fellow traveller who has lost his/her way. One such noble-hearted person is Mrs B Daniell from Sheffield, who writes in to offer some badly needed support to Joseph Dimmer who was stuck on Ortega.

On Pestulon go east and enter the complex. Press the lift button. When inside, go south and get the overalls from the closet. Continue south and go into the accounting department. Use the vaporiser on the all the rubbish bins you pass. get the picture from the wall, photocopy it and replace it. Work through the maze and exit east at the top of the screen and clean the bosses rubbish bin. Go north, back to the boss's office and get the card from his desk.

Go to the door with the key card lock, use the card and hold up the picture to open the door. Enter the room and go to the door controls. Press the button round the corner, go to the two green people and use the vaporiser.

In the arena you have to fight. Conserve power until your opponent is close then start punching him. After you've won the

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boxing match, escape back to the ship. After you have taken off a fighter will follow you. Select attack speed, then weapons. Put up the rear shield and wait for the attack. Change the shields according to the directions of the ships. Destroy five fighters and you can sit back and watch the end sequence.

Football Director 2

Thomas Rodda from Amersham was having terrible trouble getting promoted from the fourth division, but now coach Malcom Ross jogs on to the pitch to dab the magic sponge and offer a few words of wisdom.

The best formation to use is 4-3-3. Keep the players' morale reasonably high by increasing the bonus payouts by around £100 or put it to the maximum £999 immediately. The team's morale will now be 9.9 and even the player ratings will have increased. Never lower the bonus payouts or your player ratings will plummet back down to one.

To get more money and hence better players, put all your players up for transfer. When you see that someone is interested, go to the team selection screen and change his name. Now return to the offers screen and you'll find that your player is still there under is old name. Sell him and get the money.

It's pot luck with the physios and the coaches by the way.



Rex Nebular

Now John Bennett (our illustrious deputy editor) may seem like a quiet, shy and retiring fellow but deep down he's an adventurer at heart – only if it's an adventure that's funny or has a lot of violence in it. Last month, Andrew Tarbatt uttered a woeful cry for help in Rex Nebular, wondering what he should do with the time bomb. So, here's Johnny ...

"You need to find the tube of Polycement in the toolbox drawer in the garage. This is actually a bug in the game, in that you can't activate the bomb until you've got (and not used) the cement. Then what you have to do is take the bomb to the viewing window with the seamonster and use it there. Depending on what difficulty level you're on, you also need to make sure that you've readied the boat for your escape. The reason you actually need the glue is to fix the widscreen on the spacecraft — if memory serves me right."



Prince of Persia

In answer to Philip Bull's question last issue, our John strikes again with some sound(ish) advice. Simply stop all your violent macho posturing, just sheath your sword and walk towards your shadow. Trust me ...

Ultima Corner

Carolyn Brown from Cumbria has been stuck in Ultima Underworld for some time. Seems she cannot defeat the Slasher of Veils. Ho hum. This is proving to be a common problem the solution is as follows: to defeat the slasher throw all of the talismans into the lava in the shrine. As for poor Garamon, use his bones on the empty grave. It's all very simple. Apparently.

Mark from Durham wrote in with a huge plea for help, stuck like many others in Underworld 2. It seems that he can't use the Sceptre of Deadly Seeker because he's used it all up zapping various beasts. Zoranthus won't accept a dud sceptre andf there's no easy or magical answer. Unfortunately, as far as we know you're going to have to reload a saved game.

Send all contributions to PC Review at Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. If you have any tips or cheats, mark the envelope "TIPS" in big capitals.

If you're stuck on a game, send in your cry for help marking the envelope "Help Wanted". Lastly, don't forget to include details of your PC in case you win the Star Tip prize.

HELP WANTED

Ultima 7: Serpent Isle

I've managed to get the Serpent's jawbone from Erstam but I can't get it to magick me anywhere. Also how do I get to Monk Isle?

P Cooper
Kidderminster

Ultima VI

I seem to need to talk to a gargoyle scholar but none of the gargoyles want to talk to me. They either strike me dead or beat me up. There is one gargoyle that seems to want me to go and fetch someone called Captain John but I can't find him anywhere. What should I do next?

Blodwin P Teabag
(made up name!)
Leicester

Ultima 7: Serpent Isle

At the start I have located a red bush north of the bear skeleton, which I guess must conceal some secret rooms due to the female monk's clues. However, I have not been able to enter these rooms. As this is my first go in RPGs, I'm probably being stupid but how do I get past the bush?

Jon Ramstad
Norway

QED guides

QED continues its service to aid the beleaguered, aiming to provide all you questing adventurers with a helping hand over the tall, slippery wall of frustration. Below lies QED's list of all the complete solutions that are currently gathering dust in our cavernous filing cabinet. The recent notables are:

Alone in the Dark
Another World
Blue Force
Dagger of Amon Ra
Darkseed
Day of the Tentacle
Fate of Atlantis (all paths)
Flashback
Freddy Pharkas
Gobliins
Gobliins 2
Immortal
KGB
Kings Quests V and VI
Legend of Kyrandia
Lost Files of S Holmes
Might and Magic 3
Monkey Island 1 and 2
Police Quest 3
Prince of Persia 2
Return of the Phantom
Rex Nebular
Rise of the Dragon
Serpent Isle
Shadow of the Comet
Simon the Sorcerer
Space Quest 3, 4, 5
Star Trek 25th Anniversary
Ultima Underworld I and II
Wizardry 7
Zak McKracken

So if you're hopelessly stuck in any of the above, drop us a line telling us your problem (remember to enclose an SAE) to: QED Guides, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. We are not sending out complete solutions, just attempting to solve your individual queries and only queries on the above games.



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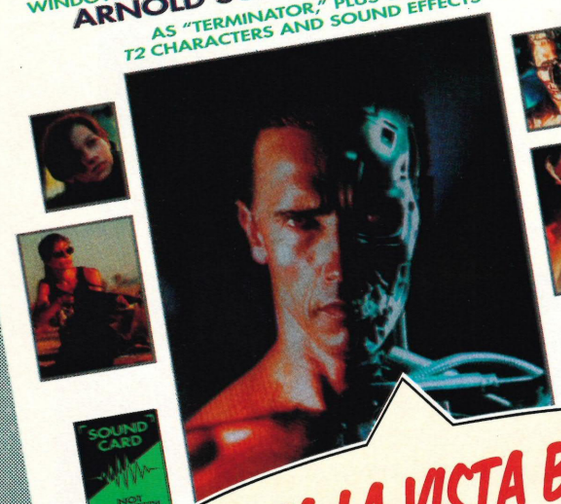

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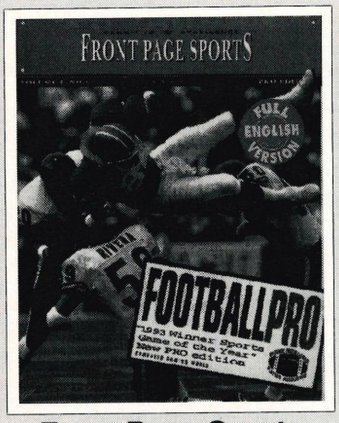

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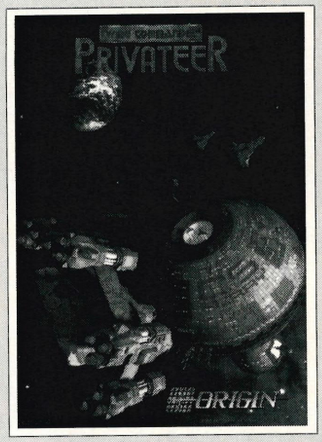

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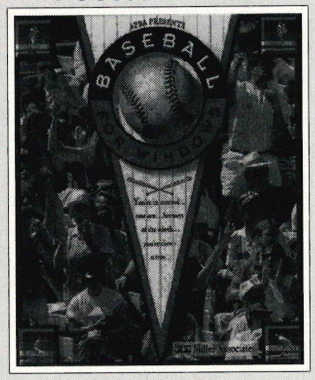

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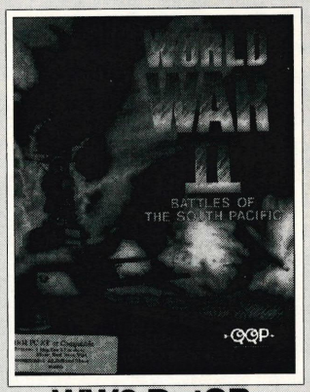

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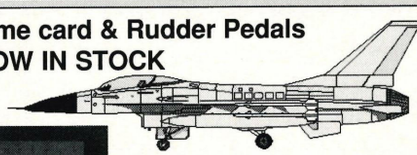

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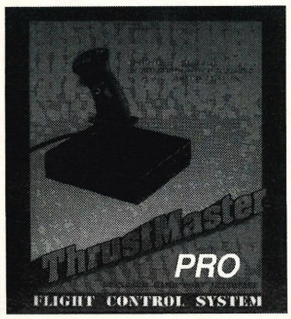

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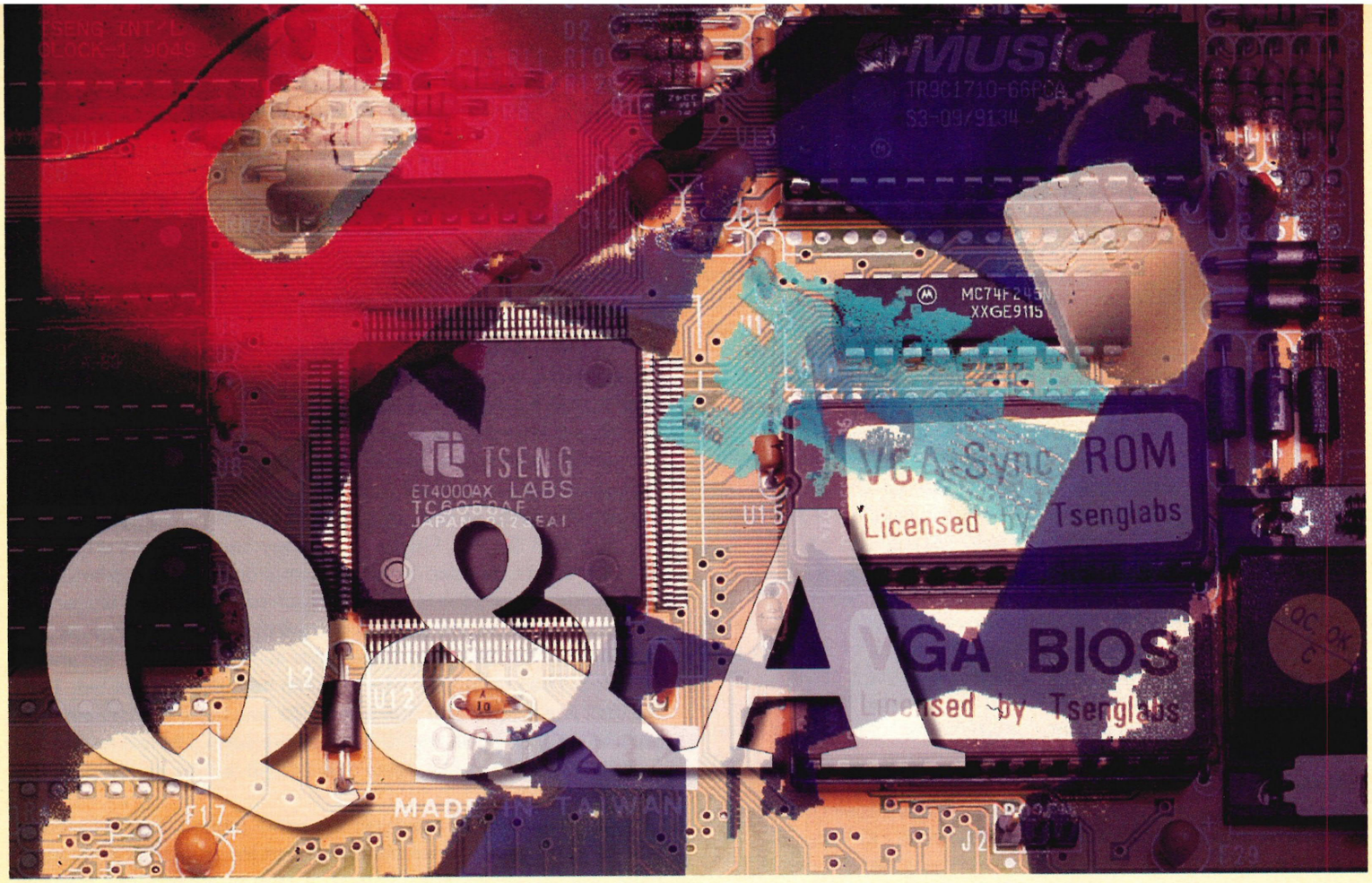

Bemused, befuddled, or bewildered about your PC? If your hardware gives you headaches and you're stricken with software seize-ups, share your problem with Q&A's Mike James and he'll endeavour to help

Soldering on

Q My brand new 386 lacks an internal speaker volume control, which my ancient Amstrad had! Is there a software solution or do I resort to the soldering iron?

D A Waller
London

A *One thing that I have learned is never to say that something is impossible — the flood of letters telling me exactly the opposite afterwards has taught me not to!*

However, I still don't think this one is possible, because the speaker is driven directly from a digital output and so this means it is either full on or full off. The PC pulses the speaker full on or full off so many times a second that it sounds like a buzz, or, if you're lucky, a beep.

Given this hardware configuration I can't see how a programmer could change the volume. So, yes, I think it is a case for the soldering iron, but I don't think that it is as simple as soldering a variable resistor across the speaker outputs. What you need all depends on the way that the speaker is actually driven. If it is a simple TTL gate output, as it is in most PCs, then a variable resistor would damage the gate.

To be absolutely sure of doing no damage you would have to wire up a small op amp to buffer and boost the signal. The Amstrad uses an LA4140 and this is the reason why it can achieve volumes that other PCs cannot!

This seems like a lot to do to achieve very little. Alternatively you could invest in a sound card which does enable you to control the volume of beeps, etc, in Windows if not in MS-DOS. Of course, it would be silly to invest in a sound card just to gain a volume control — but there are other advantages.

MS-DOS 6 problems

Q I have just upgraded from an Amstrad 2086 to a 486SX25 with a 170Mb hard disk, 4Mb RAM and DOS 6. I also use Doublespace but wish I hadn't bothered. I hope you can help me out with two quite simple problems:

1) I always thought 1.44Mb disk could read both 1.44Mb and 720K disks. However, all the disks I copied off the 2086 will not read on my new computer. Why?

2) I have run DOS 6 MemMaker and it moved all DOS into upper memory. Great, but I am confused, What is Emm386 and how do I use it? When I type Mem at the DOS prompt this is the report I get.

MEMORY TYPE	TOTAL	USED	FREE
CONVENTIONAL	640K	27K	613K
UPPER	155K	94K	61K
ADAPTER RAM/ROM	384K	384K	0K
EXTENDED (XMS)	2917K	1241K	1676K
TOTAL MEMORY	4096K	1745K	2351K
TOTAL UNDER 1MB	795K	120K	675K

Shaun Mook
Plymouth

A *I agree that Doublespace isn't for everyone and with 170Mb disk drive you probably can do without it for a few months! You are certainly correct in saying that 1.44Mb can read 720K disks — so what could be going wrong with your machine?*

The Amstrad range is a bit odd in the way that it treats diskettes. High density disks are different from low density disks in that they have an extra hole in the corner opposite the write protect tab.

Most machines use this to determine what type of diskette is in the drive and will only let you format a high density disk to 1.44Mb. The Amstrad range disregards the extra hole and enables you to format any disk to either density.

Now imagine the result of formatting a low density disk to 1.44Mb on the Amstrad and then trying to read it on another machine. It wouldn't work.

This is the only explanation which I can think of apart from a possible misalignment in one of the two disk drives. The only way that you can test this is to attempt to read disks which have been formatted to the same density in a third machine.

EMM386 is a memory manager. Your 486 and most other 386s usually have two memory managers –

Himem.sys and Emm386. You can get by with just one memory manager if you buy a program Qemm or 386Max — either of which will do the job of both.

Himem.sys is an XMS extended memory manager. It is necessary if you want to run any program that needs XMS memory — primarily Windows and Windows applications. Emm386 is an expanded and upper memory manager.

You don't need to use it at all if you don't need expanded memory or upper memory blocks — however most users do need both. Upper memory blocks are used by MemMaker to shift bits of MS-DOS, mainly device drivers, out of conventional memory — so increasing the amount of free memory.

Expanded memory is used by many MS-DOS programs for additional data storage. In this sense Emm386 can be seen as a way of converting extended memory to expanded. Easy really, isn't it?

To XA or not to XA?

Q I've recently purchased a 486SX 25MHz, 4Mb RAM, and DOS 5. I've noticed the increase in the amount of quality software of the CD-ROM, so I am now in the process of looking for a cheap, but fast, internal CD-ROM drive.

I read the article in the July issue of PC Review about buying a CD-ROM. It states that there are several different things you ought to keep a look out for when purchasing a drive. These include whether it has XA, MPC, Multisession, etc, and I am now in a dilemma as to which things to look for in a drive.

I am not sure whether or not it is worth buying a drive with XA. Will this become increasingly important as time goes on, and what are the maximum speed and transfer rates which you would recommend?

I am also quite interested in the Mitsumi CD-ROM from UK Flex (£159) which you mentioned in the same issue and I was wondering if there was an address or phone number you could give me for information on it.

S McIntosh
Hampshire

A *I have to agree that this is a really great time to buy a CD-ROM and also a really terrible time. The dilemma is that there is so much good stuff at reasonable prices that not having a CD-ROM means that you are missing a lot.*

The other side of the coin is that CD-ROM is still developing and so there is a good chance of buying the wrong drive. The best guide to what to buy is the latest multimedia standard with calls for a dual speed, multi-session drive that can be upgraded to XA at a later date — "XA ready" in the jargon. The Mitsumi is a multi-session non-XA drive and it can't spin faster than normal — but it is cheap.

At the moment XA isn't actually important and most software doesn't expect double speed and so the Mitsumi looks a reasonable choice. However don't expect it to be a reasonable choice for long.

Something like the new NEC or Panasonic dual speed drives are closer to what the future might need, but again there is no guarantee.

Personally, I would choose the cheaper drive with the idea of replacing it in the future.

Two machine games I: null modems

Q At the moment I have got two PCs, a 386SX and a 486DX. I also have several games that give you the option to play with another computer (F1 Grand Prix and Falcon 3).

I would like to link up my two computers directly so a friend and I can play the above games together. I have read articles about using modems but I do not know what hardware is required or how to get hold of it.

Tim Davies

A *You don't say how far apart your two machines are but it seems like a reasonable guess that they are in the same room, ie, close to one another. You need a modem if you are trying to connect two, or more, machines together over phone lines. The reason is that phone lines don't carry digital signals, so they have to be converted into audio sig-*

Q&A update

The other side of the line

Are we about to take another jump in the power of the average PC? I don't mean the Pentium (586) chip (which looks like being a washout) but the way the standard spec for a PC seems to be about to change.

Before an earthquake, stresses build up as two land masses on opposite sides of a fault line try to move but stick to each other. Once the stress is great enough they slip and everything changes. It's just like that with the PC. Slowly technology improves and what was expensive gets cheaper. Software demands more of the hardware until suddenly everyone is buying a machine with a much bigger and better specification and thinking nothing of it. Everything moves and machines on the other side of the divide suddenly look old and underpowered. I can remember when a 10Mb hard disk looked big. Then the fault line slipped and 20Mb to 30Mb was more reasonable. The fault line slipped again and 100Mb was the norm. I have a feeling the fault line is about to slip again and 250Mb will be the norm in the very near future.

Memory seems to be following the same pattern. Since Windows 3.1, 4Mb of RAM has been the recommended amount of memory to have. Just recently there has been a crop of applications that say they need 4Mb but when you try using them ... well, you quickly realise that they mean 8Mb. Memory prices have taken a small jump up in the past few weeks, but this is mainly due to a fire in a key production plant leading to shortages of SIMMs. Once the glitch is through the system the move to 8Mb should get going again. The part that I'm not so sure about is that it isn't impossible for the earthquake to be bigger than I imagine and we couldn't make the jump to 16Mb as standard! The reason is that there are technical advantages to fitting 16Mb as four 4Mb SIMMs rather than fitting 8Mb as eight 1Mb SIMMs.

The processor earthquake is a little more gentle in that the main shift seems to be from the 386SX to the 486SX at the entry level, and to the 486DX2-66 at the top end. The picture is muddied by the introduction of a range of chips by other manufacturers that fit in between the traditional line of Intel chips. You can forget any great shift to the Pentium for now — it's too dear and doesn't deliver the extra power it promises. So, after the earthquake, the smallest machine you will be encouraged to buy will be something like a 486SX, at better than 25MHz, with 8Mb RAM and around the 150Mb of hard disk. At the "this is what you really should buy if only you could afford it" end of the scale the spec will be 486DX2-66 with 16Mb RAM and 250Mb disk drive. I know that you can buy a machine with this spec now, but the point is that this will not seem over-powered — just average!

PS

Some time ago I told you about the upgrade chips that various manufacturers were planning for the 386. Well, they're here — in the States at least! Cyrix is running an advertising campaign with the punch line, "Cyrix instead", ie, as opposed to "Intel Inside"! Its new 386-to-486 (also called the Cx486DRx) chip does just that. You unplug your old 386 and plug in the new chip and your machine runs at 486 speeds, twice as fast. At the moment there are only 16MHz, 20MHz and 25MHz chips but it is working on a 33MHz version. The price is $399 — I wonder how this will translate to a UK price.

Mike James

SOUND GALAXY

PC SOUND CARDS

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8-bit COMPARISON

	MONO			STEREO	
	AZTECH SOUND GALAXY BX II	CREATIVE SOUND BLASTER VERSION 2.0	AZTECH SOUND GALAXY NX II	CREATIVE SOUND BLASTER PRO II	AZTECH SOUND GALAXY NX PRO EXTRA
No Of Sound Standards	2	2	4	3	5
AdLib	●	●	●	●	●
Sound Blaster Version 2	●	●	●	●	●
Sound Blaster Pro II				●	●
Covox Speech Thing			●		●
Disney Sound Source			●		●
FM Synthesiser - OPL2	●	●	●		
FM Synthesiser - OPL3				●	●
Manual Volume Control	●	●	●	●	●
Digital Software Volume Control			●	8 steps	16 steps
Digital Bass & Treble Control			●	●	
Sampling Rate, Recording Up To:	23KHz	15KHz	23KHz	44.1KHz	44.1KHz
Sampling Rate, Playback Up To:	44.1KHz	44.1KHz	44.1KHz	44.1KHz	44.1KHz
Game Port, With MIDI Option	●	●	●	●	●
Dynamic Filtering For Better Sound	●		●		●
CD Audio In	●		●		●
Can Use Microphone And CD During Digital Playback	●		●	●	●
SMT Board For Better Reliability	●		●	●	●
Free Speakers	●		●		●
CD-ROM Interface (AT-Bus)					
Panasonic Interface			●	●	●
Mitsumi Interface					●
Sony Interface					●
CD-ROM Interface (SCSI)					OPTION
Microphone AGC Amplifier	●		●	●	●
Stereo Microphone Input					●
Software Selectable IRQ, DMA & Address Setting Configuration Retained When Power Off			●		●
Mixer Support From More Than One Source During Recording	●		●		●
Built-In Amplifier	●	●	●	●	●
Stereo Lines In And Out				●	●

16-bit COMPARISON

	STEREO				
	AZTECH SOUND GALAXY NX PRO 16	CREATIVE SOUND BLASTER 16 ASP	MEDIAVISION PRO AUDIO SPECTRUM 16	AZTECH BUSINESS AUDIO BOARD	MICROSOFT M'SOFT WINDOWS SOUND SYSTEM
No Of Sound Standards	6	2	2	2	1
AdLib	●	●	●	●	
Sound Blaster Version 2	●	●	●		
Sound Blaster Pro II	●				
Microsoft Windows Sound System	●			●	●
Covox Speech Thing	●				
Disney Sound Source	●				
FM Synthesiser - OPL3	●	●	●	●	●
Digital Software Volume Control	●	●	●	●	●
Digital Bass & Treble Control	●	●	●	●	
CD Quality Sampling Rate, Record & Playback Up To:	44.1KHz	44.1KHz	44.1KHz	44.1KHz	44.1KHz
Game Port, With MIDI Option	●	●	●		
Dynamic Filtering For Better Sound	●	●	●	●	●
CD Audio In	●	●	●	●	
Can Use Microphone And CD During Digital Playback	●	●	●	●	●
CD-ROM Interface (AT-Bus)					
Panasonic Interface	●	●		●	
Mitsumi Interface	●			●	
Sony Interface	●			●	
CD-ROM Interface (SCSI)	OPTION		●	OPTION	
Microphone AGC Amplifier	●		●	●	●
Stereo Microphone Input	●			●	●
Software Selectable IRQ, DMA & Address Setting Configuration Retained When Power Off	●				
Mixer Support From More Than One Source During Recording	●	●	●	●	●
Option For Upgrade To 16-bit Wave-Table Synthesis	●	●			
Stereo Lines In And Out	●	●	●	●	●

8-bit MONO
2 SOUND STANDARDS



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- *Dynamic Filtering:*
  For Better Sound Reproduction
- *CD Audio In:*
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- *Mixer Support:*
  Recording and Playback from Multiple Sources
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- *MIDI Interface*
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- *FREE Speakers*
- *CD-ROM Interface (Built-In) For:*
  Panasonic Drives
- *Software Configuration Settings in Eeprom:*
  Card Doesn't Reset on 'Power-Off'
- *Software Control of Volume, Bass & Treble*
- *Built-In Amplifier & MIDI Interface*
- *FREE Dynamic Microphone from Silica*

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5 SOUND STANDARDS



SOUND GALAXY NX PRO EXTRA

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  Panasonic, Mitsumi & Sony Drives - Optional Upgrade to SCSI
- *Software Configuration Settings in Eeprom:*
  Card Doesn't Reset on 'Power-Off'
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16-bit STEREO
6 SOUND STANDARDS



SOUND GALAXY NX PRO 16

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Which computer(s), if any, do you own? 110C

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nals to get from A to B, and then back again into digital signals.

The job of the modem is to do the conversion. If the two machines are close enough to connect using a cable of your own choice, ie, not a phone line, then you don't really need a pair of modems. All you need is a special serial cable called a null modem cable.

That's all there is to it, except that even if you have a null modem cable that works you might find that you have trouble with two machine games. A serial connection can be very temperamental indeed and the game manuals generally aren't of much help. See the answer to the next question ...

Two machine games II: real modems

Q My cousin and I have both got Locland 486DXs. We would like to be able to play two player games with Modems.

How much would two modems cost that would be able to manage this? Also, as we live in the same local area, how much would the cost be per hour?

We are interested in simulators and games like Syndicate. Are there any disadvantages of using modems for multi-player games?

Paul Weir & Stuart Davidson
Northern Ireland

A *Now in this case (see the previous question) you do need modems because you are going to use the phone lines. As already explained, a modem converts digital signals to audio tones that the phone line can transmit.*

You need to pay a minimum of £100 for a reasonably fast modem. This will seem more acceptable if you are also going to use them to call up bulletin boards to join in the chatting and down load software.

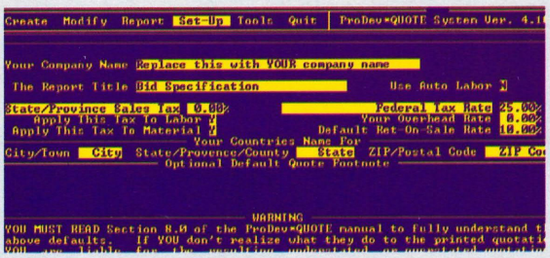
How much does it cost? Well, to connect to your cousin's machine would just be whatever the local phone call cost — there are no hidden extras. If you decide to use services such as CIX or CompuServe then they will bill you for using their computer time and this can be quite expensive when you add in the cost of the phone call.



Getting on with the business

I have recently bought a new 386 with 2Mb of RAM and an 80Mb hard disk. I bought the machine to help my business function better. I wanted to do my invoices and quotes on it, but so far I have been unable to find a suitable package to produce my invoices on. I need a package that can work out hours worked, rates of pay, taxes, and print the invoice according to the position of the lines on the stationery. I also need a very user friendly database for my business — can you recommend anything?

Linda Fearn
Newark, Notts



Setting up a quotation package can take a lot of time — and you have to contend with the problems of USA software!

Businesses work in so many different ways that it is difficult to find a piece of 'off the shelf' software that suits. Most users start off by using general purpose programs spreadsheets and word processors to help produce the existing paper work. If you want to produce quotations and invoices then a spreadsheet is a good choice. Most word processors can produce good looking invoices, but they are a bit too limited to make quotations easy.

I would recommend that you find out about spreadsheets first. Quattro Pro 5 for Windows and DOS is great value at the moment — but get an extra 2Mb of RAM fitted to do it justice.

*There are a number of quotation packages, but most of them are aimed at the building trade, even if they try to look more general. You could try Prodev*Quote (1833 PDSL) and Estbid Plus (H130 PDSLS).*

As to making the output line up with existing printed stationery, it can be done but these days it is much easier to use the PC to design forms, including letter heading, etc, which can be printed on to blank sheets of paper. To do this you need a reasonably good printer — an inkjet or a low-cost laser — but it is worth it in the long run.

Finally, a friendly database? Well, databases try to be friendly but they don't really succeed in the same way that spreadsheets do. Try working with a spreadsheet for a while, most have simple database facilities, and you will be in a better position to judge your needs.

The great emulation problem

It seems that a large number of readers buy a PC and then spend a lot of time wishing it was something else! After the great Spectrum and RM Nimbus emulator quest in previous months we now have the Amiga and Archimedes search. Can any reader help?

I am looking for software or hardware which will help me to emulate an Amiga. I have tried a shareware program but it only emulates Workbench 1.2 which is almost impossible to get hold of.

I would be very grateful if you could please help, as I would rather fork out just over £100 for a decent sound card for my PC than spend almost £300 for a new Amiga 1200.

Peter James Holl
Kent

My family has recently purchased a PC. Unfortunately, I have found that there are many games that I would like to purchase that are only available for the Amiga.

I would like to know if there is any software that will emulate the Amiga, so that I would be able to use Amiga games on my PC.

Simon Hurley
Dorset

I am looking for the following software: an Archimedes Basic Emulator.

Stuart Sexton
Hants

32 bits

Very recently I have started to program my PC and I am now looking for a full blown, top of the range 32-bit C compiler. Can you help me?

S Bishop
Hereford

You are asking a lot! There are lots of good C and C++ compilers but 32-bit compilers are still in the minority. Although the 386 has been around for a few years, the 16-bit instruction set of the 286 is still the bottleneck. More seriously, most programs are still created to run on the ancient 8088/86.

The three most popular C compilers are Borland's C++, Microsoft's Visual C++ and Zortech/Symantec's C++. All three are well on their way to 32-bit versions. The Zortech compiler was the first to offer 32-bit instructions, but it isn't the most popular. The two front runners are Borland C++ and Microsoft Visual C++ and of the two I prefer Visual C++ for creating Windows applications. None are particularly cheap, however. My recommendation for a compiler for 32-bit DOS applications is Symantec's C++ Professional version 6. Again it isn't cheap, but if you hurry there is a special launch offer of £149 for the whole package — which is a real bargain.

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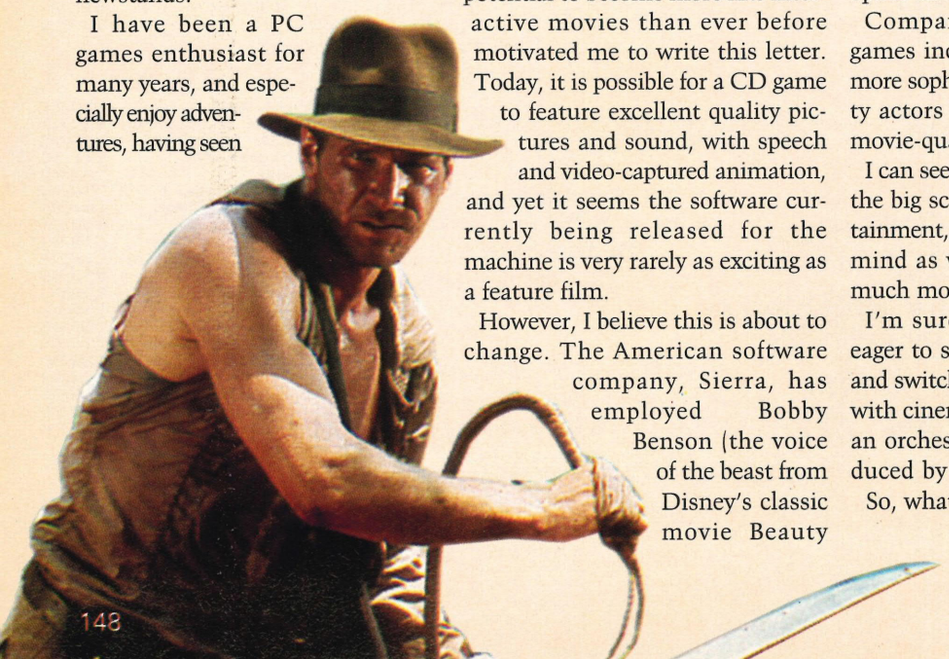
Letters

PC Review welcomes letters on any subject under the PC sun. The editor will chop them to fit if need be, and we'll assume letters are for publication unless you state otherwise. Send your mail to letters, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. Star letters win software prizes!

Stars on CD

Firstly, I must commend on your excellent magazine, which was the first in Oz to be completely devoted to PC entertainment, and, although it is two months old when it arrives over here and priced at nearly $12, it is the best rag on the newstands.

I have been a PC games enthusiast for many years, and especially enjoy adventures, having seen them evolve from text-only computerized novels (from Infocom and the like), to 256-colour living works of art that still amaze me in their technical brilliance, as can be seen in games like The 7th Guest on CD-ROM.



The fact that CD games have the potential to become more like interactive movies than ever before motivated me to write this letter. Today, it is possible for a CD game to feature excellent quality pictures and sound, with speech and video-captured animation, and yet it seems the software currently being released for the machine is very rarely as exciting as a feature film.

However, I believe this is about to change. The American software company, Sierra, has employed Bobby Benson (the voice of the beast from Disney's classic movie Beauty and the Beast) to be the voice of Prince Alexander in the CD version of Kings's Quest VI. I would encourage LucasArts to employ Harrison Ford for the CD-ROM version of Indiana Jones and the Fate of Atlantis, or Interplay to use Buzz Aldrin's vocal cords in Race into the Space on CD.

Companies could redefine the games industry if their games had more sophisticated plots and celebrity actors to play the lead parts in movie-quality products.

I can see the small screen replacing the big screen as a means of entertainment, as adventures exercise the mind as well as the eyes, and are much more rewarding.

I'm sure gamers would be very eager to sit down at the computer, and switch on to a horror adventure with cinema-like special effects and an orchestrated soundtrack, introduced by a video-captured Elvira.

So, what do you reckon, guys?

Holly Green
Australia

Marks out of 10 for enthusiasm

I have always felt the quality of your reviews are second to none. They are detailed and unlike some magazines the higher ratings are not exactly awarded easily.

I was bewildered, therefore, by last month's somewhat overly generous ratings in your magazine. In the July issue in the "Reviews Compendium", PC Review proudly stated that in its 21 issues it had only offered a nine rating eight times. The simple reason for this is that every rating has to be genuinely earned and many games simply don't achieve the grade.

These guidelines seemto have been thrown out of the window last month. Personal feeling and likes and dislikes seemed to have taken over. I am mainly talking about the reviews of Sensible Soccer and Tornado. I will not say that these are not good games but I felt, having seen them, that they were not worth the nines which were awarded.

Dean Evans is obviously a flight sim enthusiast and truly enjoyed Tornado and his sentiments came through in the review but it must be remembered that many of the readers would not be so willing as he was to trek through the 300 page manual and learn the countless number of keystrokes needed to play what is a simulator in the true sense of the word.

I enjoy a flight sim but it must have a lot of action, be fun and quite easy to learn. In my opinion, Tornado fails on these latter counts and this should have brought the rating down. Tornado is being sold as a game and therefore should entertain as well as be realistic. Sensible Soccer, from what I have seen, was more deserving of a high rating but I feel that it should have been an eight at the most. There is not much wrong with it (apart from the sound) but the nine rating seems out of place when you compare it to the many good games which have only had eights (X-Wing, Ultima Underworld 2).

Reviews will always have a measure of the reviewers' personal tastes, but I feel that this could be minimised if each game was tested by the main reviewer and a sub reviewer whose job it would be to make sure the rating given was a fair and rational one and to give another viewpoint on the game.

Also, I would like to suggest some other possible improvements to the magazine. The shareware reviews section is very good, but I have always felt some kind of bottom line rating was missing. The reviews usually state in detail what is good or bad about a program but a final rating would add to this.

In Issue 21, all the games ever reviewed were listed, six months after the last listing. I believe this policy should be scrapped and a monthly listing be introduced. I like to be able to pick up the latest issue, and find within moments the month of any particular review and the rating attained. I understand that such a list would increase monthly and would soon involve a fair number of pages. However, you could split the games either in alphabetical order or by class of game and rotating the listing.

S Paul
London

Star Letter

Auto-executive stress?

I have recently started using MS-DOS 6, and I remembered your article in the April issue. While reading it I noticed the section on multiple configurations that told you how to set up your Config.sys file for that. At the bottom it said that the same sort of thing was possible with your Autoexec file, I promptly then altered my Config and Autoexec files the same way. When I rebooted my system to find out what the effects were my Autoexec didn't work properly so I turned to the DOS 6 manual for help.

So for all you people who have been struggling with their Autoexecs here is the solution: for the lines that are used in all the different sections of the Autoexec file place these at the top and underneath write: goto%config%, and instead of writing, for example, [windows], write :windows instead above each section, also at the end of each section add goto end. and at the end of the Autoexec after a couple of lines down write :end.

Basil Hussain
Essex

In defence of Sensi, John Bennett writes: "We deliberated long and hard over Sensible Soccer in the office, because you cannot deny that the PC version is not as good as the Amiga version. However, comparing it to other soccer games on the PC, it is far and away the best and streets ahead of anything else — which seems more constructive than to compare it to X-Wing or Ultima Underworld, which are completely different types of game."

And Dean Evans has this to say about Tornado: "It seems your problem lies with the Tornado as a plane not as a simulator. The role of the aircraft is such that dogfighting is often the worst option. Running away is more preferable. To criticise Tornado as lacking in action is to overlook the fact that the game recreates the real thing. Perhaps flying a Tornado isn't as exciting as flying an F15, but realism is the important word here. Remember the RAF uses this as a training aid. This is as real as it gets."

Fortunes of war gaming

I read with great interest your review of war games in PC Review, Issue 22. I have been interested in war games for years, but could never really play them until computers came along as I could never get to grips with the board paraphernalia.

I have many Atari 800/800XL war games, that I had to give up playing since none of my Atari systems were in whole working order. Apart from general interest in your review, my question to you is whether you know of any PC conversions of these old war games. My favourites were these: NATO Commander and Crusade in Europe from MicroProse and good old Sid Meier, The Battle of Shiloh, Objective Kursk, Tigers in the Snow, Battle for Normandy, Broadsides, Knights of the Desert, and The Shattered Alliance, all from SSI – some by Gary Grigsby. There were a whole bunch of others, but many were pretty awful. SSI did the best by far.

Some of the games you list sound very comparable, eg, the Gary Grigsby Russian Campaigns (didn't Chris Crawford do the definitive work in Eastern Front? I still have the original Atari "shareware" version, the one that has to be played all the way through).

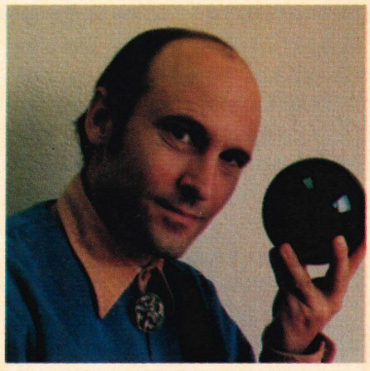
Last request – do you have a definitive list of the games that Chris Crawford authored and whether they are still available? I looked through my old disks and found four: Eastern Front, Legionnaire, Excaliber and 1776.

I see you recommended Patton Strikes Back – what else is current?

You mentioned the need for a war game equivalent of Eye of the Beholder to boost the mass market appeal (and the resources applied to these games). I can see Dune 2 filling the bill – it's fun to play at the lower levels and has a SF bias which plays well these days. The reviews it's getting are very good. Let's hope it does the trick.

Colin Jones
Herts

Of your ex-Atari wish list, Crusade in Europe was converted by MicroProse, Tigers in the Snow was SSI's first PC release and Battle for Normandy its second; the others we can't trace PC versions for. Now, as to whether you can get hold of them these days ... they are all collectors' items, and if any are gathering dust in MicroProse and SSI's warehouses will need to be specially ordered.



Chris Crawford (pictured above) kindly sent us his "definitive list" in response to your plea:

Title	*Year*	*Supplier*
Energy Czar	*1981*	*not avail*
Scram	*1981*	*not avail*
Tanktics	*1981*	*not avail*
Eastern Front	*1981*	*not avail*
Legionnaire	*1982*	*not avail*
Excalibur	*1983*	*not avail*
Balance of Power	*85/88*	*not avail*
Patton vs Rommel	*1986*	*not avail*
Trust & Betrayal	*1987*	*self*
Balance of the Planet	*1990*	*self*
Global Dilemma	*1990*	*not avail*
Patton Strikes Back	*1991*	*Broderb'd*

Answers on a postcard to ...

I have only one complaint, and that concerns your monthly competition. Why do you have to make us cut the answer sheet out of a great magazine? Is it possible for the readers to write the answers on the back of a sealed envelope or postcard? I really want to enter the competition but I also really hate to destroy your wonderful magazine.

Lincol Lin
Vancouver

Not only do we not object to you using a photocopy of the coupon, or writing out the answers, but we positively encourage you to stick the entry on the back of an envelope or postcard. What we really want to discourage are multiple entries — 20 photocopied coupons, all from the same address in the same handwritin, which is no more than a waste of time and stamps for the sender.

Flights of fantasy come true

Many thanks for Flights of Fantasy in Issue 23 of PC Review. I'm familiar with several of the packages described and generally concur with your conclusions. In my opinion Microsoft FS4 and Falcon 3.0 are the pick of the crop. Chuck Yeager's Air Combat is also good at making fast action fun out of basic fighter manoeuvres, especially when you haven't time to sit at the computer for two hours!

The article begins by posing the question "What's realistic anyway?" As a helpless addict where flight sims are concerned, this question has always intrigued me. Does the ability to land the Cessna in Microsoft's FS4 suggest that one could land a real light aeroplane?

I'm writing this letter because in my case curiosity got the better of both myself and my bank manager. I was so obsessed with answering the question that I decided to take a trial flying lesson to find out!

I got so hooked that one wasn't enough. Having soloed it was then a case of the Magnus Magnussons (I've started so I'll finish) and now my training for my private pilots' licence is almost complete!

There's no doubt at all in my mind that a program like FS4 gets pretty close to the real thing in terms of its flight model. It prepared me for my early lessons far better than reading the textbooks which my instructor recommended!

The behaviour of the aircraft in FS4 follows the basic rules of aerodynamics. The techniques for manoeuvring a real aircraft, if applied to the computer simulation, produce the expected results in terms of airspeed, attitude, rate of climb/decent, etc. Moreover the instruments, including the radio navigation aids, behave in a convincing and realistic manner, such that "playing" FS4 constitutes good practice for navigating the real thing.

What the program could not prepare me for was the range of sensory and emotional experiences encountered on my first trial lesson. There was a feeling of claustrophobia as I levered my six foot frame through the tiny doorway of a Cessna 152, to sit shoulder to shoulder with my instructor. The noise of the engine and the barrage of information from the tower were almost overwhelming, as was the feeling of the aeroplane dancing over the thermals rising on a hot July day.

In some respects the real aeroplane is easier than the simulator. The controls are quality items with a smooth and glitch free action. The weighting in them constantly reminds you of airspeed. The sound and feel of the real Cessna is what the instructor focuses you on, along with the relationship of cowling to horizon which is the key to flying straight and level.

Having flown FS4 I found that I could turn the real aeroplane straight away. It also saved me some money! I'd been on the point of shelling out for some foot pedals for the computer, only to find that a Cessna 152 (and a Piper Cherokee for that matter) don't really require application of rudder to produce a gentle co-ordinated turn. Now crosswind landings, that's a different matter!

And what about landing? Well down to 50 feet the simulator gives a good idea of what it's like. As the runway comes really close, however, its texture makes one suddenly aware that this is for real!

I wonder what the software could do to mimic the feeling. Maybe if it was programmed so that a heavy landing on the nose wheel would format the hard disk ...

D S Farr
Bristol

Disk compression and games – the best of both worlds

Judging from the letters in Issue 23, it seems that quite a number of people are having problems with disk compression. On my part, I can report that Indiana Jones and the Fate of Atlantis, Aces of the Pacific, The Lost Files of Sherlock Holmes and X-Wing do not work with my SuperStored disk, while Red Baron occasionally dumps you to the DOS prompt, with a "Shell error" message, but only if your pilot is killed.

I am happy to say that I am able to play the games mentioned – there are ways around disk compression problems. I would like to offer the following as general principles:

1. Never compress the entire hard disk. If possible, leave at least about 40 Mb uncompressed. At present, this should leave enough room for a Windows permanent swapfile plus a game or two, Strike Commander excepted, of course.

2. It is possible to have more than 610,000K free conventional memory with compression software, unless you have a a lot of device drivers. However, this assumes at least a 386SX and DOS 5, but Qemm or Memmaker is not necessary.

Without Qemm or similar utility, arriving at the optimum configuration is by trial and error. Having set up Himem and Emm386 and loading high as many devices as possible, run the DOS command 'Mem/c | more'.

This should display the memory usage of each device driver and the amount of free upper memory block. Often, changing the order of the device statements in the Autoexec.bat or Config.sys file can result in a better use of the upper memory block, thus allowing more devices to be loaded high.

Just a word of caution here: it is worthwhile making a bootable floppy disk before experimenting just in case you screwed up.

3. Avoid using Keyb.sys for your keyboard, because it is not possible to install it high in the config.sys file. Use Keyb.com in the Auto exec.bat file instead in conjunction with the Loadhigh command.

4. If possible, install your games on to the uncompressed drive first, then use something like Xtree to move the game files to the compressed drive. This should get around games that cannot install on to a compressed drive but can happily work on a compressed drive. This technique worked with Aces of the Pacific and Indiana Jones.

Is it possible for PC Review to state in the TechSpec section of the review whether problems with disk compressors were encountered?

Steve Lai
Surrey

Competition winners

Motor Stars (Issue 22)

One brand new CD-ROM drive, plus the Revell Motor Stars kit and CD game is on its way to Miss K Gibbins, of Hull, who answered the three not exactly difficult questions and was first out of the hat. Then came the five runners-up, who'll get the Porsche Motor Stars CD-ROM kit: Ashley Morris, of Abingdon, Oxon; Damian White, of Chalfont St Peter, Bucks; Mr R A Matthews, of Codsall, Staffs; Donald Fisher, of Skelmorlie, Ayrshire, and Mr A E Barker, of Sandiacre, Nottingham.

And those not exactly difficult answers? Williams Renault won the Formula One Constructors' Championship in 1992; Nigel Mansell is currently driving for Paul Newman, and the four Motor Stars cars are the Bugatti EB110, Porsche 911 Slant Nose, BMW Nazca M12 and the Lamborghini LP500S.

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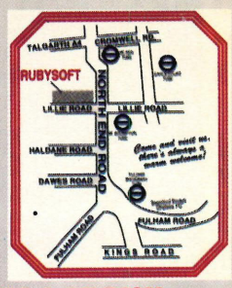

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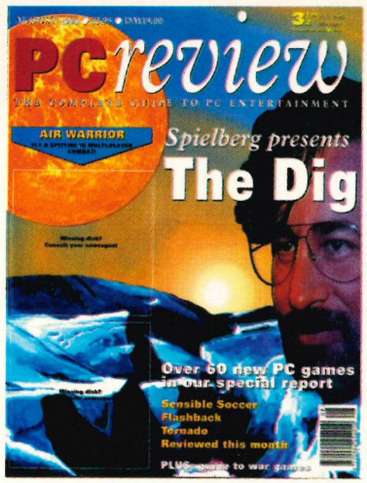



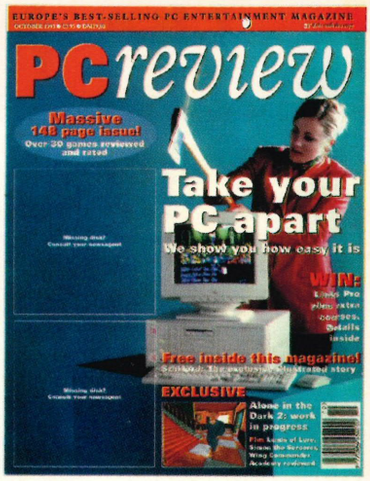

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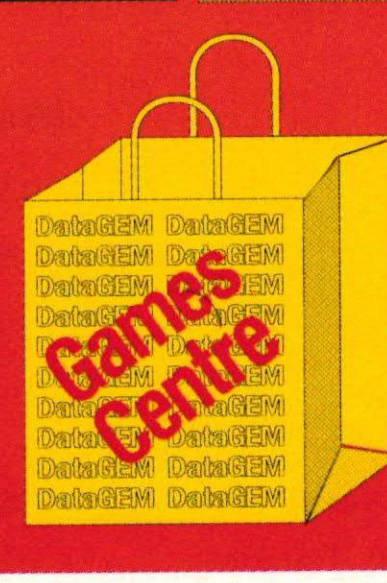

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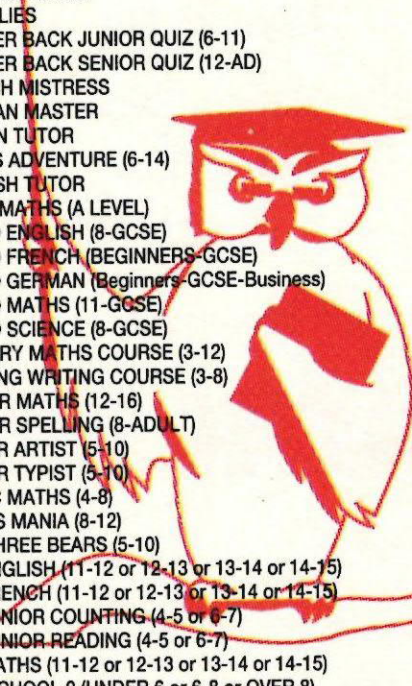

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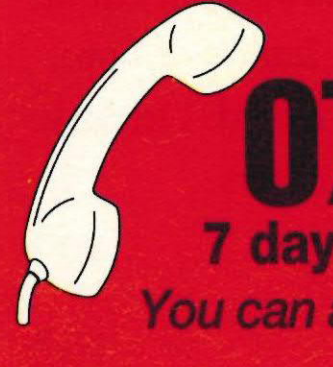

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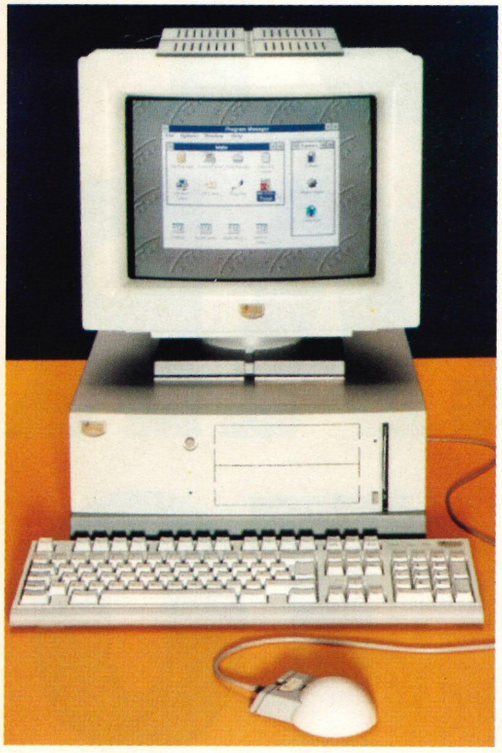

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Role-playing games

If you want to forget your problems for a while, there's nothing like an RPG for giving you the opportunity to indulge in a bit of pure escapism. Cal Jones takes you through the best and most absorbing games of the genre

Role playing games: dontcha love 'em? How else would you be able to get a sex change, hack someone to death, turn your talents to magic or even fly without being nicked on a drunk and disorderly charge?

But seriously, the one thing which draws people to role-playing is the element of escapism it offers. RPGs give you the chance to get away from reality for a while by becoming someone else and entering a fictional world filled with mystery and danger. However, only the best RPGs are actually absorbing enough to achieve this, and with so many mediocre games around, it's difficult to know which to buy and which to avoid like the plague.

Role-playing first achieved popularity when Dungeons and Dragons appeared back in the 70s. It was unlike any tabletop game seen before because it didn't use a board, relying instead on manuals, pens, paper and the imagination of the players. Each game is designed by the dungeon master, who invents a scenario in accordance with the game rules, and then makes a map of the gaming area using graph paper. Once this time-consuming process has been completed, a group of players tackle the problems the dungeon master has devised using characters they have created beforehand. The dungeon master also acts as referee, awarding points to the characters so that they can improve their statistics.

Since then, the RPG has made the transition to computer, and the dungeon master has been replaced by the game engine. In the early days of computer role-playing, the graphic and sound capabilities of the PC were somewhat basic, so games tended to rely on plot and statistics rather than impressive visuals. SSI's AD&D licensed games, starting with Pools of Radiance, were very faithful to the original game, which made it easy for pen and paper gamers to get into. However, the heavy emphasis on character development and statistics was not for everyone, and we began to see the emergence of games which placed more emphasis on plot and atmosphere in an attempt to create a more believable game world.

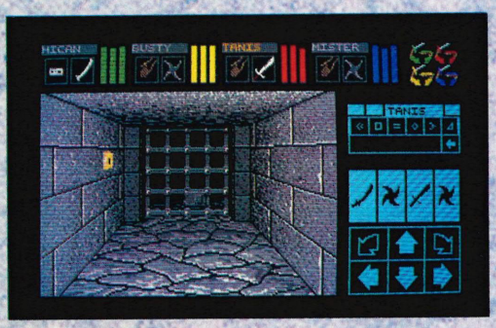
This led to the development of the first-person perspective game, in which you could see the dungeon through the eyes of your character. Early games of this type such as Dungeon Master and Bloodwych look primitive by today's standards, but at the time they caused quite a stir. Then SSI released Eye of the Beholder, a game similar in style to Dungeon Master but with superior graphics. Although faithful to AD&D rules, it was far more accessible than SSI's more traditional RPGs, and quickly became very popular.

With the advent of more powerful PCs, sound cards and better graphics, the presentation of RPGs improved dramatically. Game players began to demand more of their RPGs, and games heavily based on statistics began to lose popularity in favour of more sophisticated products. Origin, whose Ultima games were some of the most involving ever, was quick to capitalise on the new technology. Both Ultima VII and Ultima Underworld needed a minimum of a 386 to run when the 286 was the norm in most households, but were nonetheless hugely successful.

Ultima Underworld completely revolutionised the first person perspective RPG by doing away with square-based movement. Rather than being a flick scrolling affair which limited the player to 90 degree turns, it used instead multi-directional scrolling to give the player a greater sense of actually being there. As well as being able to move in any direction, the main character could look up at the ceiling or down at the floor, jump over chasms, swim and, with the aid of magic, fly. The problem was that, after the freedom of movement offered in Underworld, all the flick-scrolling RPGs suddenly seemed very dated.

So what of the future? As far as the first-person perspective game goes, it's evident that soft-

First-person, past, present and future tense



One of the original first-person perspective RPGs, Dungeon Master still influences games today. It initially appeared on the Atari ST and Amiga, but didn't make it on to the PC until late 1992, by which time it had been surpassed by more sophis ticated games such as Ultima Underworld. It remains one of the most entertaining RPGs ever, even if graphics are basic by modern standards. Look out for the 256-colour DM 2 early next year.



Eye of the Beholder was very much in the same mould as Dungeon Master: a flick-scrolling, first-person perspective 3D RPG, but with much superior graphics. It was the first game of its kind to appear on the PC, and consequently caused quite a stir. It spawned two sequels, but Eye of the Beholder III was programmed by a different development team and sadly proved somewhat disappointing.



After square-based, flick-scrolling games such as Dungeon Master, Ultima Underworld's multi-directional movement was a breath of fresh air. The graphics were outstanding compared to other first person RPGs, but unlike many others, it also had superb gameplay. The depth of plot in this and its sequel, Underworld II, is outstanding, so you can't even accuse it of being just a pretty face. It also boasts an auto-mapping feature.

ware companies are following Origin's lead and multi-directional scrolling will become a standard feature rather than a novelty. Twin Dolphin's Forgotten Castle features 3D modelling and stereo sound, and early demos look very impressive. MicroProse may release its own Underworld style game, Secret of the 7th Labyrinth, which will contain seven dungeons, each representing a lost civilisation. Meanwhile, Interplay's Stonekeep uses old-fashioned square-based movement, but the scrolling is so smooth that it's hardly noticeable. Although the direction of movement is limited, the full screen digitised graphics help to create the illusion of actually being in a dungeon.

Origin is about to release Shadow Caster, a first-person perspective RPG which bears some sort of resemblance to Underworld but is not part of the Ultima serieswhilst Underworld 3 is being developed in time for Christmas 1994.

As for the third-person perspective Ultima series, Ultima VIII: Pagan will be ready for release, fingers crossed, in December. It uses a different game engine from Ultima VII, with a more isometric viewpoint, larger sprites and 1500 frames of animation for the main character. Following criticisms that Ultima VII was far too big, Ultima VIII will have a smaller but more detailed gaming world. There will be fewer NPCs, and those that do appear will have more relevance to the plot.

Ultima IX will use a different game engine again, but by that time graphics and animation will be so detailed that the only viable medium will be CD-ROM. Ultima X, first game in the next series, will combine the technologies of Ultima IX and Underworld. Who knows? It's difficult to know exactly how RPGs will look in a few years' time, because for all we know we could all be sitting at home with our Virtual Reality headsets, quite unable to distinguish games from reality. Or then again, perhaps not.



So how will RPGs look in the future? Interplay's Stonekeep, to be released in February 1994, combines smooth scrolling with digitised backgrounds and monsters (well, actors dressed as monsters) for greater realism. It features full screen graphics, and inventories are accessed via pull-down menus. Interplay has put a lot of effort into making the gameplay interesting, so it should play as good as it looks.

Glossary

AD&D
Advanced Dungeons and Dragons. More complex than the original D&D, and the game on which many of SSI's RPG titles are based.

Alignment
This reflects the morality of your character, or more specifically, whether he or she is good, evil or neutral. Alignment may be pre-determined, or you can select it at the beginning of the game. It affects how you react in a given situation, and also how NPCs react to you.

Auto-mapping
In many of the older RPGs, the only way to map an area is with the aid of a pencil and graph paper. More recently, a lot of games map the areas for you, and maps may be displayed on a separate screen.

Character class
Your character's vocation. This varies from game to game: in some you don't need to specify a vocation, whilst in others you could have a dozen to choose from, usually fighters, magic users, holy men and thieves.

Character generation
See Rolling up.

D&D
Dungeons and Dragons. The best known pen and paper RPG and brainchild of Gary Gygax.

DM
The dungeon master or games master is the person who referees a pen and paper RPG, and usually designs the dungeon or game scenario as well. The computer takes the place of the DM in computer RPGs.

HP
Hit points measure your character's health. They are lost when you are injured, poisoned or diseased, and your character usually dies if they are allowed to reach zero. Hit points are usually restored by sleeping, potions, healing spells and sometimes food. In some games, dead characters may be resurrected.

Level
In most games you gain experience points from killing monsters, amassing treasure or solving problems. The more points you gain, the higher the level you achieve, and the higher your level, the more powerful your character will be. Gaining levels might add points to your attributes or hit points, and sometimes they enable you to cast more powerful spells.

Mana
The name given to magic points in Ultima RPGs. Magic points are used whenever you cast a spell, and may be restored by sleeping or drinking magical potions.

NPC
Non-player characters. These are all the characters which are not under your control during a game, and sometimes include members of your party.

Party
This is either a group of characters you control (as in Eye of the Beholder), or NPCs who accompany and aid your character (as in the Ultima series).

PC
Your computer. Also, player character, ie, any of the characters you control in a game.

Rolling up
The process of generating characters at the start of a game. In pen and paper games, character statistics are determined by rolling a dice – hence the name, but in CRPGs this process is replaced by random number generators or, in some cases, by a series of questions which determine the sort of character you'll be. A few games use pre-determined characters, and don't therefore employ a rolling up process.

RPG
Role-playing game.

Skills
In some games you can learn skills in order to improve your character. They can be magic based, eg, rune lore; combat based, such as archery or sword-fighting; or more general, for example, lock picking or acrobatics.

Stats
Your character's statistics, most common are strength, dexterity or agility, intelligence, wisdom, constitution and charisma. These values affect what kind of character you'll be, and can determine your character class.

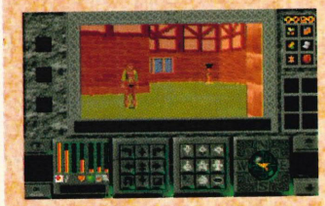
Turns
Each turn represents a period of time in which a character performs an action which has been determined by the player. NPCs are controlled by the DM or computer. Old style RPGs tend to be turn-based, whereas newer games such as Ultima Underworld are rather more spontaneous.

Classic role-playing games



Legacy — Disk £44.99 — MicroProse (0666) 504326 — 8

If you don't fancy the traditional orcs, goblins and elves scenario, Legacy is a compelling first-person perspective RPG set in a haunted house. There are demons, ghosts and zombies to kill. Good graphics and loads of atmosphere, but bear in mind that it's also disk-compression unfriendly.



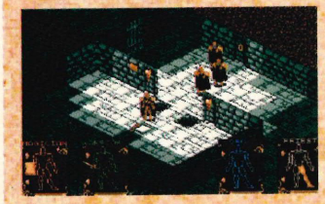
Legends of Valour — Disk £39.99 — US Gold (021) 625 3366 — 8

US Gold's answer to Ultima Underworld features much of the same technology, but backgrounds appear a little less pixellated than in the Origin classic. The plot is maybe not quite so compelling, but there's still a lot to do and see as you wander round town, joining guilds and completing quests. It contains more humour than your average RPG – try insulting someone by saying, "Your mother swims out to orc ships," for example.



Lure of the Temptress — Disk £35.99 — Virgin (081) 960 2255 — 8

Using a system called Virtual Theatre, Revolution Software managed to create the impression of a town in which everyone goes about doing their own thing independently. Characters go out, go to work, shop or nip into the pub for a swift half, much as you might do in real life. It's your basic fantasy game, but takes itself less seriously than most, thank goodness, and can even bring the odd smile to your lips. The game itself is enjoyable, if a little on the short side.



Shadowlands — Disk £29.99 — Domark (081) 782 2222 — 8

This isometric game scores highly in terms of originality, thanks to the technique of Photoscaping. The dungeons remain dark until a character lights a torch, whereupon, the area around him becomes visible.The lit area becomes dsmaller as the torch burns down for added realism. The graphics seem to have been inspired by Japanese cartoons, giving the game a distinctive look. It's very atmospheric, and also fun to play.



Spelljammer — Disk £35.99 — SSI/US Gold (021) 625 3366 — 7

If Sci-fi's more your kind of thang, Spelljammer is a space faring game which is based on AD&D rules. It is set in a galaxy where spaceships, known as spelljammers, are flown using magic alone. It contains a bit of everything – strategy, war gaming, flight sims and role-playing, and the mix works quite well. On the down side, it takes about an hour to install.



Ultima VII — Disk £39.99 — Origin/Electronic Arts (0753) 549442 — 4

Early versions were riddled with bugs, hence the unfavourable mark, but this is nonetheless my favourite RPG. It uses a top down, third person view, and the graphics and sound are excellent. It's an incredibly involving game with a great plot, but the gaming area is huge and novice gamers might feel a bit daunted by it. Ultima VII part 2, the Serpent Isle, uses the same game engine and is equally good if a bit tougher.



Ultima Underworld — Disk £39.99 — Origin/Electronic Arts (0753) 549442 — 9

Brilliant graphics, smooth scrolling and tonnes of atmosphere put this game head and shoulders above the competition when it appeared in 1992. It places more emphasis on combat than other RPGs, but also contains a lot of puzzles and the chance to cast spells. The only problem with this game is that afterwards you'll never want to play a block scrolling RPG again. You need a 386 with 2MB memory to play it. Ultima Underworld II (£44.99) is just as good, if not better.



Wizardry VII — Disk £45.99 — Sir Tech/US Gold (021) 625 3366 — 8

Light years ahead of earlier games in the Wizardry series, Crusaders of the Dark Savant is an attractive, first-person perspective game with good combat and magic systems. It has an auto-mapping,feature, providing that you have a character with the mapping skill in your party, and the character generation system itself is first rate, although very detailed.

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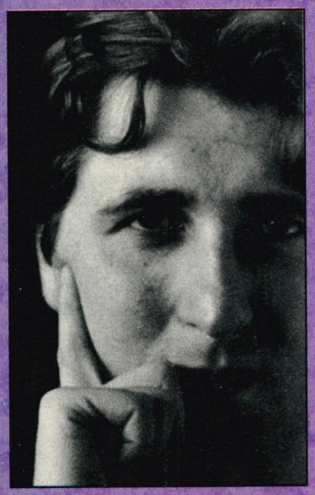
Martin Kenwright's *Classic game of the month*



Indianapolis 500



"I played this linked up to a big hi-fi with a Roland LAPC-1, so it sounded really cool, and the update was blindingly fast, making it feel realistic — perhaps too realistic. Later that evening, after six hours of Indy, I crashed my car going round an icy bend. Has anyone else done that — driving along and still thinking that they're playing a game?"

Indianapolis 500 is one of the oldest PC racing games (released in 1989), but there are many who would say that for sheer thrills and spills, it has never been bettered. Based on the Indycar's oval circuits, the course may become repetitive, but the play is fast and furious, and with a sound card (such as Martin Kenwright's Roland) the sound of squealing tyres and roaring engines can be truly terrifying.

If the course itself isn't so much of a challenge, then completing the circuits safely without crashing into any of the other 32 competing cars will certainly tax even the most experienced PC motorist. In fact, Indy 500's high speed multiple pile-ups are a famous feature of the game.

Ideal for PC owners with less powerful machines, Indy 500 will run more than happily on a 286. And those who think that racing games have moved on in the last four years will be cheered by the news that developer Papyrus Software is currently at work on a follow-up, IndyCar Racing, which promises more varied courses, while retaining all the action that has made the original such a long-lasting game.

PROFILE

Martin Kenwright's game writing career began in the sixth form at school when he was caught drawing unflattering cartoons of his teacher, Geoff Lawson. As a result, Lawson took him on at Rowan Software, as a graphic artist and 3D artist, writing games for Mirrorsoft.

Rowan's credits for Mirrorsoft (now-defunct) included Strike Force Harrier, Spitfire and early Falcon games, and Martin also wrote some freelance games for Microdeal. The big break came in 1989 when Ocean Software took an interest in a game design for F22 Retaliator, an accessible flying game. Martin's company, Digital Image Design, was born on the back of this and has since developed Epic, Robocop 3, TFX (reviewed this issue) and the forthcoming Inferno.

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PC review

TFX keyboard template

Shift-Q Quit without dying

W Wheel brakes on/off

E Emit ECM

R Change radar range

T Accelerated time on/off

H Arrester hook down/up

Shift-N Infrared night sight

Alt-J Jettison fuel tank

L Display last message

Alt-L Auto landing mode

P Pause

[Engine 1 shutdown

] Engine 2 shutdown

ILS on

@ Open/close refuelling access

ESC Eject

Shift-F1 Full forward view

F1 Front fixed view

F2 Padlock look left

F3 Padlock look right

F4 Check rear

F5 External views

F6 'Fly past' view

F7 Enemy tracking

F8 Follow missile/Infrared view

F9 Target's eye view

F10 Virtual cockpit

Shift + cursors Look ard aircraft

Rt Ctrl key Nav mode

Tab Panic recovery button

1 MFD1 select

2 MFD2 select

3 MFD3 select

Alt-B Brake chute deploy

Shift-B Brake chute release

Alt-H HUD on/off

7 Autopilot mode 1

8 Autopilot mode 2

9 Autopilot mode 3

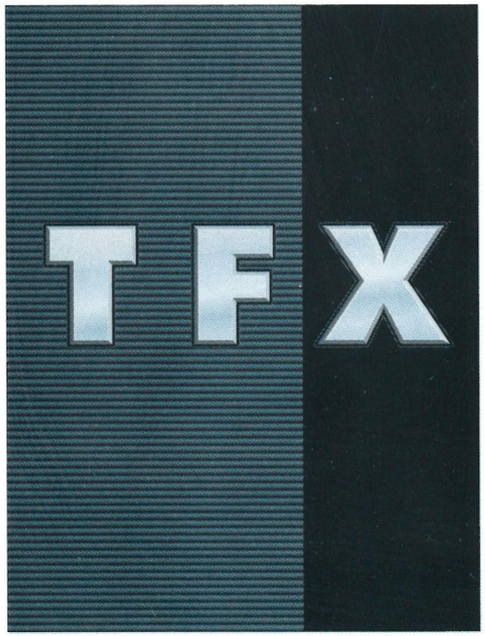
0 Autopilot mode 4

—/- Decrease thrust

+/= Increase thrust

Bspace Air to ground weapons

Enter Air-to-air weapons



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HOW TO USE YOUR TFX KEYCARD

This keycard should fit all standard PC AT keyboards. Using a scalpel or scissors, cut out the shaded areas (and this central panel, and fit the card over your keyboard.

Thanks to DID and Ocean for their help in putting this card together

Cursor up Dive

Cursor left Bank left

Cursor down Climb

Cursor right Bank right

Delete Flare release

Shift-End Zoom out

Sh-PgDn Rotate right

PgDn Cockpit down

Insert Chaff release

Shift-Home Zoom in

Sh-PgUp Rotate left

PgUp Cockpit up

Cursor and home keys template

A Autopilot on/off

Z Lock

S Stealth

X Break lock

D External details on/off

C Change lock

F Flaps on/of

Alt-V Video recorder start/stop

Space Fire/release weapon

G Landing gear up/dn

B Air brake on/off

N Toggle target views (MFD1)

M Map

, < Zoom in

. > Zoom out

Slash key Afterburner off

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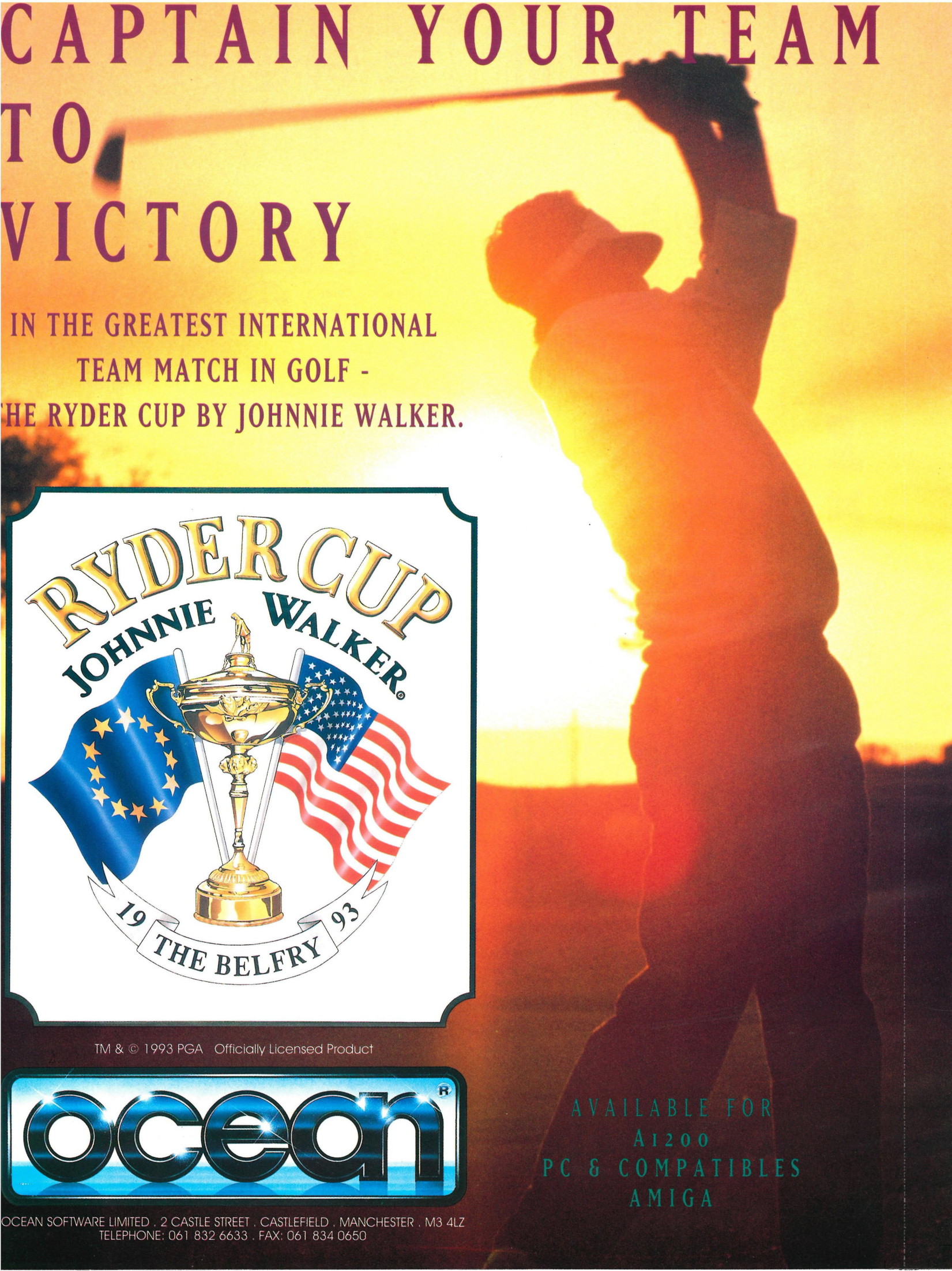

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