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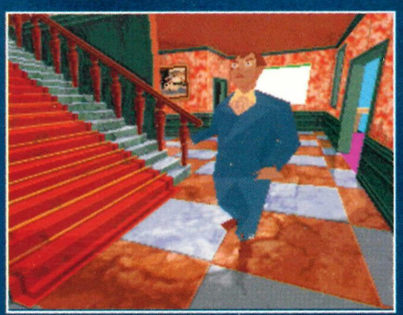

Alone in the Dark 2: work in progress

Plus Lands of Lore, Simon the Sorcerer, Wing Commander Academy reviewed

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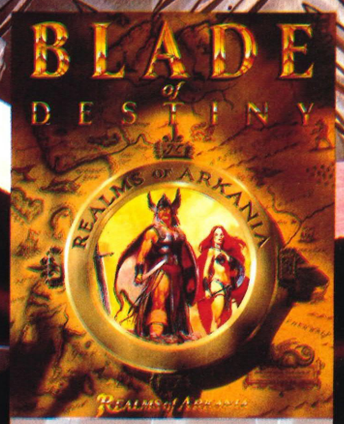

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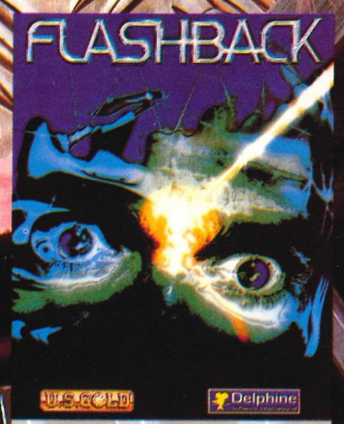

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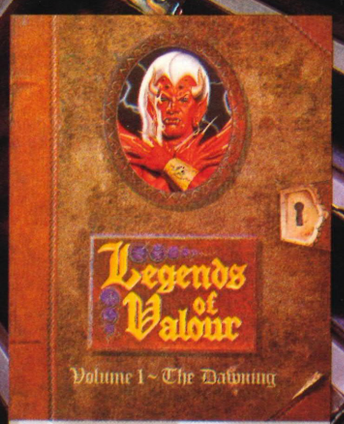

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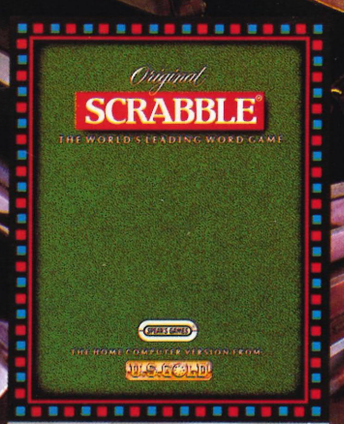

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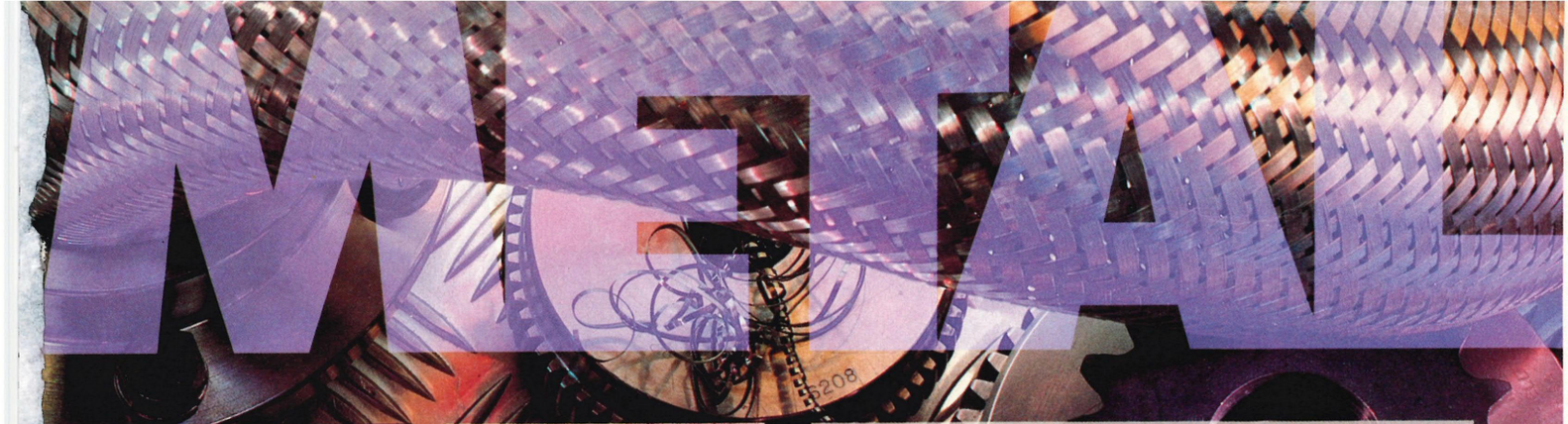

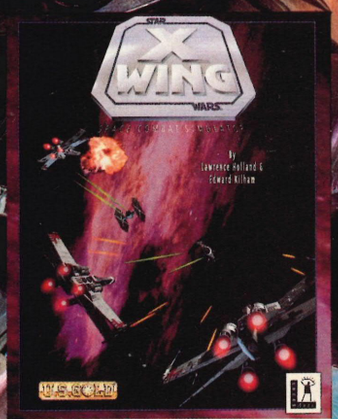

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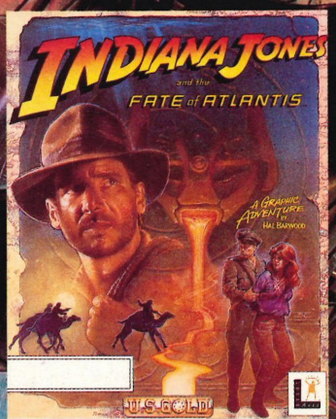

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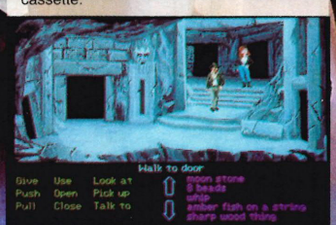



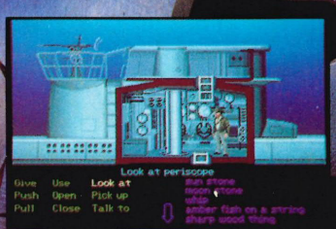

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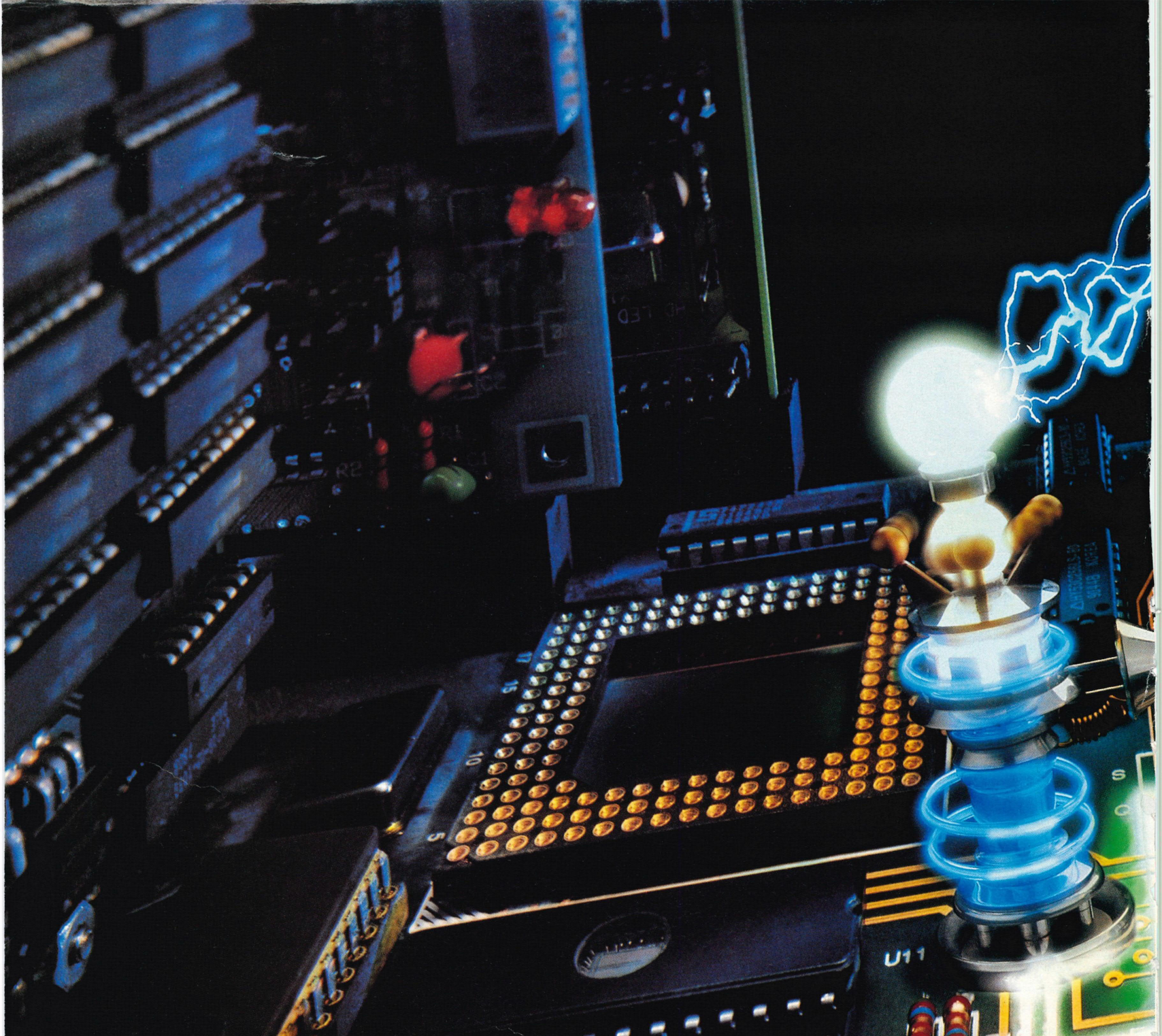

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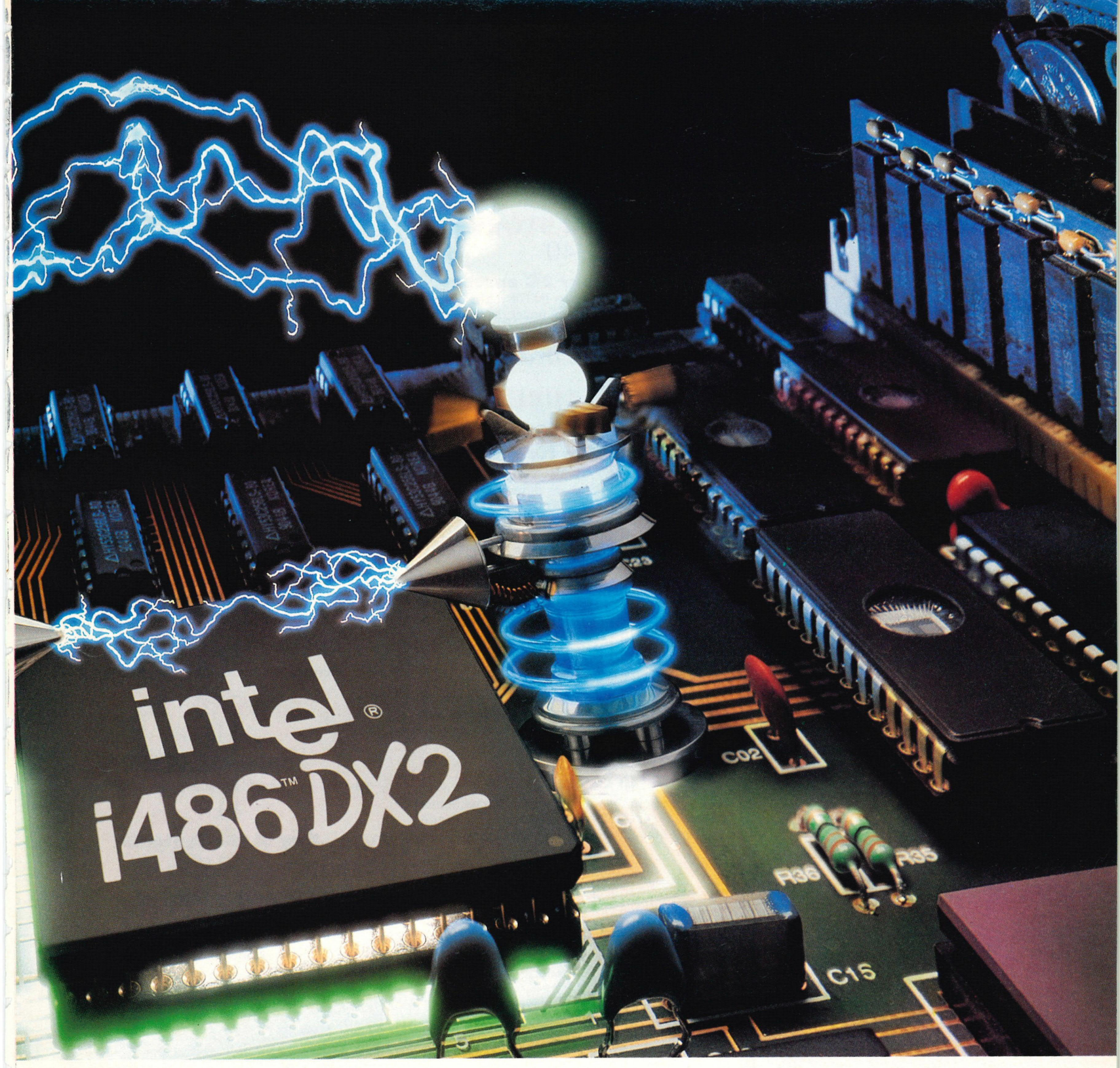

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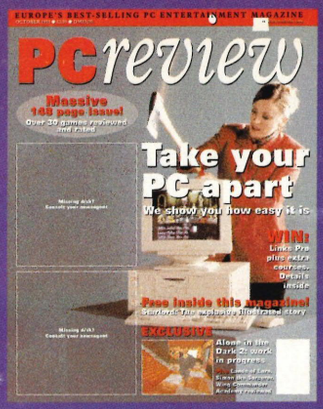

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COVER DISKS



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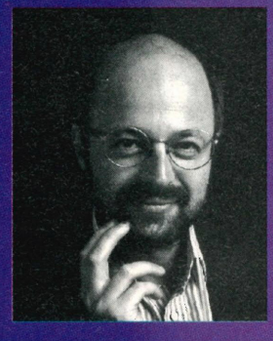
CONTRIBUTORS



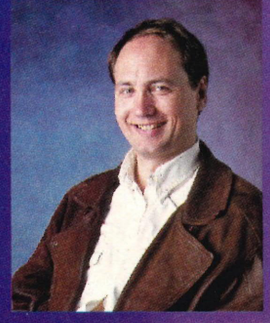
CHRISTINA ERSKINE

"There's a remarkable consensus that CD-ROM will be a viable games format for the majority of PC owners by this time next year," says PC Review's editor. Read her report on page 42 for the full story.



STEVE COOKE

Games guru Steve Cooke always has at least one eye firmly fixed on the future of home entertainment, and he reckons the secret of it lies in the telephone, rather than the TV or hi-fi. The Cooke Report, page 23, explains all.

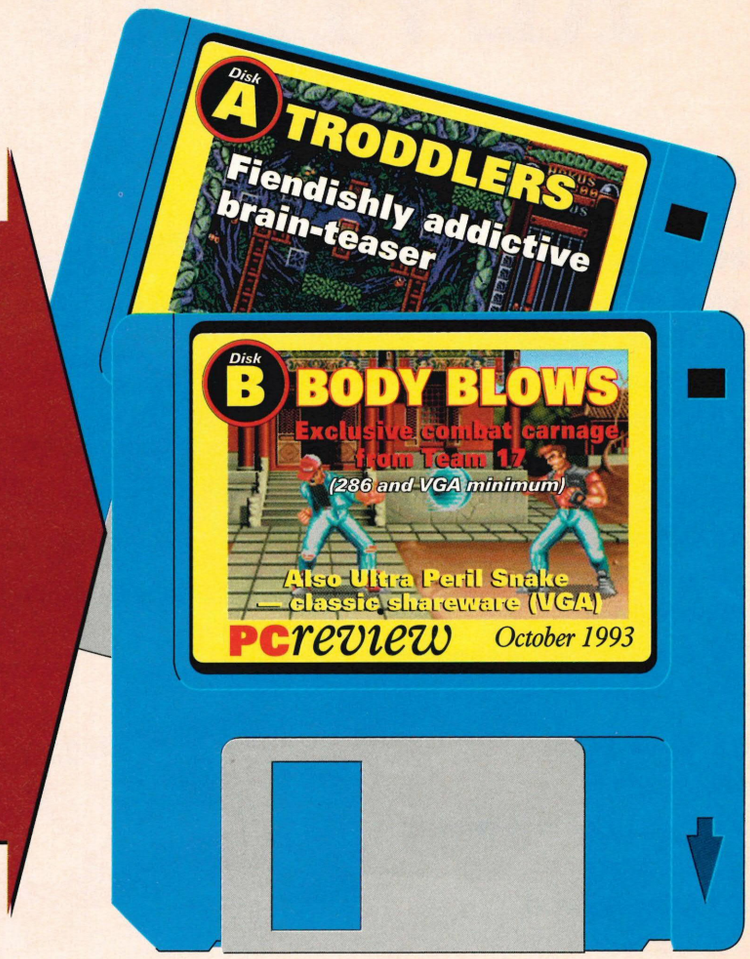


SIMON SHAW

A keen strategy and war gamer since childhood, Simon is finding that PC renditions of the genre are seriously distracting him from his main career as a novelist. Particularly the CD version of Dune, which he reviews on page 102.

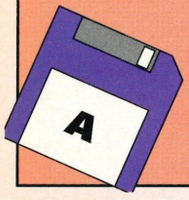
COVER DISKS

The best, the most frantic, the most frustrating levels of puzzle action to pit your wits against in Troddlers (for 3.5" users). Then read the review — perfect! And after that it's bound to end in tears in Body Blows, from those rough boys at Team 17. 5.25" disk users need to find a friend to play this one with, but if you've got a 3.5" drive you can do it in the privacy of your own home, or in company — depending on how the mood takes you. And to round it all off perfectly, we have Ultra Peril Snake from Digital Sheep Software, a superb reworking of a classic shareware game.



Troddlers

3.5" disks only



On disk A



Troddlers is a fascinating puzzler in the finest Lemmings tradition, a real hair-tearer of a game, and you can see the full review in this issue of PC Review. There are six whole levels to play through on this cover disk, with one two player, and one two player 'war' option demos as well.

The idea of the game is for Hokus and Pokus, able assistants of the wiz Divinius, to save the *spectacularly stupid* troddlers from wandering off aimlessly and getting into more trouble, or even worse, turning into zombies at the flick of a teleport switch.

Seeing as it was their fault that the troddlers got out in the first place, Hokus and Pokus have to shepherd them back pronto. In the meantime, to get back in their master's good books, they also have to collect the special multi-coloured bonus gems, and protect the troddlers from chance encounters with the zombies and an assortment of obstacles.

To complete all the levels in the demo successfully will take a fair bit of careful planning and frantic troddler chasing. And probably a lot of bad language, too — these troddlers really are that dumb, you know.

How to start

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

How to quit

ESC during the game
F10 to quit from the main menu

Hardware required

286 PCs minimum, with VGA. 580k base memory is also required

Controls

Troddlers can be played with either the keyboard or the mouse. Use the number keys to move and jump around, and the Shift key to fire. Alternatively, use:

Up	**W**
Down	**X**
Left	**A**
Right	**D**
Fire	**Shift/Ctrl**
Pause	**P**

How to play

Dead easy, this bit. Chose the type of game you want from the opening menu. You will be given

a list of tasks to achieve: save so many trods, collect so many red gems etc.

You have a certain number of bricks to use to redirect the troddlers to the teleport exit, and to help you get from A to B. The troddlers have a complete disregard for the laws of gravity, but unfortunatey you don't have the same abilities, so you have to make do with climbing up and over the the blocks.

Simply hold down the fire button while pointing in the direction you want to place the block, then release the fire button. But remember, you only have a limited number of blocks to work with. To collect blocks, just repeat the same process while aiming at a an existing block.

If you happen to catch one of the troddlers with a block, then it's goodbye from him. Zombies, however, are well worth stomping, because otherwise they'll make mincemeat of your little troddlers. And all the time this is going on, the clock's counting down ...

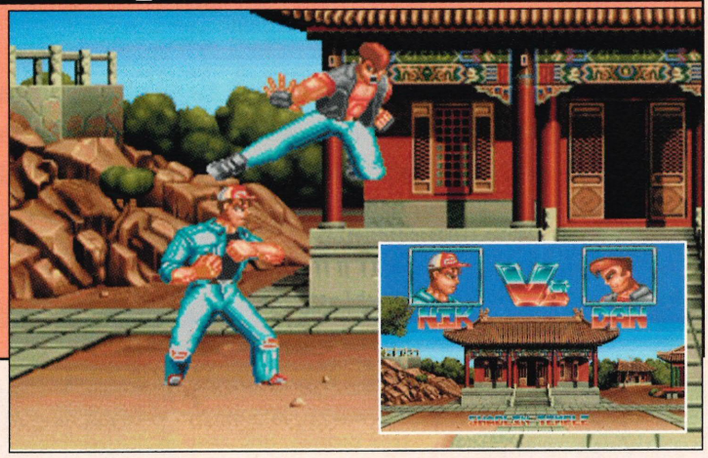


Body Blows

3.5" and 5.25" disks



On 3.5" disk B
On 5.25" A



There's absolutely unlimited potential for damage in this exclusive and dangerously playable fist-fighting action demo from Team 17.

The aim of the game is to beat your opponent senseless, surprise, surprise, over the best of three bouts. Biting, kicking and gouging is all perfectly fair ... subtlety isn't called for.

The 3.5" cover disk version of Body Blows has both one and two player games, while the 5.25" disk has the two player version of Body Blows only. So find a friend and beat seven shades of something out of him. Or her.

How to start

To start the Body Blows demo, log on to the directory in which you have installed Body Blows, and type
BB [Enter].



How to quit

Hitting Ctrl-C will quit the demo.

Hardware required

286 minimum, with VGA.

How to play

Use the numeric keypad to move the fighter around, block, jump and duck. Return/Enter is the fire button for one player. To make an attack, you must move the character and hit the fire button together. Combinations of different movement directions and hitting fire produce different attacks. Jump and kick, punch, trip, you name it, these guys can do it to each other. Alternatively, if you have a suitable joystick, you can use that instead of the keyboard.

How to play: two player

The keys for the two player game are as follows (and/or joystick):

PLAYER 1

W	E	R	
S		D	+ J (fire)
Z	X	C	

PLAYER 2

7	8	9	
4		6	+ Return (fire)
1	2	3	

There are all sorts of possible moves, and several special moves for maximum damage. But we won't say what these are, you'll just have to find out the hard way. You should soon spot the power up indicators next to the health bar at the bottom of the screen, though.

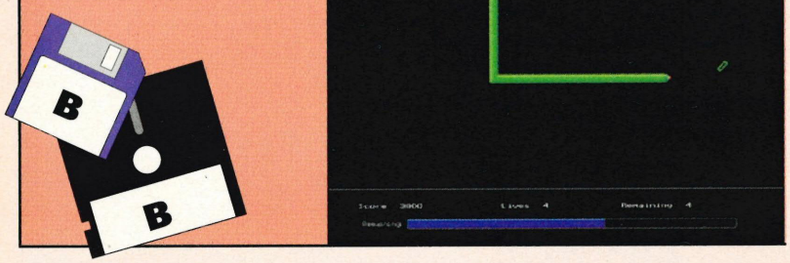
Please note:

For the sound to work properly on the demo, Sound Blaster users ought to make sure that they have the line
SET BLASTER=A220 I7 D1 T3
in their Autoexec.bat

Installing your cover disk: details on page 12

Ultra Peril Snake

On 3.5" disk B
On 5.25" disk B



There's absolutely unlimited potential for damage in this exclusive and dangerously playable fist-fighting action demo from Team 17.

The aim of the game is to beat your opponent senseless, surprise, surprise, over the best of three bouts. Biting, kicking and gouging is all perfectly fair ... subtlety isn't called for.

The 3.5" cover disk version of Body Blows has both one and two player games, while the 5.25" disk has the two player version of Body Blows only. So find a friend and beat seven shades of something out of him. Or her.

How to start

To start the Body Blows demo, log on to the directory in which you have installed Body Blows, and type
BB [Enter].

How to quit

Hitting Ctrl-C will quit the demo.

Hardware required

286 minimum, with VGA.

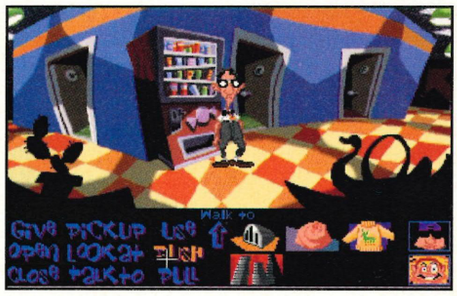
How to play

Use the numeric keypad to move the fighter around, block, jump and duck. Return/Enter is the fire button for one player. To make an attack, you must move the character and hit the fire button together. Combinations of different movement directions and hitting fire produce different attacks. Jump and kick, punch, trip, you name it, these guys can do it

Exclusive free demo offer

Bigger games mean bigger disks, and it's not always possible to crunch the latest demos on to a cover disk. To give you an extra chance to test even more of the best games around before parting with your cash, we have two stunning demos from Adventure Soft and US Gold this month. How do you get one? Just be one of the first 100 people to send in the lovely PC Review coupon with a suitable SAE and you will receive the demo of your choice.

Day of the Tentacle (US Gold)



This latest game from those talented people at LucasArts, is shaping up to be the most successful adventure game of the year.

So, if you haven't already seen the game (and solved it), US Gold has 100 glorious rolling demos to give away. See how far Bernard's trousers go up his body, marvel at Laverne's walk and chuckle at Hoagie's bum. So, if you're one of the first 100 people to write in shouting "Awesome" and enclosing this lovely-looking, red-edged coupon, a shiny DOTT demo is yours.

Send this coupon and an SAE to: Day of the Tentacle Offer, US Gold Ltd, Units 2/3, Holford Way, Birmingham B6 7AX

This Day of the Tentacle demo is a rolling demo, not a playable one. Minimum requirements are a 386, high density disk drive, VGA and a mouse

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Simon the Sorcerer (Adventure Soft)



Not one superb adventure type demo this month, but two.

Simon the Sorcerer is the new Monkey Island beater from Adventure Soft; a humourous fantasy romp blending fairy tale, literary classics and fridge freezers.

The generous people at Adventure Soft have 100 playable Simon demos to give away and the first 300 letters in will get a special voucher entitling them to 25 per cent off the full game (if you order direct from Adventure Soft). So don't delay. Write today!

Send this coupon and an SAE to: Simon the Sorcerer Offer, Adventuresoft UK Ltd, PO Box 786, Sutton Coalfield, West Midlands, B74 4HG

Minimum requirements are a 286, high density disk drive, VGA and a mouse

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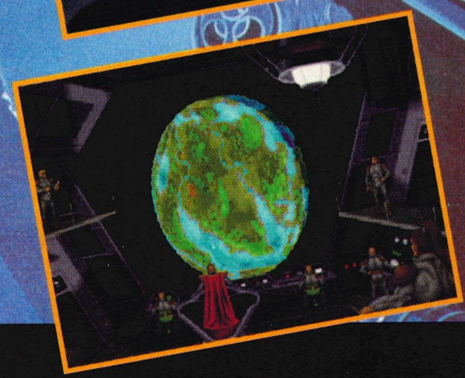
The Game of Galactic Domination and Supremacy









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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.

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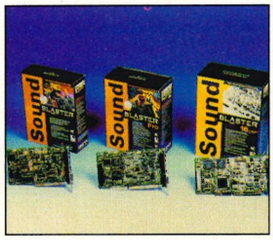

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NEWS

MicroProse closes two UK offices in reshuffle

Just a few weeks after optimistically claiming that there would be little or no change at MicroProse following the takeover by Spectrum Holobyte, the company has undergone substantial restructuring in the UK.

The offices in Manchester and Leeds, which housed programming teams, have been closed and 53 people in the UK made redundant.

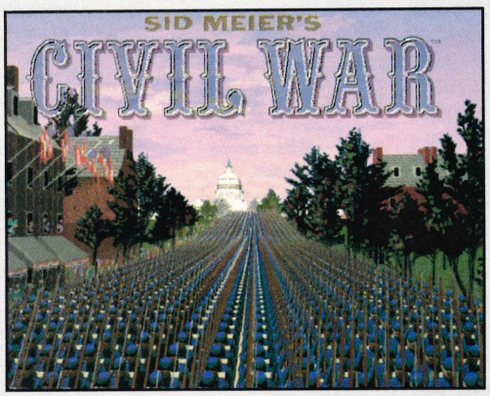
Following the changes, there are now three distinct divisions to MicroProse: at Spectrum Holobyte's HQ in California, developers will concentrate on PC and CD-ROM titles such as flight sims (the Falcon series) and adventures (including Holobyte's forthcoming Star Trek: Next Generation). At MicroProse US, based in Baltimore, work will continue on simulations such as the F15 series and strategy games. The UK office, however, will concentrate on producing console games.

More immediately pertinent to games players, Sid Meier's work on Civil War (see Issue 22) has been put on hold, and probably won't now be released before next summer. Meier has apparently been well and truly distracted by the impending launch of the 3DO Multiplayer machine and is working on a music composition program, CPU Bach, for the multimedia system — at the expense of Civil War.

He is also reported to be rather keen on putting together a direct sequel to Civilization, "containing all the things that had to be left out of the original Civilization", according to one MicroProse source.

Don't expect any imminent announcements, though: our source also added that this is more than likely to be a 12 or 18 month project.

Better news for MicroProse fans is that Meier, one of the best designers in the business, is now acting as consultant on a number of MicroProse projects, so we can hope to see the Sid Meier touch in more of the company's releases.



Sid Meier's Civil War: completion has been postponed until next year.

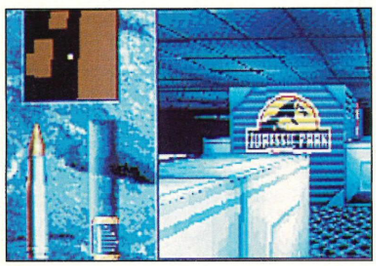
Jurassic Park evolves on PC

However it turns out, Jurassic Park will doubtless be one of this year's top-selling games, and from the look of these brand new screens from the PC-specific version, it could turn out rather well.

The picture on the right is taken from the exterior arcade sequences, while the two screenshots below are from the more dungeon/exploration orientated interiors, including, far left, the recreation of the famous 'velociraptors in the kitchen' scene.

Ocean's Jurassic Park is due for release on the PC in October, priced at £34.99.







DI moves into music business

Following the success of Tornado (reviewed in issue 22), Digital Integration is taking the unusual step of releasing an audio CD and cassette featuring music inspired from the game.

The music was composed by Dominic King, David Punshon and Richard Wells, and includes tracks such as "Are You Ready to Fly?" by Rozalla and "Storm" by Hollywood Nights.

The CD is priced at £10.99 and the cassette costs £8.99. For details, telephone Debbie Durrant or David Marshall at DI on (0276) 21541.

Elite II now scheduled for October release

The tortuous long-running saga of Frontier: Elite II has taken another twist, with publishing rights to the long, long-awaited sequel now resting with new UK company Gametek.

Gametek claims that the PC version of Elite II is mere days away from completion, awaiting only the final touches to be added to the sound, and is therefore due to be released in late October, or early November.

David Braben's game, which has been four lengthy years in the writing, and which was previewed in PC Review exactly a year ago, was originally being handled by Konami. Konami, however, has been concentrating more and more on its console releases of late, and has sold all rights to its PC and Amiga games in development to Gametek.

Gametek UK was set up three months ago by former Commodore MD Kelly Sumner. Its first activity has been to announce a roster of 17 games at £29.99 (see News, Issue 23) in an attempt to establish a mid-price point for the PC market.

Since then, the company has been busy. As well as the Konami deal, it has also gone public on plans to launch games on CD-ROM: initially with a CD version of Humans, and it has also signed a deal with Rand McNally to produce a series of atlases on CD.



Frontier: Elite II – now set for October.

Currys to take on Dell Precision PCs

Dell has announced a major nationwide deal with Currys Superstores to sell it's Precision range of PCs in the UK.

The deal, which means Dell's Precision range will be available in Europe for the first time, now offers the customer the option of buying a Dell PC at a national high street retailer. Dell's PC range had previously only been available in the four London-area PC World superstores.

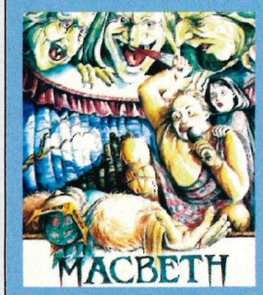
"Currys makes an excellent choice as a retail partner because our operations are complimentary," said Mike Swalwell, Dell's UK Managing Director. "Currys and Dell both have extremely efficient distribution operations which enable us to deliver products at a competitive price."

Dell, the worlds fifth largest computer supplier, now offers two ready-to-run Precision 486 systems through the Currys high-street chain. An entry level 25MHz 486SX with 4Mb RAM and 120Mb hard disk for £1,499 and a 33MHz 486SX also with 4Mb of RAM and 120Mb hard Disk at £1,799.

"The retail explosion for PCs has arrived," adds Swalwell, "and Dell is well-positioned to be one of the major players in the UK."

PC succumbs to karaoke ...

Is nothing sacred? Karaoke has finally made the transition to the humble PC, with the release of two new sing-along products this month. First off, and just when you though it was safe to go back to the theatre, FOS-CD launches Karaoke Macbeth. Budding thespians will be able ham it up in the Scottish Play by loading the CD into their PC, choosing a part and then reading their lines from the on-screen Autocue. Up to 10 people can take part at once, playing a single scene or the whole three hour production.



Karaoke Macbeth

The CD also includes a full production demonstration with animations of Shakespeare's Globe Theatre. Macbeth is the first release from Animated Pixels' Karaoke Shakespeare series, and retails at £59 plus VAT. If you fancy getting to grips with the Bard, call Nick Broome on (0296) 682233.

Meanwhilse, Crescent Computers has launched PC Karaoke, which gives you the chance to ruin the twelve most requested Karaoke songs. Priced at £69.99 plus VAT, it comes on CD-ROM, complete with leads and microphone, and is fully compatible with Windows 3.1. Give your neighbours hell and call Crescent on (081) 385-0191 for more information.

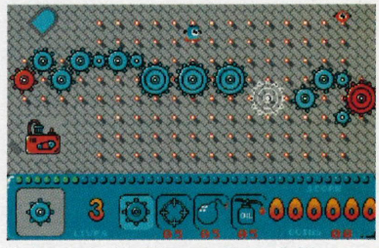
COMING SOON



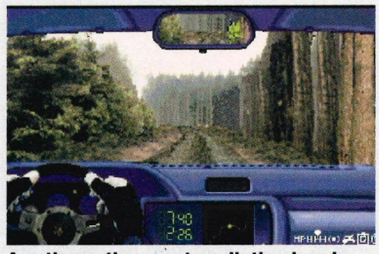
CyberSpace from Empire is a 3D glimpse into a cyberpunk-style future, with VR, hacking and violence.



Dreamweb (also from Empire) is an overhead RPG adventure game with an unashamedly Bladerunner feel.



Turn global landmarks into ticking timepieces with Gearworks, a new puzzler from Software Business.

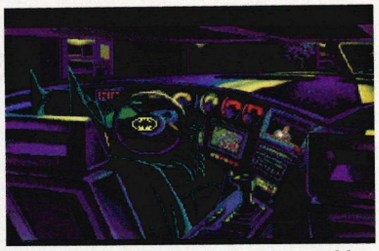


Are these the most realistic visuals ever in a car game? Check out Lombard Rally, soon from Europress.

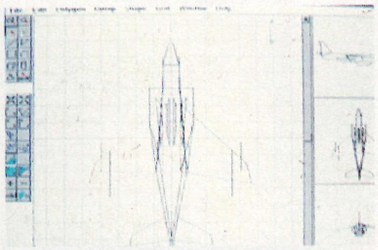


Cute platform action as a wizard's apprentice seeks to recapture his masters zoological creations.

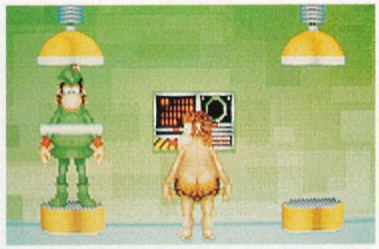
COMING SOON



Batman Returns is a moody, graphic adventure, just one of the debut releases from Gametek at £29.99.



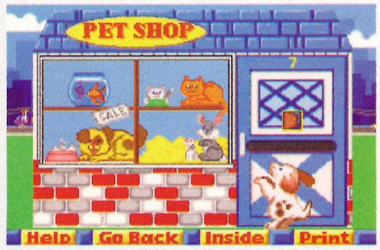
Domark's Flight Sim Toolkit will be a godsend for pilots who think they'd like to design their own game.



Humas 2 begins where the original Humans left off. Expect even more primeval puzzle action.



Space Junk, an adventure from Imagitec, has digitised footage of actors in latex masks. It takes all sorts ...



The Fisher Price Creativity Kit brings squeaky toys to your screen. Click on a cat, it meows. Kids will love it.

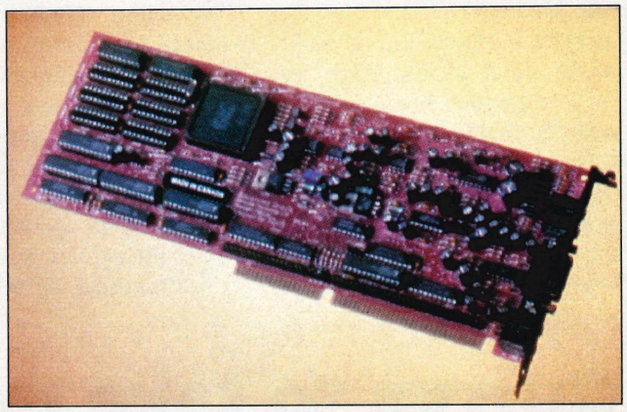
Competition hots up over sound cards

PC games players are rapidly becoming spoilt for choice when it comes to sound cards. Four new cards have been announced this month alone. The first of these, the Advanced Gravis UltraSound, features revolutionary 3D sound technology, and is reviewed in full on page 29.

Meanwhile, Orchid boldly claims that its SoundWave 32 is the first soundboard to combine multimedia compatibility with simultaneous sound standards support. In other words, it's both Sound Blaster and Roland compatible, making it ideal for games, and it also emulates the MPU-401 MIDI interface for music applications. Priced at £199, it comes equipped with speakers, software, joystick port and microphone. Call (0256) 479898 for details.

Not to be outdone, Media Vision has added two more soundcards to its catalogue; the Pro Audio 16 Basic is an entry level card which is compatible with the Pro Audio Spectrum, SoundBlaster and AdLib, and the Pro AudioStudio 16XL, is a high-specification card is aimed at games players and those interested in creating professional quality music by hooking up with a MIDI compatible keyboard. Contact your local computer dealer for further information.

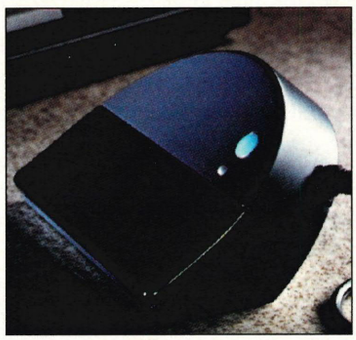
Westpoint Creative, the company behind the Sound Blaster, also recently announced new versions of its sound cards.



The Advanced Gravis UltraSound brings 3D sound to the PC.

Logitech releases 'easy' scanner

The heady days of struggling with jumper settings and other technical scanning pleasantries may be over following the launch of a boardless handheld device, the ScanMan EasyTouch, by Logitech this month.



The new boardless ScanMan EasyTouch from Logitech

The 400dpi grey scale scanner plugs directly into the PC's parallel port, rather than through the usual dedicated scanning interface card which has to be installed inside the PC. This also makes it possible for the scanner to be run off a laptop or notebook computer.

All of the EasyTouch's features are controlled from by software, and the only button on the actual scanner is an on/off switch. Logitech is emphasising its ease of use and portability for a wide range of home and business users.

The Logitech EasyTouch scanner is currently priced at £299, and comes with Fototouch Windows software, for scanning and image editing, and OmniPage Direct AnyFont for optical character recognition (OCR).

For further information, call Logi UK on (0344) 891313.

IN BRIEF...

● Guildsoft, publishers of a wide range of weird and wonderful software (including the 'works' series, covering anatomy, chemistry and car maintenence) has cut prices on all of its current software titles.

● Drive-Clean is a floppy disk which claims to improve the performance of your PC by cleaning the drive heads safely. Simply pop the Drive-Clean in the drive, type 'Driclean' and wait for the on-screen report. The disk also includes an anti-virus scanner.

If you think your heads may be getting mucky, contact KIMS on (0483) 285555 for more details.

● If you can't get enough of the Sunday God slot, keep a look out for Oxford University Press's Worship Master software. It stores all sorts of religious info, and is designed to help vicars plan services, etc. Hallelujah ...

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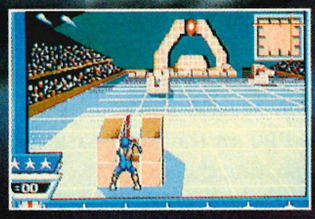

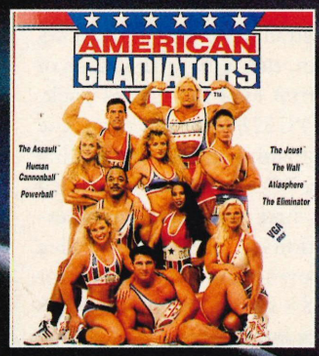



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Sign of the Times

One year ago ...

PC prices were falling faster than a ton of bricks, with 386s at an amazing £800 from Elonex, Commodore and Ambra. These days, of course, it's the 486s that squeeze in under a grand. Also, Amstrad announced that hybrid beast, the Mega PC, which combined a Sega Megadrive and 286-based PC in the same casing and sharing the monitor.

Two years ago ...

Amstrad have been in the news again, this time with details of its first ever PC games pack, the PC5286. At the time, the astonishing notion of bundling up a PC, soundboard, joystick and three games was pretty revolutionary, although the idea of paying just over £1,000 for a 286-based PC now seems quite laughable.

Three years ago ...

Domark made a salient contribution to flight sims by being the first company to produce a game based on the Russian MiG-29 fighter. It may not have been exactly the most sophisticated flight sim in the world, even by 1990 standards, but it at least broadened the scope for the genre.

Ambra to slash PC prices again

Following a 10 to 15 per cent price cut in May of this year, Ambra has decided to reduce even further the price of all its desktop PCs by another six to 12 per cent. This brings the price of its entry level 486 PC, the 25MHz Ambra Sprinta 486SX, down from £997 to £880 includingVat.

Barrie Baxter, head of sales for Ambra's European division, said, "Competition in the market-place is very intense at the moment. We have cut our prices to maintain our competitive edge in the market-place and anticipate that other manufacturers will follow our lead and cut their prices this summer."

Ambra has sold over 100,000 PCs since its launch in June 1992. Prices for all PCs include MS-DOS 5.0 and Microsoft Windows 3.1, 12 months on-site warranty and a technical support line courtesy of IBM. For details, call Ambra Direct on (0800) 667755.



Ambra PCs are to come down in price again



Crystal Vision brings out a new range of budget PC games titles.

Crystal Vision attacks high game prices

A new software house has been launched in the UK, specialising in budget titles. Crystal Vision has a catalogue of games, educational software and business applications, with titles retailing for just £6.99 and special packs of 10 titles priced from £29.99.

"This is low-cost PC software with the emphasis on quality," said Crystal Vision's managing director Nick Pearson.

"That's the way the market has gone in the States — and that's the way it will follow here. With the prices of hardware falling dramatically, it is only natural that software must follow suit. The actual reality is that much of it has been overpriced for far too long. Crystal Vision intends to change all that."

The software has been developed in the USA, where it features prominently in the budget best-seller lists. Amongst the games available are Wolfenstein 3D, Commander Keen and Duke Nukem, whilst business applications include the DOS Learning System and Icons for Windows. Crystal Vision is on (0625) 590226.

Telegraph moves to CD-ROM

Attica Cybernetics has launched The Daily Telgraph on CD-ROM on a unsuspecting public this month. The disc contains all of the editions of the daily and the Sunday editions of the newspaper for 1992.

The information is classified into editorial sections, and the CD-ROM can be searched by date, news section, individual words or by overviews of the news for a given day. As well as being a general-purpose reference tool, the disc is aimed at schools and libraries, and as a way of monitoring current affairs for business and the media.

Because of copyright restrictions, some articles have had to be ommitted, including TV and radio listings, photographs and illustrations. And you don't get the crosswords, either ...



The Telegraph on CD-ROM, and not a single crossword in sight.

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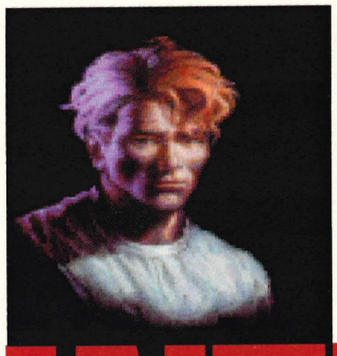


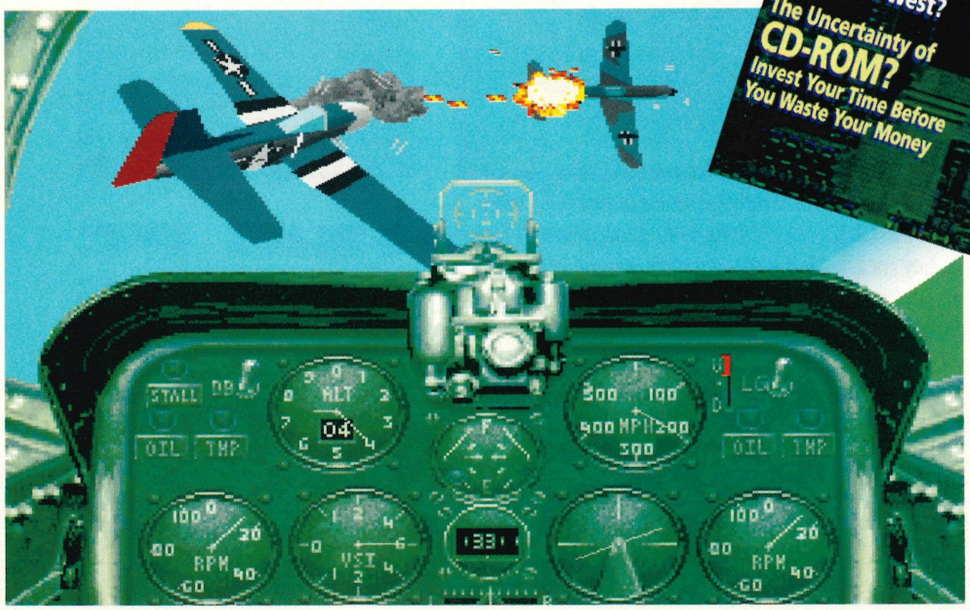
FREE WITH THIS ISSUE: YOUR COPY OF INTERACTION MAGAZINE

You can't have failed to notice that strapped to this already hefty 3.5" disk edition of PC Review is your free copy of the summer issue of Interaction, Sierra On-Line's quarterly magazine of hints, tips, reviews and sneak previews of forthcoming Sierra and Dynamix programs. Interaction is published by Sierra's US division, and sells half a million copies in North America at $2.95. It aims to keep Sierra fans abreast of all the company's latest news and developments as well as giving readers a look behind the scenes of one of the US's longest-established and most successful software houses.

In your free copy of Interaction, you'll find an interview with Al Lowe about his latest creation, Freddy Pharkas Frontier Pharmacist, previews of Police Quest 4, Aces Over Europe (pictured below) and Gabriel Knight (the moody chap above), a look behind the scenes of Space Quest V, and articles about Sierra's Discovery range of games for younger children.

Important: please note

All the reader offers and competitions in this edition of Interaction (whether Sierra or otherwise) are NOT available to readers outside the US. Readers should contact Sierra Europe's offices on (0734) 303171 for details of offers pertaining to Europe.





Call Sierra on (0734) 303171 for details on Interaction and how to subscribe. If you have a modem, you can dial Sierra's bulletin board on (0734) 304227 for hints, articles and product ordering.

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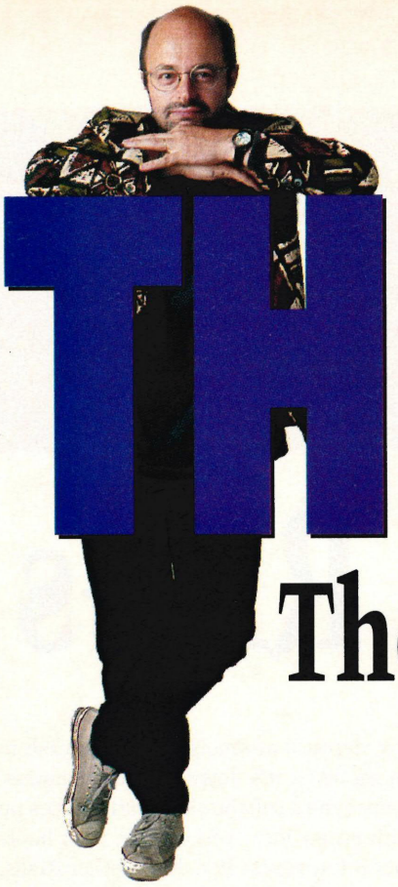


The future of games is more likely to involve the telephone than the hi-fi, argues Steve Cooke

THE COOKE REPORT

The Churchillian event

I think it was David Niven who once met Churchill during the war when things were rather tough, and asked him if he thought the end was nigh. Churchill's reply was mysterious. "There will be an event," he said, "and it will change the course of the war." Later, the Japanese invaded Pearl Harbour and the US joined the knees-up. All change.

Nowadays, an event that changes the course of history is, on occasion, referred to as a 'Churchillian event'. And I think that 1994 will see a Churchillian event within the PC industry.

My argument, m'lud, goes like this: doesn't it strike you as a bit odd that interactive systems like 3DO and CD-i are all heading for the one corner of the sitting room where we never interact?

TV is the apotheosis of passive entertainment; Jolene gets pretty dangerous if you try to interact with the hi-fi while she's listening to Michael Jackson; and the last person who tried to interact with their VCR required medical treatment.

The reason we have to put up with this nonsensical situation is that the companies who are promoting these systems are in the film and music business, and they think that interactivity is the way to sell more films and music. They're wrong, but that's the subject of another column.

Meanwhile, if you really wanted to put an interactive system in every home, where would you put it? Actually there's one there already. It's called the telephone. The line it is connected to goes to virtually every household and office in the country and can transmit computer data (faster than you might think). It can send faxes, dial up databanks and do all sorts of things, with a little help from your PC.

Unfortunately, to use a phone and a PC you have to master a modem. And modems are about as comprehensible to the average layman and woman as an Eskimo on acid. Which is where the Churchillian event comes in.

Once upon a time word processors were also beyond understanding. Then along came Alan Sugar's PCW8256, which even had a Christian name (Joyce), and everything changed, with utter technophobes marvelling over Locoscript ruler codes. They were sold a computer in sheep's clothing, and they loved it.

"I think that 1994 will see a Churchillian event within the PC industry"

And it was so cheap! There was a time when, if you went into Sainsbury's, you could bet on hearing at least three people say, 'It's cheaper than a typewriter, you know!'. Which it wasn't, but the reason they said it was — and this is important — was because they *knew* they were buying a computer, which really excited them.

Now take the following facts and blend them together in any old order:

1. You can now buy a PC and modem on a single chip for a few measly quid.
2. Fax scanning engines cost very little and can double as lo-res input scanners.
3. Soundboards are a dime-a-dozen and can record digitally as well as play back.
4. Voice mail software is well-established, cheap, and available 'off the peg'.
5. You can get tiny near-laser quality ink-jet printer engines for a pittance.
6. OCR software is so cheap most scanner companies give it away free.
7. There are millions of free information sources available via the telephone.
8. Any wizened old hacker can write an iconic operating system for manipulating on-line services via menus.

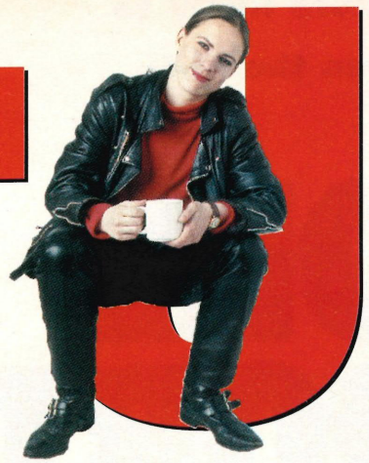
If Alan Sugar doesn't do something with points (1) to (8) above, then he doesn't deserve to be in business. Let's call it Gieves, because it always answers the phone. Gieves is a scanning, tele-shopping, faxing, telephone answering machine that gets you cheap quotes for air tickets and prints them out ... and he's a computah, dear!

The unimagined uses for such a combination of simple technologies are numberless. I can just hear them now in Sainsburys. "I use mine for filing all my bank statements: I just scan them on to the disk! What's more, it's cheaper than a fax and an answering machine!"

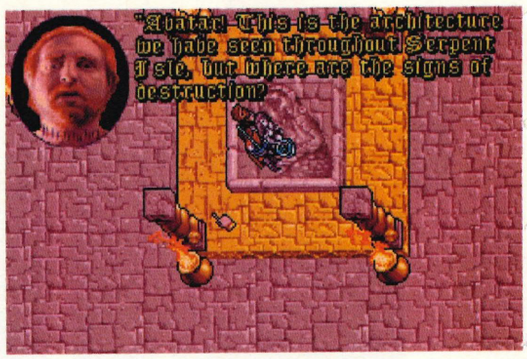


Acer's PAC was an attempt earlier this year to combine a number of interactive devices in the one box.

Cal Jones



asks if Dungeons and Dragons has become dungeons which drag on



The problem with RPGs

I keep getting this overwhelming sense of déjà vu. It seems as though almost every time I load up a role-playing game, I see the same old crowd of orcs, goblins, elves and dwarves. Whether it's a first-person perspective game or an isometric affair, I can guarantee it will contain at least one subterranean section, usually a dungeon or a sewer. And secreted somewhere in that maze of twisty passages, all alike, I will probably find a dragon.

A typical RPG quest involves defeating a powerful and evil madman, finding a mystic artefact (a sword, an amulet, the Holy Hand-Grenade of Antioch or whatever), or finding the aforementioned artefact and then using it to defeat the powerful and evil madman. Indeed, there are games which deviate from this tried and tested formula, but these are the exception rather than the rule. It seems to me that the whole role-playing genre is stagnating, due to an overwhelming lack of originality.

Part of the problem is due to Dungeons and Dragons. Just as most of the books in the fantasy section of your local light-reading emporium take their inspiration from J R R Tolkien, the majority of computer RPGs are influenced by the granddaddy of pen and paper games. This would explain why you always get the same old character types to choose from, the same pseudo-mediaeval world to wander about in and the same old monsters to overcome. The SSI games have a legitimate excuse in that the company owns the official AD&D licence, but so many other companies are churning out virtually identical products in order to cash in on the idea. It's down to sheer laziness. Every time a software company comes up with a new idea, you can bet your boots that it'll reappear in a dozen other RPGs. Yes, these games do sell; in fact, RPGs are the second most popular type of game on the PC next to flight sims. But now the novelty is starting to wear thin.

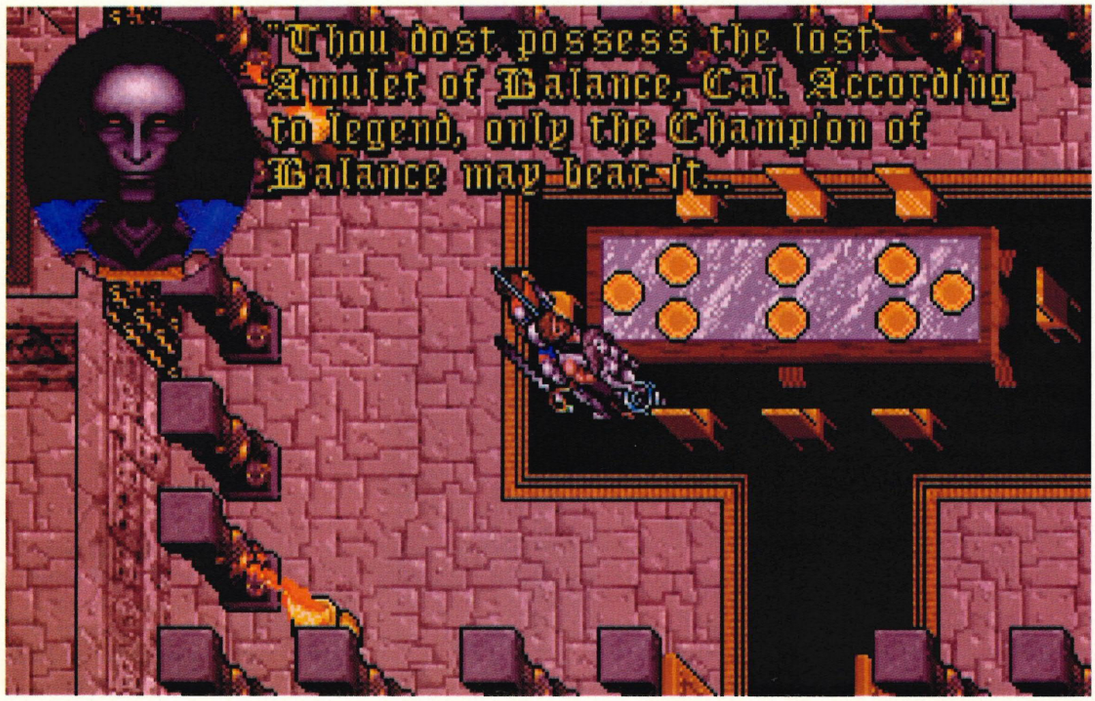
The most attractive thing about RPGs is that they give the player a chance to escape the mundane world of nine to five jobs, rush hour traffic jams, housework and other equally dull situations.

It's escapist. Absolutely anyone can forget their boring existences for a moment, assume the guise of Conan the Librarian or Anthrax the Wizard and take out their frustrations on a few unsuspecting goblins. Fantasy games aren't limited to real world conventions; if you want to be a murderous bastard who goes around killing, pillaging, and mutilating, RPGs give you the opportunity to do just that.

But their attraction is also their weakness. It has to be said that RPGs have something of an image problem. Many potential converts are deterred because they associate RPGs with spotty, social inadequates who stay in their bedrooms playing computer games. It's hardly fair, I know, but even I would think twice about including role-playing as an interest on my CV in case it gave the wrong impression.

So how can we escape these stereotypes? For a start, games could be a damned sight more attractive. When Ultima Underworld first appeared, it was light years ahead of other RPGs both in terms of appearance and gameplay. I know several people who rushed out and bought it because it looked so impressive, even though they wouldn't normally consider

Below and top right: Origin's Ultima series is one of the role-playing creations that does show degrees of originality. The Ultima world has its own social structure, history and ethics, making it all to easy to become absorbed in the game.



playing a fantasy game. It was perfect for showing off what your PC could do, and, what's more, it was fun.

Consequently, I have to ask why so many of the first person perspective games are still using flick scrolling. After the revolutionary multi-directional scrolling of Ultima Underworld, you might have expected other games manufacturers to follow Origin's lead. Indeed, some have, but we are still seeing the appearance of new titles such as Westwood's Lands of Lore (reviewed on page 70) which remain rooted in the old technology. There is no excuse for this. With PCs becoming more powerful by the minute, the potential for producing technically better games is enormous. I fear that it's down to laziness again. Developing a new game engine is more costly and time-consuming than rehashing an old one. Still, it's their loss. After playing Ultima Underworld, who wants to return to flick scrolling games?

The second way that we can improve the image of RPGs is to make them more accessible. Eye of the Beholder did so well because, not only was it the first game of its kind to reach the PC, but it was also easy to get into. Unfortunately, many RPGs are bogged down by statistics which prove offputting to all but the most hardened RPG fan. Take Blade of Destiny, reviewed last issue, as an example. It's a great game for anal-retentive statistics freaks who enjoy wading through a huge tome to find out which herbs cure which disease, but for most people, it isn't much fun. Statistics are fine in pen and paper RPGs, because you can build up a character over a series of games and unless your games master is particularly vindictive, you can keep on playing almost indefinitely.

"Every time a company comes up with a new idea, you can bet your boots that it'll reappear in a dozen other RPGs"

In computer RPGs, character development is limited to the duration of the game, so why do RPGs involve such a lengthy rolling-up process? So that statistics fetishists get the chance to decide whether their characters will be warriors or wizards, how they will look, whether they will excel at sword fighting or plant-lore, and should they be a virtuous goody goody or a cynical mercenary bastard?

This is all very well, but in most RPGs, half these statistics have little bearing on the game itself. Take Eye of the Beholder. Will your character be lawful good or chaotic evil? Do you care? Non-player characters react to you in the same way, whether you're Mother Teresa or Adolf Hitler. Most people I know would rather get straight into the action, test their brains with a few puzzles, waste some monsters and not have to worry about character classes, alignments and the advantages of one weapon over another.

Finally, let's have a bit of originality in our games. More than any other genre, RPGs are riddled with clichés. For starters, characters hardly vary from one game to the next. Fighters are nearly always human or dwarven, because other races tend to be too feeble to cope with anything larger than a fairy armed with half a cantaloupe melon. Dwarves are always male, bad-tempered, bearded and come armed with an axe (they don't like swords, apparently) and a wineskin. Human males look like Conan's idiot kid brother, and don't wear armour because every blow will bounce off their manly chests. Female fighters are similarly averse to wearing much, preferring to adorn themselves in a tiny, chain-mail bikini which serves no useful purpose in a fight other than to distract the opposition by revealing as much flesh as possible. Mages, on the other hand, are always complete wimps who drop dead as soon as a pixie so much as farts in their general direction. And finally we have clerics, who can't use blades for moral reasons but are still, for some inexplicable reason, allowed to bludgeon people to death with a large, spiked mace.

I'd like to see RPGs exploring themes other than the usual fantasy nonsense. Origin made an attempt to escape the old clichés when it introduced Savage Empire, set in a B-movie dinosaur valley, and the steampunk-inspired Martian Dreams, which sent several eminent Victorian personalities on a trip to Mars. It would be great if Origin attempted something similar with the Underworld series. I would also like to see other companies producing RPGs with fresh, new scenarios — no dungeons and definitely no dragons allowed. How about it, chaps? We're in bad need of a change.

Déjà vu

The tavern is one of the many clichés that pops up in RPGs time and time again. Every bar seems to contain a stock crowd of blowsy barmaids, drunken dwarves, mincing minstrels and earnest elves. Here are just a few of the bars I have visited in recent games.



SSI's Prophecy of the Shadow has spared us the usual buxom barmaid, but instead we've got a fat man in a silly hat. I don't know which is worse.



Hobbits, dwarves and elfs a-plenty in this cosy bar. But then again, this is Lord of the Rings, so I suppose you couldn't really expect anything else.



Different game, same old bar. Blade of Destiny isn't the most original game around, but at least you can get your characters drunk.



Ah yes, the low cut bodice. The bars in Clouds of Xeen boast a better looking clientele than other games, but otherwise they're much the same.



Last stop on the pub-crawl is Ishar 2, and it bears an uncanny resemblance to just about every other RPG tavern scene.

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Advanced Gravis UltraSound

Good sound cards are ten-a-penny on the PC. But 3D sound is a whole new ball game. John Bennett gets out his hearing aid.

A sound card is an essential for any PC games player – although I have to admit that this was something I took a long time to be convinced about. Now Gravis is about to release the UltraSound, a high performance, competitively priced sound card for the PC. But so what? According to the pile of press releases on my desk, so are Media Vision, Westpoint Creative, Orchid and any number of others. In a nutshell, we're not too badly off for good, well-priced PC sound cards.

What we don't have is 3D sound, which is where the UltraSound and Focal Point holographic sound comes in.

Quite simply, holographic sound is a fancy way of saying that you can pinpoint the position and movement of sounds above and below you, as well as to your left, right, front or back, or any combination in between. It is most effective with headphones, but is still startling with carefully placed speakers.

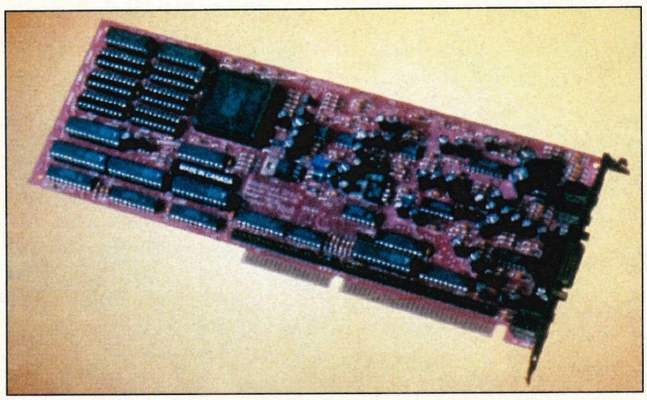
It'd be fair to say that I expected this to be little more than this month's gimmick when I set off for the product demonstration, but the implications of 3D sound for games developers and players are enormous. Unfortunately, it's one of those things that is very difficult to describe to people who haven't heard it. All I can say is that it was genuinely impressive, and the atmosphere of any haunted house adventure or RPG, flight sim or racing game would benefit enormously with what is, in effect, the audio equivalent of Virtual Reality.

Now here's the catch; game developers have to write games that use 3D sound. Gravis has released the code and necessary patches and drivers to developers in the States, Europe and the UK, and there are several games already under development using this technology.

But the fact is there's nothing out there right now. There aren't even any samples or demos supplied with the card itself – you'll just have to take Gravis's word for it. And if the software companies don't take up the idea, then it's another candidate for the Betamax graveyard.

To me, this would seem very unlikely. Every games publisher is always on the look-out for an edge over its competitors, so I'd expect them to be queuing up like vultures for anything that heightens the 'gaming experience' (yuk). Mind you, we already have enough trouble prising games out of the programmers' hands on time; God only knows how long they'll take if they have to decide *where* each sound effect is coming from, not just who to compose the music. Please don't tell David Braben, or we won't see Elite 2 until the year 2000 ...

Leaving aside the 3D sound for a moment, what remains is an extremely well specified sound card for the £199 price tag. The UltraSound uses a 32-voice wavetable synthesis rather than FM synthesis, with playback at up to 44.1KHz, which puts the card at CD rates, or thereabouts. It's unusual in that it also has on-board memory of 256K, expandable to 1Mb.



Gravis's UltraSound brings 3D sound technology to the PC

The result, to my untrained ears, is a less 'furry' edge to sound effects in games, a better response across a wide frequency range, and a more natural — rather than electronic — sound for samples. In other words, it sounds damn good to me.

It's also has compatible Ad Lib and Sound Blaster modes, for games that don't support its native mode (and support for this could be better). According to the accompanying blurb, it's guaranteed to work with *all* DOS and Windows games, but reading between the lines, this probably means that you'll get *some* sound out of every game. But as yet I've had no problems running a variety of games in Sound Blaster mode.

There's full MIDI support, with a set of 192 standard MIDI instruments, and a built-in games port, with a speed compensation utility for different spec PCs (which makes a lot of sense).

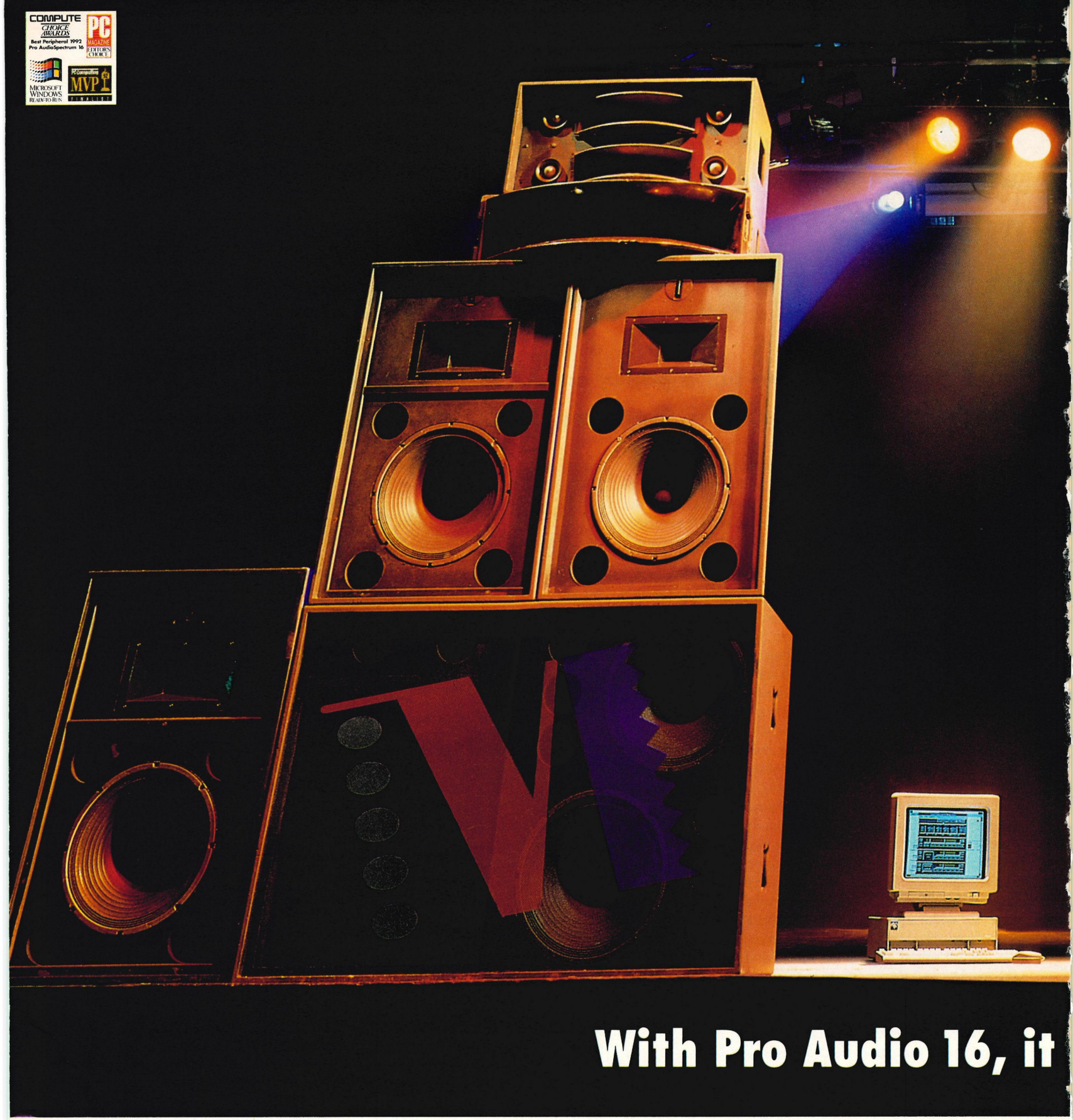
As a £200 PC sound card, the Gravis UltraSound offers high-quality sound, impressive features and reasonable compatibility. But, bring the 3D sound into play, provide the games to go with it, and you have a card with the potential to outdo all others for game-playing atmosphere.

With the UltraSound ...

DOS and Windows 3 drivers
UltraSound Studio 8: 8-bit recording.
UltraFLI: synchronises sound files with animations in a .FLI format.
PlayMIDI: play and edit MIDI files.
Power Chords: Windows music composition program.
Midisoft Recording Session: music composition and recording.

And what you need ...

A 386 or 486 PC, hard disk drive, compatible mouse, DOS 5.0, EGA, VGA or SVGA, and an 8- or 16-bit expansion slot.



With Pro Audio 16, it

A thousand pounds' worth of hi-tech hardware. A hard disk with more storage than a set of Louis Vuitton luggage. Video accelerators pumping your pixels and refresh rates into orbit.

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Pro AudioBasic 16 gives the serious games player 16-bit quality at an 8-bit price. Identical to Pro AudioSpectrum 16, but without the on-board SCSI adapter, Pro AudioBasic 16, like all the Pro Audio 16 range, is 100 per cent compatible with all leading games and business software.

What's more, every Pro Audio 16 product comes backed by the guarantee that you've chosen the world's largest supplier of 16-bit sound cards.

So, if all this sounds too good to be true, pop into your local dealer and make a noise about Pro Audio 16.

Or call **021 666 6464** for details.



Title	**Alone in the Dark 2**
Developer	**In-house**
Publisher	**Infogrames**
Contact	**(071) 738 8199**
Release date	**November**
Genre	**Adventure**
Price	**TBA**

Alone in the Dark was one of the surprise successes of 1992, but rather than rest on its laurels, Infogrames is aiming even higher with the sequel. Cal Jones jets off to Lyon to investigate

Alone in the Dark 2



Above right: the graphic artists have certainly gone to town on the maze section. The sky and hedges are wonderfully detailed, and rain has even been included.

Walk into Infogrames' Lyon headquarters and you can instantly tell you're in a French office from the overflowing ashtrays. French programmers seem to subsist on coffee and nicotine, but if it helps them churn out games like Alone in the Dark, what the hell.

It's not often that something really original arrives on the scene, but Alone in the Dark certainly caused a stir when it appeared at the end of last year. Graphic adventures are nothing new, of course, but the combination of bitmapped backgrounds with polygonal sprites was quite unique. This, together with an outstanding soundtrack and a depth of atmosphere rarely enjoyed in games of any category, turned out to be a winning formula. Now Infogrames is working on a sequel, Alone in the Dark 2, and it promises to be even better than the original.

Alone 2 is set in 1921, a year after the first game. Detective Edward Carnby returns as the sleuthing hero, but Emily Hartwood, his female counterpart in the original game, is noticeably absent. This time the plot revolves around a group of pirates who have made a sinister pact with a voodoo priestess, promising to sacrifice a young girl every Christmas in return for extended life.

The game starts after Edward's friend, also a private detective, disappears when investigating the kidnapping of a girl named Grace. Being all too familiar with the supernatural, Edward is quick to





Whose turn is it to clean the bath? Edward investigates tide marks in the tub.





Above: weird camera angles ahoy in the wine cellar.

Right: you're lost, you're soaking wet and you're being chased by a zombie pirate armed with a machine gun. At moments like these, don't you just wish that you'd taken up something a little less stressful – like macrame?

recognise that something is seriously amiss, and sets off not only to find Grace, but also to avenge his friend.

Alone in the Dark was an excellent game but it had one slight problem: it was a bit on the small side. Recognising this, the Infogrames team have made Alone 2 almost four times as large, although they have taken pains not to sacrifice any quality in favour of quantity. It comprises of two sections which have been programmed separately before being joined together to form the finished game.

The first section takes place in and around a large mansion, and includes a maze complete with, of all things, 3D rain. This being the era of the American Prohibition, the pirates have turned their somewhat dubious talents to dealing in bootleg liquor, and the mansion is the base for their operations. Here they stroll around armed with tommy guns and dressed in natty gangster suits and wide-brimmed fedoras.

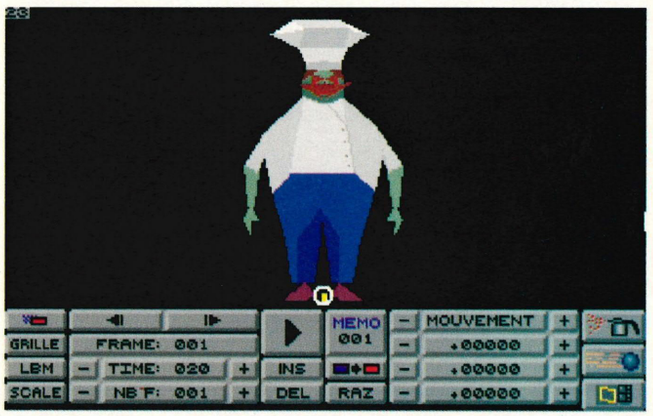
The second part of the game subsequently takes you aboard their galleon, where they revert to more traditional piratical attire, but they're just as deadly when armed with a cutlass as they are when toting machine guns.

The outward appearance of Alone 2 is similar to its predecessor, but aside from being larger there are a few noteworthy differences. The monsters are much more intelligent this time around: once a bad guy has spotted Edward, he can follow him around rather than being restricted to moving in a designated area. As well as making the game more challenging, it also means that more monsters are likely to appear on screen together. Whereas before there were only ever one or two monsters in a room at any one time, this time you could be fighting up to seven.

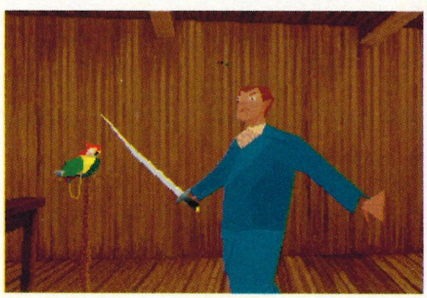
In addition, many of the problems which existed in the original game have been ironed out. The collision detection is more accurate, and it is hoped that there will be fewer bugs. Even the graphics, outstanding though they were in the first game, have been improved. The backgrounds are more detailed, the animation is a lot slicker and Edward himself has been given a face lift.







Characters are modelled, altered and animated using Infogrames' 3D modelling package. Each figure is built up from polygons, which are then filled in with solid blocks of colour.



About Infogrames

Infogrames began life in 1983 as a small company developing games for the Thomson computer, the French equivalent of the trusty BBC micro. Despite such humble beginnings, Infogrames is now one of the leading French software producers, with around 100 staff based at its Lyon headquarters and a catalogue of successful titles under its belt. It prides itself in being at the forefront of computer games technology, aiming to cover as many different formats as possible. It's not surprising, then, that Infogrames is investing money in developing games for the PC and in particular, CD-ROM. The company aims to double its turnover next year and the year after, and hopes to increase the number of staff on its development team. Since this requires money, Infogrames will be floated on the French Stock Market in October in order to generate enough revenue to expand. In any case, with games like Alone in the Dark 2 and Liberty on the horizon, 1994 looks likely to be a vintage year for the French company.

In the pipeline

In addition to Alone 2, Infogrames has a number of other interesting products up its sleeves. Although Alone 2 is far from finished, work has already begun on the scenario for Alone 3. Edward Carnby is once again the central character, this time investigating strange goings on in a Wild West ghost town.

Meanwhile, the original Alone in the Dark should soon be readily available on CD-ROM, and features enhanced sound and digitised speech. Likewise, a full talkie version of Shadow of the Comet is in mid-production, and will come packaged with an interactive guided tour of the H P Lovecraft museum.

Shadow of the Comet 2 only exists on paper at this stage, but Infogrames plans to release it in June 1994. Like the original, it is based on Lovecraft's Cthulhu stories, but this time features a new hero, a secret agent. Playing time is estimated at around 100 hours — twice as long as Shadow 1, and unlike other recent Infogrames adventures, it will be mouse-driven. The game takes place in several different countries, and ends up in a lost city buried deep beneath Antarctica's icy wastes.

Getting away from the supernatural, Infogrames is working on a spectacular space combat game for CD-ROM. Provisionally titled Liberty: First Contact War, it tells the story of humanity's first encounter with hostile aliens and has absolutely nothing to do with an up-market floral fabric emporium in Regent Street. The graphics already look amazing, and the 3D space combat sequences are some of the best I've ever seen. It should be released early next year. Look out for an exclusive preview next issue.

Also on CD-ROM is Marco Polo, a Civilization style strategy game based on the exploits of — wait for it — Marco Polo! It incorporates 100 video sequences and should be available in January 1994.

Two more CD adventures are being planned; Tiger Strike, set in India, and Templar, based on the mediaeval Knight Templars. It hasn't yet been decided whether the games will be traditional graphic adventures like Shadow of the Comet or arcade style games like Alone in the Dark. Keep an eye out for them some time next year.

Gone are the quirky bow tie and waistcoat, and now he looks almost suave decked out in his Douglas Fairbanks moustache and wide shouldered suit.

So far, a total of 21 people have contributed towards the project, including seven programmers, one musician, three artists working on background scenery and two 3D animators. The animation alone has taken quite some time to perfect, because the game contains around 160 animated objects and characters.





Improvements have been made not just to the technical aspects of the game, but also to the whole scenario. The pirates have far more personality than the zombies in Alone 1, because each character is unique. The result is that the game contains more humour.

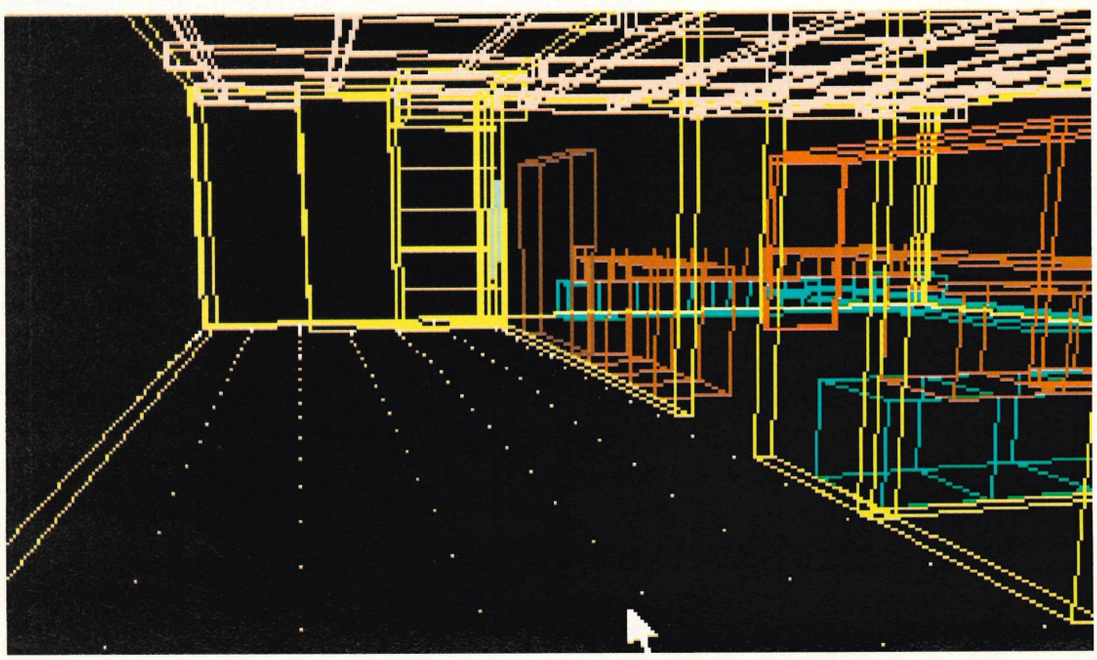
There are snoring pirates, drunks, tiny little chefs called 'cookies' who waddle round armed with meat cleavers and, of course, a talking parrot. Even Edward appears to take himself rather less seriously these days, whether he's dressing up in a Father Christmas outfit, getting tipsy on grog or picking up a frying pan to duel with the head chef.

One of the more interesting aspects of Alone 2 is your ability to switch between the characters of Edward and Grace. Just as the main characters in Alone in the Dark had their own strengths and weaknesses, playing Edward and Grace requires different tactics. Whilst Edward is skilled at fighting, being able to kick, punch and head-butt villains as well as using a machine gun, Grace must outwit the pirates by tripping them up with marbles or hiding. The main difference between this game and Alone 1 is that, rather than choose between the two characters, this time you get to play them both within a single game.

Work began on Alone in the Dark 2 back in March, and when I visited Infogrames last month the game was roughly one third complete. The bulk of the program has already been written, and the team is now concentrating on the lengthy fine-tuning process.

They aim to have it finished by October in time for a late November release. At this stage, Alone 2 already looks seriously impressive. It's still a little early to judge just how good the gameplay will be, but if the original was anything to go by, I'm sure that Alone 2 will live up to everyone's expectations. Either way, it looks very much as if the game will find its way on to more than a few Christmas lists come December.

■ Cal Jones



The interiors are created using a 3D modelling application before the bitmapped backgrounds are added on top to complete the scene.

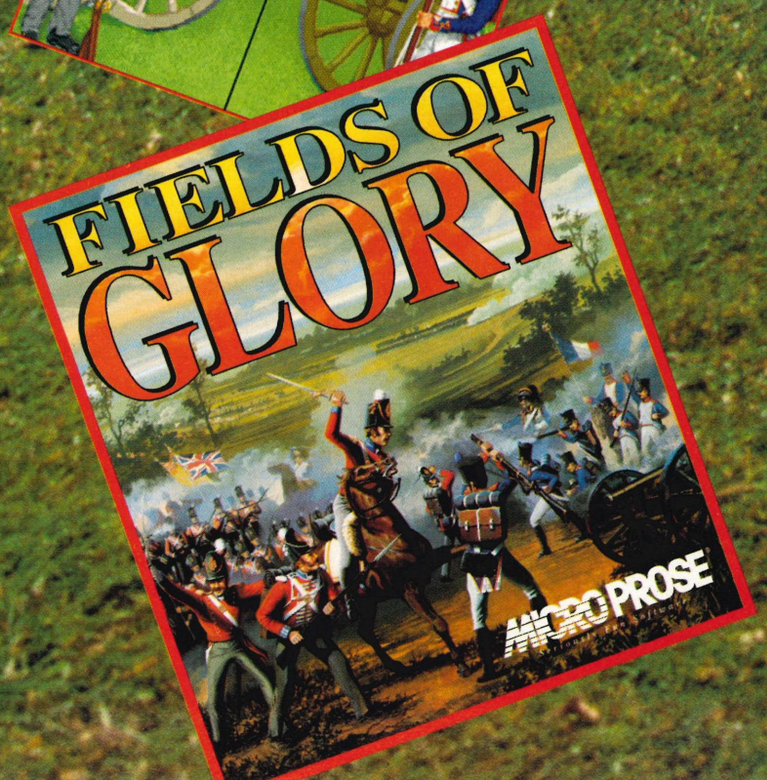
FIELDS OF GLORY

TOUGH DECISIONS AS THE BATTLE RAGES

FEATURING CQCS Close-Quarters Combat System







Has your desire for battlefield leadership been fulfilled? Are you looking for the tense excitement of a real battlefield action game?

Now, MicroProse have produced **Fields of Glory** : a game designed to break the mould of dull simulations.

The emphasis is on action and the heat is on you as you make crucial command decisions. The rich, vibrant sights and sounds of close-quarter combat replace the tired interface of traditional wargames. You'll find that skilfull 'against-the-clock' decision making is more important than historical knowledge.

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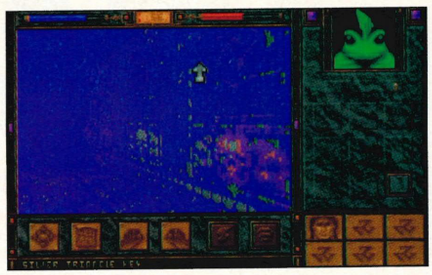
Avon BS17 6AY.

Title	**Shadow Caster**
Developer	**Origin**
Publisher	**Electronic Arts**
Contact	**(0753) 549442**
Release date	**October**
Genre	**Role-playing game**
Price	**£44.99**





Shadow Caster

Origin's new role-playing extravaganza has absolutely nothing to do with the Ultima series. What's going on?

I've been bemoaning the lack of originality in role-playing games, but Origin's next big release is going to be refreshingly different from the more traditional fantasy epics we're used to seeing.

Shadow Caster places you in the central role of an ordinary, modern day man who is unknowingly descended from a race of shape-shifters.

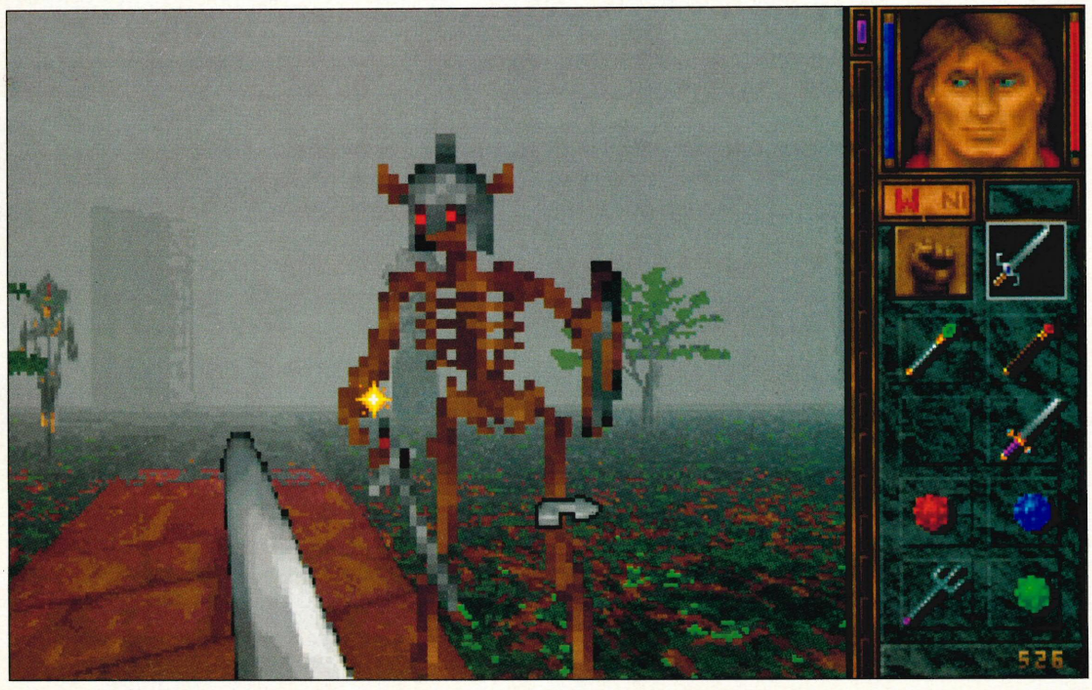
Some years in the past, his ancestors realised their race was dying out, and embarked upon a quest to find a champion to save them. But, none of the shape-shifters were powerful enough, so they had to look into the future to find the right man for the job. No prizes for guessing who that was, of course.

At the start of the game, you find yourself thrown into a strange realm populated by even stranger monsters, without so much as an inkling as to what you're doing there. At this stage you know nothing about your exotic ancestry, so you're unable to shape-shift until later in the game. Once you have defeated certain monsters, you can assume their forms for a limited period of time. This adds an interesting twist to the game, because changing shape allows you to adapt to various different conditions. For example, to avoid getting your underpants soggy in the underwater sections, it would be a good move to transform yourself into an amphibious frogman, but if you need to fly over a high wall, you can transform yourself into a winged dragon. The other options include a tiny imp which is ideal for getting into confined spaces; a massive four-armed lion, a beholder and a tough, eight-foot tall stone golem which can make mincemeat out of the nastiest monsters.

Of course, all this original thinking would probably go to waste if the game was found lacking in the technical department. Fortunately, it isn't. Written by Raven Software, Shadow Caster uses an improved version of the Wolfenstein game engine and features the same ultra-smooth, multi-directional scrolling, but with even better graphics. If you're wondering how it compares to Origin's Ultima Underworld, it looks, if anything, even more impressive. The only downside to this is that you really need to play it on a 486 to get the best out of it. On a 50MHz 486 it moves stunningly fast, but on slower machines you have the option to reduce the size of the view-window so that it is still able to run at a decent rate.

As the game nears completion, it already shows signs of being something special. It's not often that you see a role-playing game which has an original theme and a high standard of graphics as well. If all goes according to plan, we should be able to bring you a full review of Shadow Caster in our next issue.

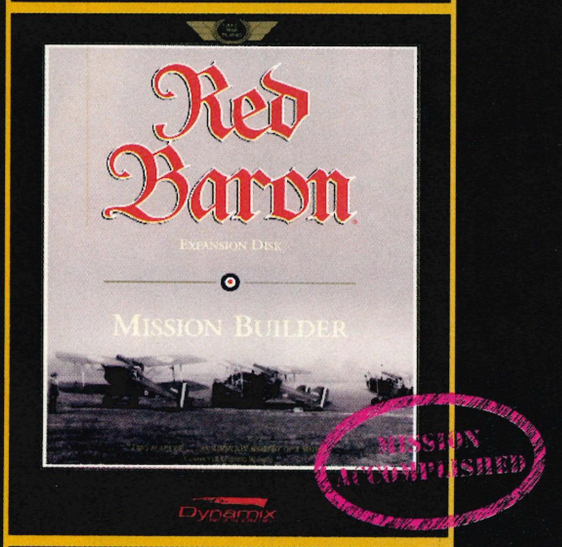
■ Cal Jones

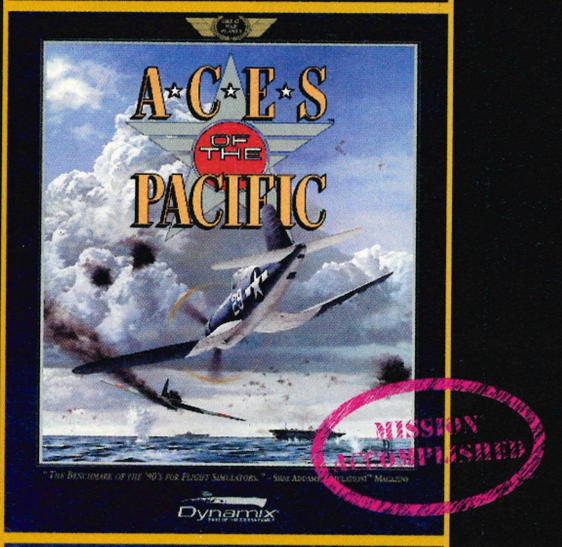


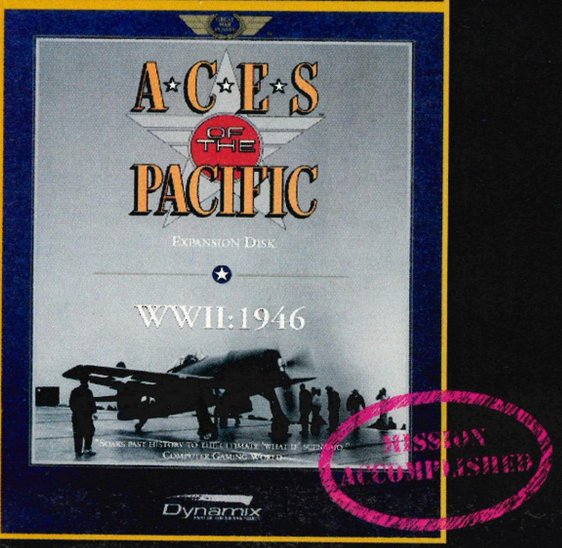
The fog makes it difficult to see monsters until they appear "in yo' face", but this nasty skeletal chappie has popped up well within range of your trusty sword.

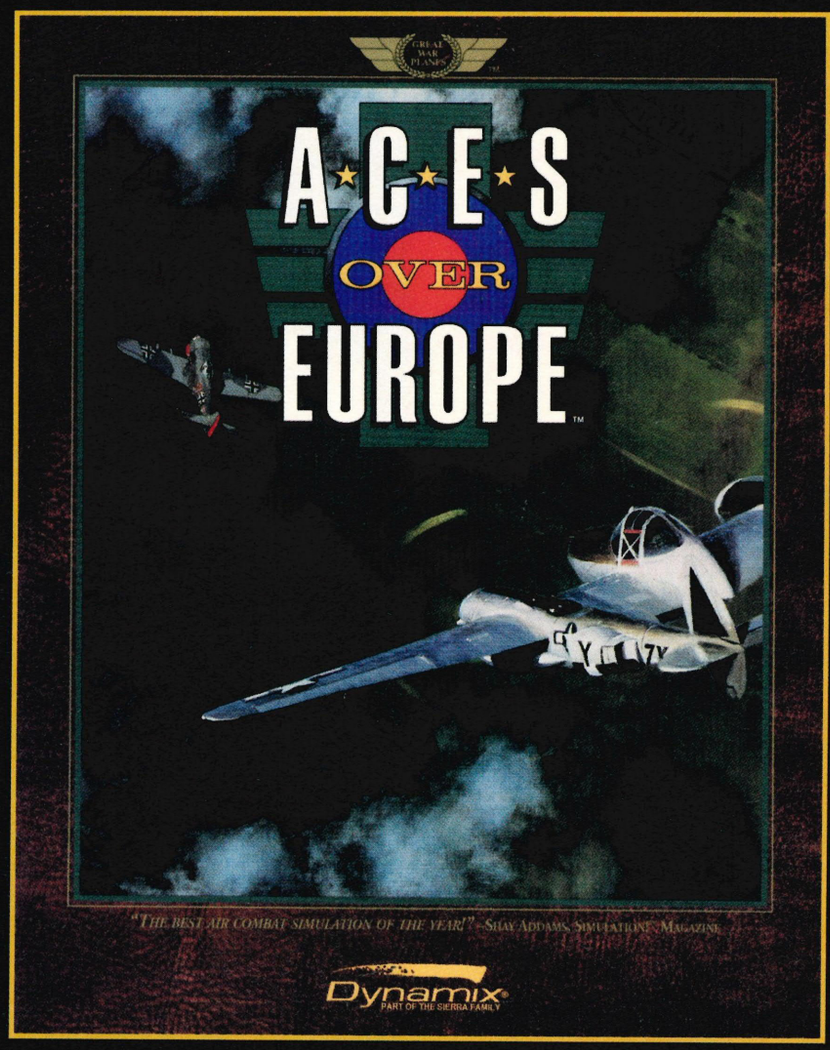
4 MISSIONS SUCCESFULLY ACCOMPLISHED ...











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Title	**HB Cartoon Animator**
Developer	**Empire**
Publisher	**Empire**
Contact	**(081) 343 7337**
Release date	**October**
Genre	**Animation**
Price	**£49.99**

Hanna Barbera Cartoon Animator

Breathing life into your favourite cartoons is the name of the game in Empire's new and easy to use animation package

The Hanna Barbera Cartoon Animator (working title) is being developed by Empire, with the project headed up by Rick Yapp (whose other titles include the strategy war games Team Yankee and Campaign, and the forthcoming Dream Web).

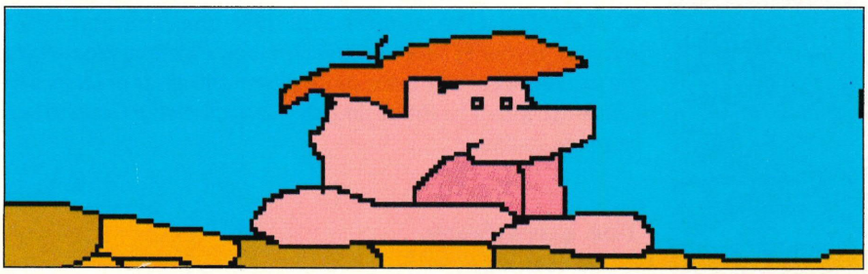
It's being designed for younger users as well as adults, but without wanting to be a 'kiddies only' package. The version that I've been working with is about three-quarters complete, and the interface is still in the process of being tweaked here and there. However, it's immediately apparent that the emphasis is on simplicity and intuitiveness, as opposed to a program like the DPaint companion Deluxe Animation, or, to go to an extreme, 3D Studio. Its biggest rival is likely to be Disney's highly rated Animation Studio.

The animation process in Empire's package is very simple — child's play, in fact. Remember making a stick man run by drawing him several times then flicking through the pages of a pad? If you go right back to the basics of pegboard cartoon animation; draw the original, duplicate it, move and alter it a little – repeat and stir as necessary, then that's a fair comparison with the way this software approaches animating an image.

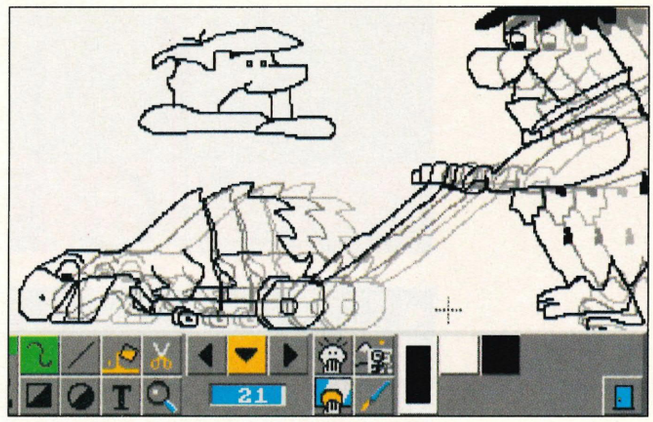
This makes the program very accessible. In fact, when I left the PC unattended for a grand total of three minutes, one of the staff on our sister magazine, The One, managed to get two rude aniamtions on screen by the time I came back. This was without knowing the software and having previously demonstrated all the technical expertise of a retarded chimp. If he can do it, anyone can ...

Despite the simplistic interface, the Hanna Barbera Cartoon Animator has its sophisticated moments; you can work with grouped animations layered on backgrounds, palettes and painting tools, templates and ordering of scenes. The built-in 'onion skinning' enables you to link animation frames underneath the one you're working on, to a depth of three or two plus a background. And right now, it can import files in .LBM, but there's a chance that a .BMP import will be added.

Unfortunately, I didn't get a chance to test my hand at a unique feature of the HBCA; capturing and animating digitised footage in black and white (I didn't have a video capture board kicking around).



Wot, no Fred? The finished version will include the licensed Flintsones characters.



'Onion skinning' in Empire's Cartoon Animator makes the job a lot easier, but can be hard on the eyes ...

This could be used for digitised animation of people, but the limited contrast means that it's probably best suited for hand drawn animations.

Finally, a cartoon animator wouldn't be complete without some 'toons of its own, and Empire plans to release the package with several clip art libraries and tutorial files of existing animations and drawings. These will feature the officially licensed cartoon characters from the Flintstones, the Jetsons, Yogi Bear and Scoobi Do.

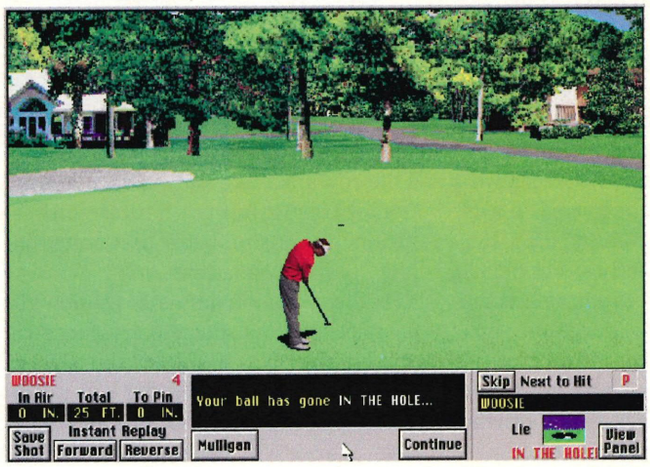
Add-ons will be available later for Top Cat and the Wacky Races, with other subjects to be announced.

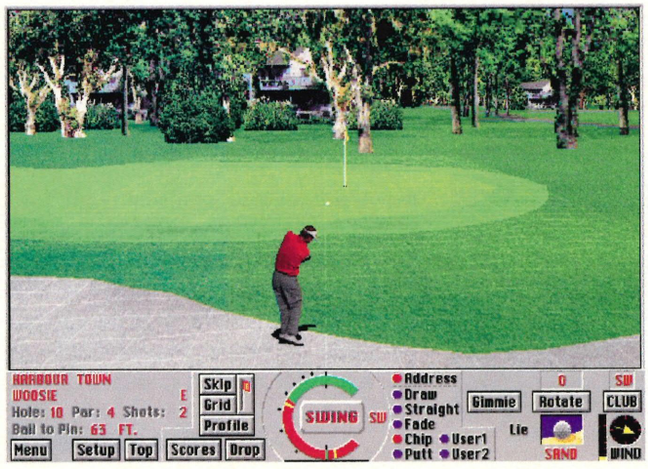
Obviously the package is still under development and won't be ready for a month or so yet. But, I've had several hours of creating artistic and animated havoc with it, and from what I've seen so far, Empire is on the right track to producing an animation program that's simple, accessible and fun to use.

■ John Bennett

WIN A day out at The Belfry with US Gold







Links 386 Pro is one of the premier golf games for the PC, with a clever balance between authenticity in course design and playability.

The Links 386 Pro series now includes five extra courses as well as the central game, with add-on disks available for Mauna Kea, Pinehurst, Banff Springs and Innisbrook, as well as the newest, the Brabazon course at The Belfry, where the Ryder Cup is taking place later this month. The full Links Collection is the nearest you're likely to get to playing golf on the world's finest courses without spending a fortune!

The complete collection of Links and add-on programs are available to be won by four prizewinners in this special competition put together by PC Review and US Gold, to mark the release of The Belfry course for Links and the Ryder Cup.

In addition, our first prizewinner will be taken to The Belfry, courtesy of US Gold to play a round of golf on the Ryder Cup course, followed by lunch and a tour of US Gold's headquarters in Holford, Birmingham, in the afternoon.

How to enter

We've set a tricky little PC games trivia quiz below, and, well, we'd like the answers, please. Send in your entries, either on the form below, or a reproduction of it if you don't want to spoil the magazine, to

Links quiz
PC Review
Priory Court
30-32 Farringdon Lane
London EC1R 3AU

And make sure it reaches us by October 15, 1993, to be in with a chance of winning. The prizes will go to the first four correct entries drawn at random, or the first four nearest to correct entries (if it all proves too tough!).

● *Note: Links Pro requires a 386/486 processor and SVGA graphics. If your PC doesn't meet this specification, please note the fact on your entry form, as an alternative prize of Links The Challenge plus The Belfry and the Championship Courses can be made available.*

The questions

1. Odd ones out

Which is the odd one out in each of the following?

Plus four sets of Links Pro with all extra courses

a) Mauna Kea, The Belfry, Turnberry, Banff Springs;
b) Gunship 2000, Comanche: Maximum Overkill, LHX Attack Chopper, Falcon 3.0;
c) Savage Empire, Martian Dreams, Serpent Isle, Legends of Valour.

2. AKA
These are three sub-titles of famous PC games. What are they better known as?
a) Trials of the Olympian Gods;
b) The Black Gate;
c) Dagger of Amon Ra.

3. Heroes and villains
Which games do these characters star in?
a) Guybrush Threepwood and Largo LeGrande;
b) Brandon and Malcolm;
c) Raoul Montand and Erik.

4. Countdown
How many?
a) Space Quests;
b) Ultimas (not including Worlds of Ultima);
c) Might and Magics.

5. Fill in the blanks
a) ..... of the Beholder;
b) .... of the Luftwaffe (two words);
c) ..... for a Corpse.

6. And again ...
a) ..... Files of Sherlock Holmes;
b) ..... Vikings;
c) ..... in Time.

Bit more difficult than usual, eh? If you get really stuck, a quick flick through recent back issues of PC Review should supply the answers.

The prizes will be won by those who submit the nearest to correct entries if there aren't enough wholly correct solutions sent in. So don't despair!

7. Name the three games which are pictured below:



A


B


C

Rules

- Employees of EMAP Images, US Gold, and 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, irretrievably final.

Links quiz

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

Answers
1 a) .....
b) .....
c) .....

2 a) .....
b) .....
c) .....

3 a) .....
b) .....
c) .....

4 a) .....
b) .....
c) .....

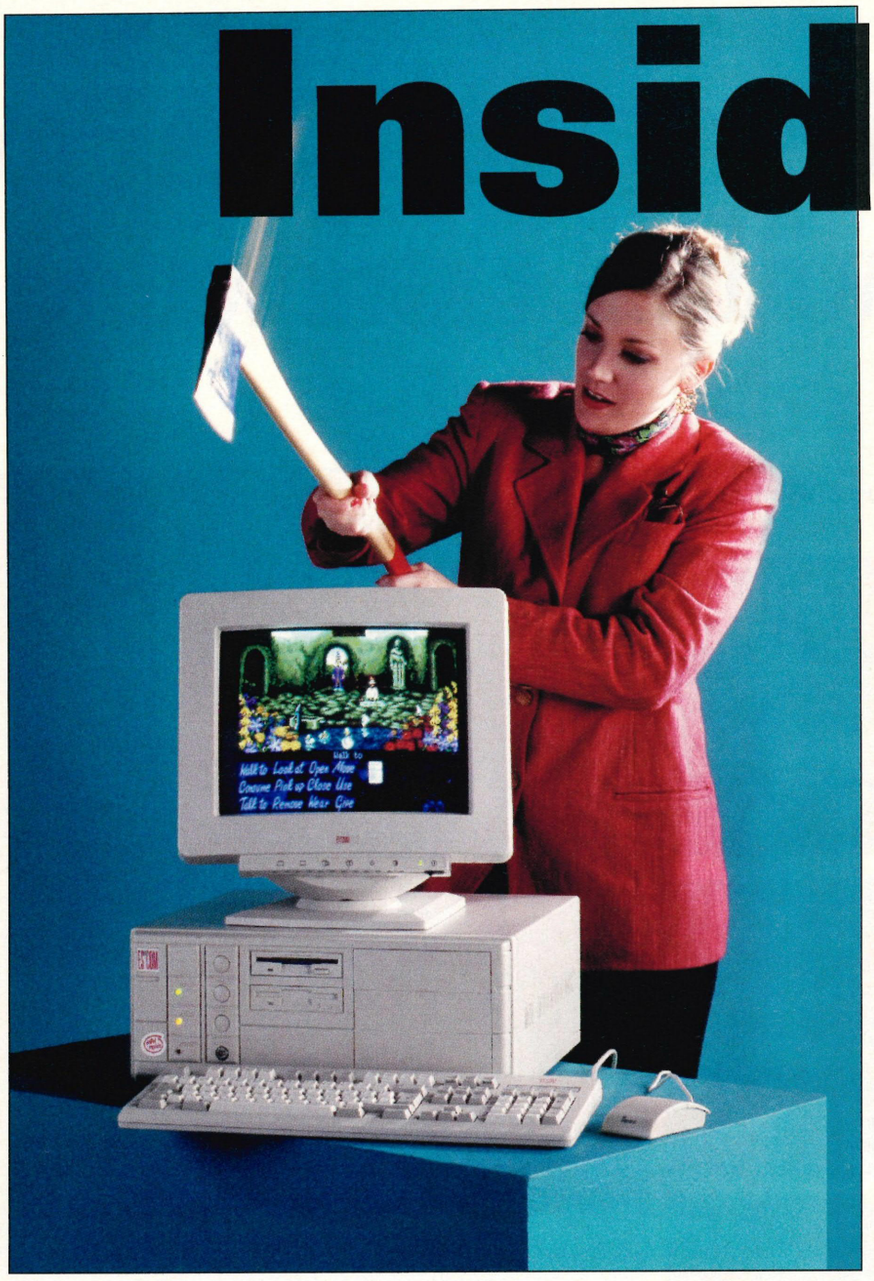
5 a) .....
b) .....
c) .....

6 a) .....
b) .....
c) .....

7 a) .....
b) .....
c) .....

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

Closing date October 15, 1993 *PC Review October 1993*



Inside the PC

If you open up the case of your PC, you'll find it's a maze of silicon chips and electronic circuitry. In this new series, we take you on a tour of your PC's innards, and explain what each of the components does and how your computer works. This month, we start with the very heart of your machine, the main board, or motherboard

When you first look inside a PC it can be difficult to make out exactly which bit is which. A few easy to find landmarks usually help to make it seem more familiar. One of the main problems, though, is that in the case of real machines, the motherboard, the board which holds all the circuitry and chips needed to drive the PC, is obscured by power supplies or disk drives mounted above it.

The easiest part to spot is the expansion area (1, on the diagram opposite). Usually there will be a number of other printed circuit boards mounted at right angles to the motherboard. The long thin rectangular connectors that the cards plug into are the expansion slots. Expansion slots come in a number of types, but most machines have a mixture of short (or 8-bit) and long (or 16-bit) connectors. Expansion cards can be plugged into a suitable socket and then secured in place using a screw to the edge of the case. The connectors are also known as the ISA (Industry Standard Architecture) bus.

Somewhere on the motherboard will be the RAM memory. What this looks like depends very much on the age of the machine. Early machines may have large areas covered by a grid of identical chips. More modern machines use SIMM sockets and memory modules (2). A SIMM socket looks a lot like a miniature version of the expansion area. The cards that plug into a SIMM socket are also much smaller and typically contain between three and nine chips. Any empty sockets that you might find are a sure sign that your machine is upgradable to use more memory. If you can't find any empty sockets then usually the only way to upgrade is to remove some of the existing SIMMs and replace them with larger capacity devices.

You might think that the processor (3) or CPU, the chip that actually obeys the instructions in a program, would be the most impressive one on the motherboard. This often isn't so. If you survey the entire motherboard you will see a large number of small rectangular chips and a much smaller number of larger square chips. The processor is usually one of the large square chips but which one it is can only be discovered by reading the numbers printed on each one! The majority of the large chips provide the 'glue' that sticks the whole computer together. They are responsible for connecting the processor to the memory, to

the expansion bus, to the keyboard, etc. Some motherboards have circuits that are normally contained by expansion boards and in this case there are even more large chips to provide the necessary video and disk support.

All of these chips need to work together to ensure that data is moved around the machine correctly. This is achieved by the use of a clock signal which is distributed around the motherboard. The faster the clock the faster the machine runs. You might be able to see the clock generation circuitry – it's usually near the edge of the board and can be distinguished by a rectangular metal can containing a quartz timing crystal. In practice most machines require more than one timing generator – one for the CPU, another for the video, another for the expansion bus, and so on – so don't be alarmed should you find more than one crystal. Usually a machine will be run at the fastest clock rate that the CPU is guaranteed to work at – so don't attempt to alter the timing.

Most motherboards have at least one empty large chip socket (4). This is either ready to accept a numeric coprocessor or an overdrive chip. A numeric coprocessor simply helps out the main processor with arithmetic. When ever a sum needs to be done the numeric coprocessor takes over and does the job faster than the main processor would do. The rest of the time it sits in its socket, doing absolutely nothing!

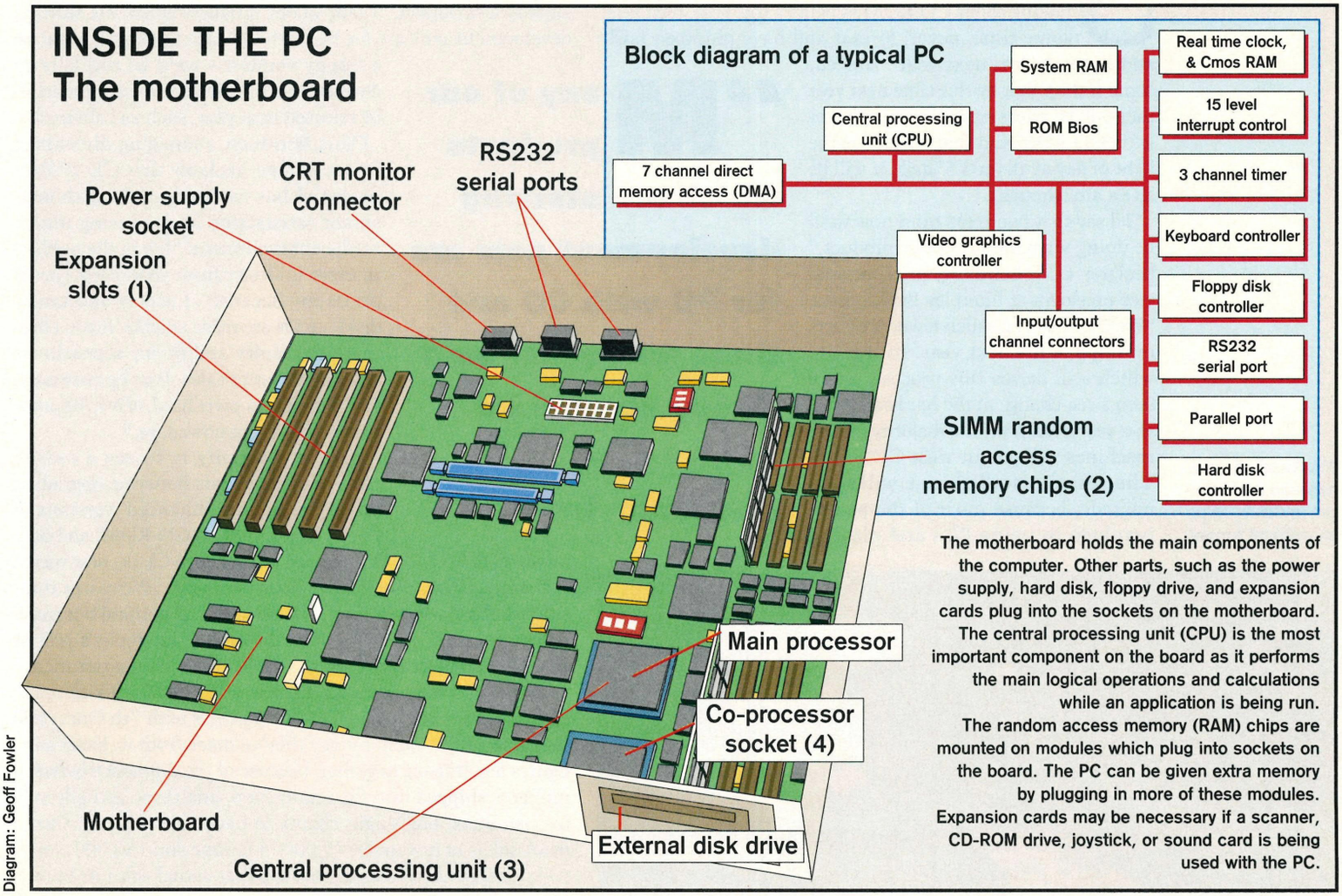
An overdrive chip, on the other hand, completely replaces the main processor chip. It speeds up every aspect of running a program because it operates at twice or more the clock rate of the main processor. The main system clock is automatically doubled by the overdrive processor – hence its alternative name 'a clock doubling processor'. In this case the original processor sits in its socket and does absolutely nothing!

The rest of the interesting features on the motherboard can best be described as vital but simple. There are a range of standard connectors around the edge of the board to connect the keyboard, serial and parallel ports and other external units. If a disk controller is contained on the motherboard then there will also be connectors for a drive's ribbon cables. The main power for the motherboard is supplied on standard connectors, usually somewhere near the power supply. These can be identified by the multi-coloured wires leading from the power supply to the board. All of these connectors are absolutely vital to the correct operation of the motherboard and you should make sure that they haven't shaken loose.

If you look at the motherboard really carefully you might also see what appear to be sets of pins with tiny plugs. These are usually called 'jumpers' and they are used to control the operation of the motherboard. For example, if you install extra memory you very often have to inform the motherboard of this fact by altering the jumpers. An alternative to the use of jumpers are small blocks of even tinier switches – DIP switches. These are set to on or off in the same way that a jumper plug is placed on or off a pair of pins. In either case it is essential that you don't alter jumpers or DIP switches unless you know what they do – it should be all listed in your machine's manual.

Next month: we look at the guts of the hard disk drive and how its components store, read and retrieve all your files and data.

INSIDE THE PC
The motherboard



The motherboard holds the main components of the computer. Other parts, such as the power supply, hard disk, floppy drive, and expansion cards plug into the sockets on the motherboard. The central processing unit (CPU) is the most important component on the board as it performs the main logical operations and calculations while an application is being run. The random access memory (RAM) chips are mounted on modules which plug into sockets on the board. The PC can be given extra memory by plugging in more of these modules. Expansion cards may be necessary if a scanner, CD-ROM drive, joystick, or sound card is being used with the PC.

Diagram: Geoff Fowler

SPECIAL REPORT

Decline and fall of the floppy disk?

Why publishers are turning to CD-ROM

Some games publishers reckon that the majority of their titles will be CD-ROM only by this time next year. Could it be time to jettison the floppy disk drive? Christina Erskine reports

Spurred on by reports of staggering sales for Virgin's 7th Guest, a test-pilot product for the CD-ROM market, if ever there was one, publishers have stopped talking about CD-ROM as being a this year, next year, some time, never, format and have plumped fairly and squarely for 'next year'. Indeed, some reckon that by this time next year they will be releasing their games largely on CD-ROM and that if they see the light of day at all on 3.5" disk, it will be as an afterthought.

"I'd say that two years from now we'll be doing virtually no floppy product," declares Dick Lehrberg, international vice-president at Interplay Productions. "We'll be hosting much fewer products on floppy disk next year. In the US, which still drives this process, we've seen a sea-change in the hardware base. In a year from now, the majority of new machines will go out with CD-ROM. The active installed base will then upgrade, because most of the people involved in using PCs and playing games are 'leading edge' users. So this time next year, we will host on CD and then do cut-down versions for floppy."

At Electronic Arts, European president Mark Lewis is only slightly less bullish. "Many of our products which are starting development now are for PC with CD and there will never be a floppy version – we'd be unlikely to downsize them. This is for new product to be released next year, such as Labyrinth."

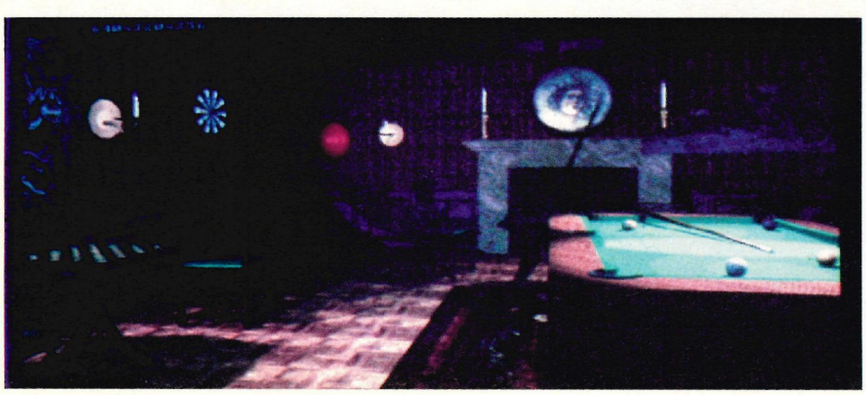
"Many of our products which are starting development now are for PC with CD and there will never be a floppy version"

Mark Lewis, Electronic Arts

Dana Berkmen, managing director of Sierra Europe, reckons that CD-ROM's potential has as much to do with consumer satisfaction as producing multimedia entertainment. "It's in the public's interest to desist from producing games on floppy because of piracy and faulty disks – CDs are more reliable. If you eliminate the faulty and piracy scenario we should see better sales. For the customer, CD acts as its own hard drive, because games are so big nowadays."

"Our philosophy is to see a steady change of emphasis between upgrading disks [producing 'enhanced' versions of floppy disk games on CD-ROM] and one-off projects [CD-ROM originals]," says Steve Clark, new media manager at Virgin Interactive Entertainment. "We're in a transitional phase where we can develop with CD in mind but make a floppy version available. That'll continue for about a year or so, and then there'll be enough CD-ROM machines out there."

Clark ought to know: after all, it was Virgin which kick-started the current interest in CD-ROM games with 7th Guest and they know how much money they've made from it. Exact sales figures are difficult to gather, because of the difference between products shipped into the retail chain, and those actually sold to customers, but Virgin claims to have received orders from wholesalers of just under 40,000 in Europe and 150,000 worldwide. Independent sources reckon that actual sales in Europe



7th Guest, below, has boosted interest in CD-ROM as an original format.

currently stand at 20,000. It is, however, currently number two to Day of the Tentacle in Gallup's CD-ROM chart.

If the four views above are at one end of the CD vs floppy disk continuum, at the other you find the view that CD-ROM drives aren't going to be common enough to justify any sort of release until 1995 at the earliest, and that the term multimedia is much misused and abused.

"There is such a massive installed base of floppy disk users, that it would be stupid to ignore that sector of the market. There is a CD market, but it's too small for US Gold," counters Geoff Brown, its managing director, who adds that none of US Gold's affiliates (companies such as LucasArts, SSI and Access) are contemplating moving to CD-only publishing.

The majority of companies are sitting somewhere in-between, if not succumbing to the post-Guest euphoria that's presently enveloping Interplay. Yes, CD-ROM is growing, but it will be a gradual growth, that CD and floppy disk will co-exist happily for another 18 months or so, that CD-ROM investment is worth it, but only on a very few titles.

"Where it is appropriate for a product, we will produce a CD-ROM version," says Tom Watson, managing director of Renegade, which publishes games from the Bitmap Brothers and Sensible Software, among others. "This might increase as the CD market increases, but at the moment it's very, very, very small. OK, so it's bigger in the US, but the software prices are that much lower."

"Well, we are developing one game, Liberty, specifically for CD-ROM, but we've done it for our US subsidiary, really. We're still not really sure about CD-ROM product in this country," admits Beverly Gardner at Infogrames UK.

Electronic Arts has an interesting idea that runs in parallel to this, which is to supply games on CD-ROM, but intend them to be installed on hard disk.

"There are two distinct types of CD-ROM title and they shouldn't be confused. The first is the multimedia CD-only title. The second is where CD-ROM is used as the delivery medium only. Because of the high price of producing seven or 10 high density disks to go in the box, we may do games which are supplied on CD-ROM, but they will be hard disk installable – and take up about 15Mb-30Mb when decompressed," explains Lewis.

Superficially, this sounds suspiciously like 'shovelware', games whose code is taken from floppy disk and dumped wholesale on CD-ROM. But it isn't – Lewis is talking about original games, supplied on CD-ROM instead of floppy disk, not as well as. And how, exactly, is your hard disk supposed to cope with 50Mb or so of prime Origin code?

"Memory is cheap these days, and I can see hard disks being 1.6 gigabytes big [that's 1,600 megabytes], so then it won't really matter if the game takes up 30Mb-40Mb," says Lewis cheerfully. "The customer will also save money, because these games, instead of being £50, will be £39.99 or less."

All this presupposes that the CD-ROM drive will become as essential an accessory to the PC as, say, the sound card. Are people really buying CD-ROM drives in droves?

"Actually, we've seen a bit of a lull in the last few months," says Nick Grant at Westpoint Creative, who obviously hasn't read the script. Westpoint distributes the Creative Labs Multimedia Upgrade Kits and is therefore well positioned to spot any trends. "However," Grant continues, "We have uprated the drive in the kit to a double speed, multisession model and we have yet to begin our marketing campaign on that.

"We are certainly expecting to see an amazing growth in sales in the next three months. I think that people are now beginning to feel that there is some standardisation in the CD-ROM drive market and they are waiting to buy now. I would have to say that this season will have a considerable impact on CD-ROM development in the next one to two years."

"In 12 months time it is entirely likely that the PCs in the shops will be sold with internal CD-ROM drives as the norm rather than the exception"

Those who already have a PC may need to upgrade, but in 12 months time it is entirely likely that the PCs available in the shops will be sold with internal CD-ROM drives as the norm rather than the exception.

"I think we'll see CD-ROM drives being supplied with PCs as a standard item next year – the PC you buy will have a 3.5" floppy, CD-ROM and hard drive," states Mark Lewis.

Furthermore, if you look closely at who is claiming what, it tends to be the subsidiaries of US-based companies (Interplay,



The Sound Blaster Multimedia Upgrade Kit did a lot to boost the embryonic CD-ROM market in the UK.

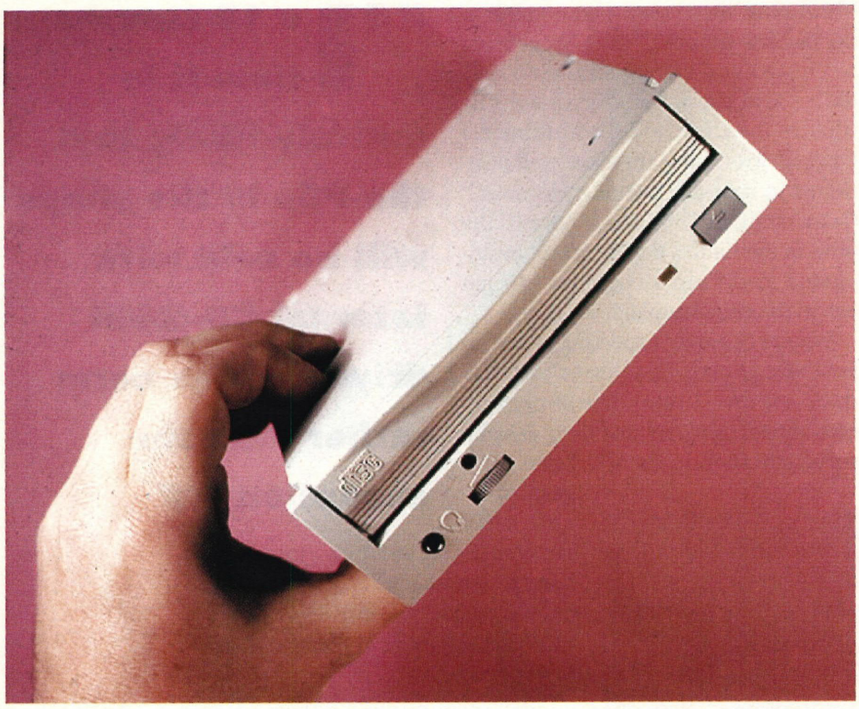
What is CD-ROM?

A compact disc is a compact disc, but the data on a CD-ROM (compact disc – read only memory) comprises programs made up of computer-generated graphics, digitised images, music, speech, animations, or text, stored digitally on the disc, rather than simply analogue music, as in conventional CD-audio.

Essentially, CD-ROM is simply a means of storing data, as is a floppy disk or hard disk – the salient differences being that, a) a single CD-ROM will hold up to 600Mb of data, as opposed to the 1.44Mb of a floppy disk, and, b) you cannot write to the CD-ROM, ie, you cannot delete files, add your own files, or alter files on the CD-ROM. So it is not – at present, anyway – a substitute for a hard disk, but it could replace the floppy disks in the game box.

The mix of media (graphics, speech, etc) used on the CD-ROM gives rise to the term 'multimedia', which is often misused to mean any CD-ROM program, instead of a program which utilises data from different sources, which, after all, could be stored on floppy disk (or rather, a large number of floppy disks, since speech and digitised images take up one hell of a lot of space).

In order to play a CD-ROM, you must have a compatible CD-ROM drive. You cannot put a PC CD-ROM into a CD-audio player, or a Sega Mega CD player. However, confusingly, there are grey areas of compatibility. Just about all PC CD-ROM drives will play audio CDs, there is a degree of compatibility between Kodak's Photo CD and PC CD (as long as you have a 'multi-session' drive) and between Photo CD and Philips CD-i. For more on the compatibility question, and why some drives are compatible with some others, see PC Review, Issue 19, This Year's Models supplement, in which Mike James did an excellent job of disentangling some of the more tortuous bits of CD-ROM specifications.



The CD-ROM in your hand: by next year, many will be sold in your machine.

Sierra, Electronic Arts) that are most gung-ho about CD-ROM's prospects, and correspondingly, the European companies (Renegade, Infogrames) which are more sceptical.

To say that there are more CD-ROM drives in North American homes is simplistic – there are about one million CD-ROMs, but then there are about 40 times more PCs in US homes – but all are agreed that the American PC games players are ahead of their European counterparts.

"In the games area, we're not behind, anyway," counters Jim Mackonochie, sales and marketing director at Mindscape. "Most of the entertainment titles available in the US – apart from Icom [Sherlock Holmes] and 7th Guest – is shovelware. CD is leading in the US in terms of reference and information software, and that's mainly being done by Software Toolworks." (Toolworks is Mindscape's parent company.)

"We are a couple of years behind in terms of hardware sales, but that's because of CD-ROM drive prices. The efforts of manufacturers have been focused in the States, but now they're coming here. PC World is now selling the Packard Bell multimedia machines, for instance, in their own areas."

"It's in the public's interest to desist from producing games on floppy because of piracy and faulty disks – CDs are more reliable"

Dana Berkmen, Sierra Europe

"The UK market is about two years behind the US, but it won't take two years to catch up. We're in for a revolution here," is the stated view of Interplay and Dick Lehrberg.

Even in the UK, we're not at Europe's cutting edge. The German CD-ROM market is significantly bigger than that in Britain, and CD-ROMs are widespread in Italian schools where they are used to run educational software.

However, games publishers are keen that we should catch up quickly. While development costs are high if that 600Mb CD capacity is going to be filled, CDs are relatively inexpensive to duplicate, generally held to be more reliable than floppy disks, and because

Games to look out for

The Labyrinth
Electronic Arts



The Labyrinth opens with a Greek mythological setting,, but progress in this graphic adventure requires time travel and puzzle solving in order to change the course of history,

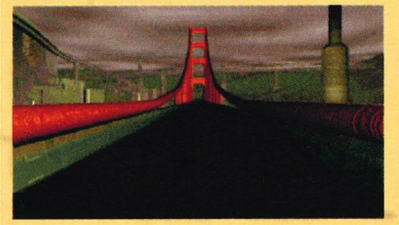
11th Hour
Virgin Interactive

Or The 8th Guest, this being the sequel to CD-ROM's most talked-about game of 1993. The old house has fallen into disrepair, as modern-day investigators turn up to investigate Stauf the toymaker, who appears to have undergone some sort of resurrection. New rooms as well as the original ones with cobwebs. Virgin Interactive Entertainment, incidentally, is just the fancy new name for Virgin games.

Air Superiority
Electronic Arts

Somewhat shrouded in mystery, Air Superiority is a working title only (its previous working title was Chuck Yeager's Air Superiority, only Chuck isn't expected to put in an appearance). Anyway, this is being developed as a flight sim to leave all other flight sims stranded on the runway.

Megarace
Software Toolworks



A futuristic racing game first mentioned in PC Review, Issue 22, this is being developed by French company Cryo, which created the original Dune.

Phantasmagoria
Sierra

A Roberta Williams haunted house mystery, billed as being very much a game for adults: newly weds find their dream home turning into a nightmare.

Liberty: First Contact War
Infogrames



A space shoot 'em up, reminiscent of the arcade game Starblade, with 3D modelled graphics moving across the screen at the speed of light.

For CD releases which are ready now rather than two years away, turn to our new CD Reviews section on page 102

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PCR 09

"The UK market is about two years behind the US, but it won't take two years to catch up. We're in for a revolution here"

Dick Lehrberg, Interplay Productions

they are currently a read-only medium, deter pirates (those who illegally copy software).

Corresponding to the views of Dana Berkmen, and Mark Lewis, above, Jim Mackonochie says, "I see no reason why CD-ROM shouldn't be a distribution medium. We'll put out Star Wars Chess on CD-ROM rather than 12 high density floppies and charge the same price – and why not? People charge £49.99 for shovelware, but you could have both the floppy and the CD-ROM version at £39.99 – the CD version will just be small enough to go on a hard disk."

Geoff Brown at US Gold is somewhat sceptical, however. "It only costs a small amount to duplicate a floppy disk, although admittedly it means duplicating a lot of them, but the cost of development on CD is very high. And it won't be long before people are pirating CDs – after all, no-one was pirating cartridges 18 months ago."

Don't doubt it – the CDs are coming. What is remarkable is the consensus of opinion in the industry that by September 1994, the European market will have caught up with the US, and that CD-ROM will be established as a platform for game development. There is hardly a software publisher in the country who doesn't have at least one CD-only title in the works.



7th Guest again, above right, and an example of one of the logic puzzles whuich formed the basis of gameplay.

Remarkable, anyway, compared to the current state of play, where we have a select number of disk-based games transferred to, or 'enhanced' for CD-ROM, which are either US imports, or released here to 'test the market', we have three titles – again, US imports – based on Sherlock Holmes and one very publicly successful game in 7th Guest. They're expecting you to buy an awful lot of CD-ROM drives in the next 12 months.

What do you think? Are the publishers right? Are you itching to get your hands on a CD-ROM drive and wallow in all these multimedia experiences? Or, if you do have a CD-ROM, has it enhanced your PC games playing? We want to know how you feel about a trend, which although in its infancy, looks inexorably set to happen. Write to PC Review at the usual address (see page 7), let us know your thoughts, and we'll publish a selection of them.

Buy now, buy later?

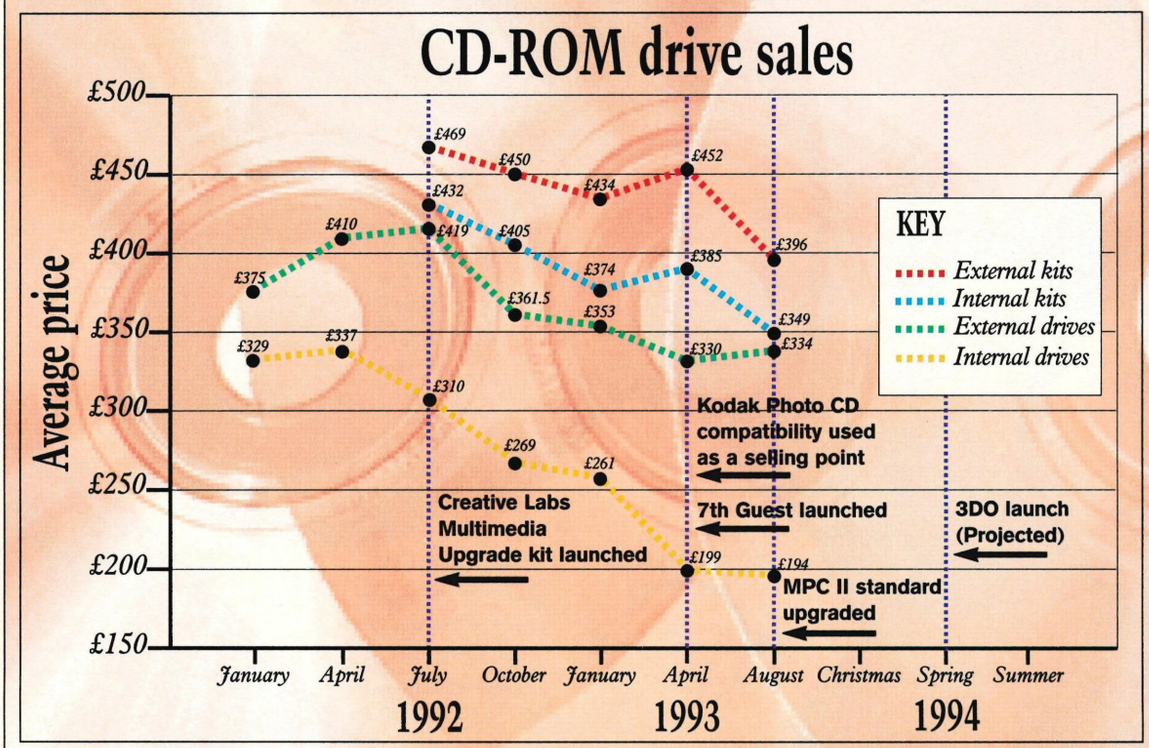
Depressing, isn't it? No sooner have you got your PC to a state where it can cope with most games than the publishers move the goalposts again. But should you be rushing out this weekend to buy a CD-ROM drive in anticipation of all these multimedia spectaculars, or can the old 3.5" disk drive manage for a while longer?

Despite the fighting talk on these pages, the introduction of CD-ROM as a premier format will be a gradual one. Companies such as Electronic Arts, Interplay and Sierra are talking about games which are due to be released for Christmas 1994.

Furthermore, buying a CD-ROM drive is a bit of a minefield at the moment. Prices are falling fast enough to make it always tempting to wait another month, and standards have yet to settle.

As for specifications, PC CD-ROMs should adhere to the Multimedia PC (MPC) standard, which has just recently been uprated (see this month's Q&A Update for details).

That having been said, you will also find double speed CD-ROM drives on the market, and multi-session drives, which should be Photo CD compatible. While these are not at the cheaper, £100-£200 end of the market, it makes good sense to look for the better specified drives on the market to give your CD-ROM a chance of lasting longer.



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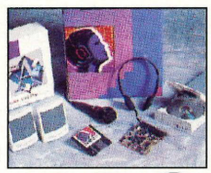

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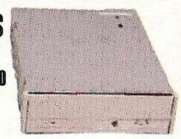

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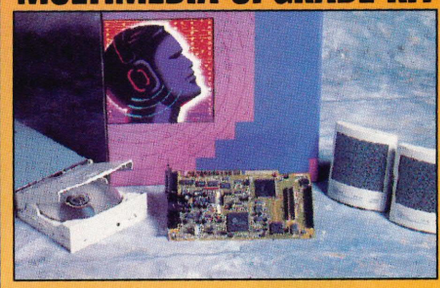

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SPECIAL REPORT



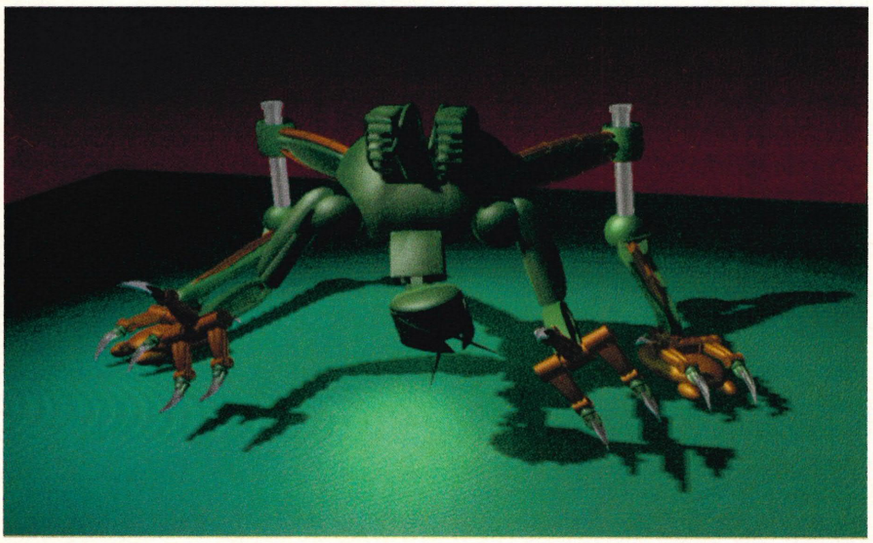
CREATION IN 3D

PC Review takes you behind the scenes to witness the creation of a game, Rise of the Robots, which uses some of the latest 3D graphic techniques

Rise of the Robots began life as a 10 page description of a game which, in the eyes of its creator, Sean Griffiths, would combine action-based gameplay with photo-realistic graphics and movement: to take the concept of something like Streetfighter II, perhaps, and make it believable.

Griffiths contacted several software houses with this original design, and Mirage agreed to take the project on and publish it last Easter. The unknown designer or programmer would find it impossible to interest a software house with 10 typewritten sheets, but Sean Griffiths has something of a track record; his CV includes design work for The Bitmap Brothers.

Rise of the Robots is taking its inspiration from some of the all-time classic beat 'em ups, such as Way of the Exploding Fist and Streetfighter II. The PC is still noticeably short of this style of game, and Mirage hopes that by combining the graphic potential of the PC with the playability of these veteran thumpers it can make its mark on the market.



An insect on ostrich legs, the crusher is the first opponent designed to cause the player serious difficulty in the game.

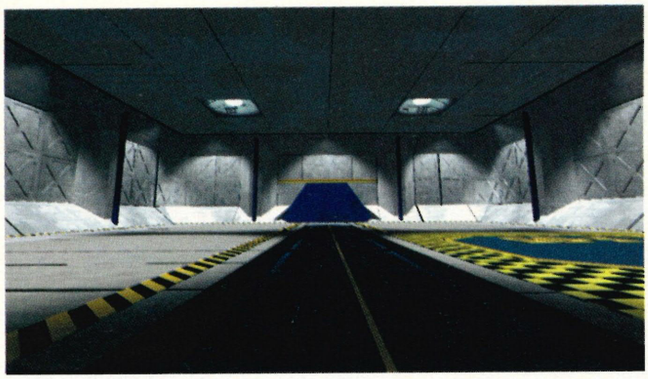
Mirage wanted this project to be developed in-house, and at the time, it had no in-house team. Although games are frequently contracted out to existing programming teams for implementation, recruiting a brand new internal team can be somewhat tricky, to say the least.

Programming is a close-knit business. Apart from the in-house personnel, there are perhaps 10 independent programming teams, which have contracts with publishers ranging from the more or less permanent and on-going deal to the one game at a time agreement. Bullfrog's games, for example, have been published through Electronic Arts as part of a two year contract, while DID is contracted to produce four games over two years for Ocean.

Sean Griffiths had discovered and worked with Autodesk's 3D Studio graphic rendering package, which meant his original ideas for Robots had been sidetracked; now, rather than a pixel artist, he was looking for someone with a strong portfolio of illustrations, with a degree in technical drawing, and with some experience of computer-aided design. Any experience of computer games was practically a disadvantage: "I didn't want anyone with preconceived ideas," says Griffiths.

Curiously perhaps, this particular paragon was found through a straightforward advertisement in the local Job Centre. Sean Naden arrived on board.

Naden was sent away over the weekend to come up with some robot designs; the resulting sketches (some of which are reproduced on these pages) formed the basis of the seven robots which will appear in the finished game. The next task was to build the robots in 3D Studio – for Naden, this meant starting from scratch with the package.



Although the original designs had fairly specific ideas for the futuristic look of the robot city, and Sean Naden's distinctly insectoid sketches set the style for the robots themselves, the team eagerly plundered any source they could find for inspiration. The magazine Cinefex, which explains how technology is used to create special effects in current films, proved to be a mine of information for making the modelling and animation process easier. Comics provided some ideas, but Naden soon discovered that many of the close-up action pictures – our hero in kick-boxing pose, for example – were simply physically impossible; for anatomic authenticity, the team went through a phase of scouring body-building magazines, as well as conventional anatomy textbooks!

Two more people were added to the team, a programmer to develop the Amiga-specific routines, and Gary Leach to do the same for the PC. Gary's job involves taking the finished animations from the two Seans and implementing the artificial intelligence and collision routines required for a realistic battle to take place between robots. With Sean Naden still working on building robots, and Sean Griffiths fine-tuning their animation, it became clear that another graphic artist was needed, this time for the backgrounds and scenery.

Interior design

The response to the advertisement for another graphic artist was minimal, until Kwan Lee, a self-employed interior designer rather more au fait with wallpaper and soft furnishings, called the Mirage office and leapt in with both feet. "Surely, if you're designing the backgrounds, what you need is an interior designer," he demanded of Sean Griffiths.

Initially, Griffiths got rid of him as quickly as he could without being rude; later he reckoned that perhaps it wasn't such a crazy idea after all and that Kwan might have a point.

Initially, Kwan drew blueprints for the backgrounds on paper, and admits that for the first time in his career he was in his element: interior design with no budgetary limitations (you want solid gold pillars? Just specify solid gold pillars), no size restric-

Left: Kwan Lee took the bare dimensions of each interior and designed textures and lighting effects, again using 3D Studio.

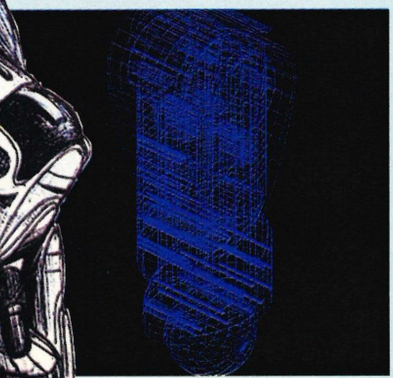
Autodesk 3D Studio

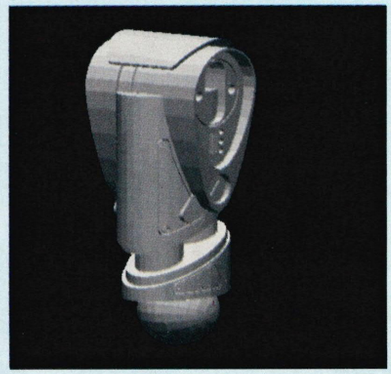
The terms "3D Studio", "3D rendering", and "3D modelling" are being bandied about willy-nilly at the moment with regard to PC games. Where graphics have hitherto been developed using frame by frame animation, 3D modelling and rendering packages enable the programmer to create 3D look smooth-edged objects, and pre-define light sources for them, which move realistically when animated.

One method of creating these images is using a powerful workstation and software – Silicon Graphics, for example, as used by Electronic Arts for many of its forthcoming 3DO titles – but Autodesk's 3D Studio, a sister program to the computer-aided design standard AutoCAD, is rapidly gaining favour with many developers. It's a lot cheaper, for a start, and Sean Griffiths' description of it as "the DPaint of the 90s" doesn't look too far-fetched when you consider who's using it: Argonaut Software, and Origin Systems for Ultima VIII, among others.

The user can build animated 3D images from scratch, from imported CAD drawings, or a scanned photograph or picture. It has five modules for creating and animating: the 2D Shaper, which creates designs on screen – or enables you to edit imported ones; the 3D Lofter, which converts the flat drawings into 3D wire frame models; the 3D Editor, in which the user can add light sources and camera angles, and the rendering which takes the wire model into a photorealistic image; the Materials Editor, where you can modify colour, texture, light and shade, and the Key Framer to animate the image.

Still images and animation files can be saved to disk in a number of PC standard formats, making their incorporation into games all the more easy. The 3D Studio package also contains a library of textures and objects which can be used in images and animations: the tiled floor from 7th Guest, for instance, comes from the 3D Studio image library.





These elements from the loader robot have been created in Autodesk 3D Studio using the 3D Lofter drawings, left, which are then rendered using the 3D Editor and Materials Editor, into the pic-

Coming soon

Rise of the Robots is due for release at the end of January. It will be available on CD-ROM, which will be the lead version, or "director's cut" as Sean Griffiths rather cutely calls it, and floppy disk, but beware, because at the moment, it looks as though there will be 10 disks in the box and it will take up 30Mb of hard disk space, although Griffiths promises that there will be options to load only part of it fully at any one time.

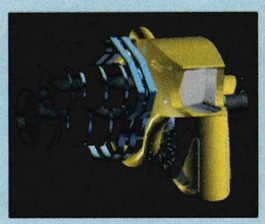
Two versions are planned at the moment, an SVGA specific version and a standard VGA version. To play it in SVGA, you will also need a 486-based PC and 4Mb RAM; for VGA, the spec will be a 'mere' 386 with 2Mb RAM.

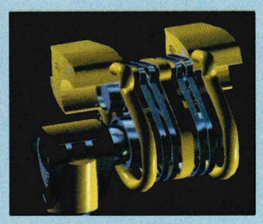
In the next two instalments of this series on the game, we'll look at how the gameplay and manoeuvres were constructed, and in the final part, we'll follow the game through play-testing and bug-fixing procedures. We also hope to be able to bring you a section of Robots on the cover disk.

Those robots in full

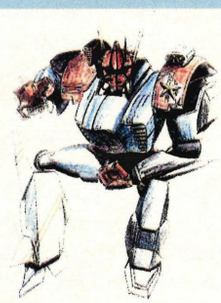
Each robot started life as a rough sketch on paper, until the distinctive characteristics of each were settled – the loader, for example, evidently has a fork lift truck somewhere in its distant ancestry. Then Sean Naden drew the 'neat' versions as seen in the original drawings reproduced below. Next, these pictures were recreated using 3D Studio, and while the intention was to stay as close to the drawings as possible, he found that the added sophistication of the software meant that they became even more detailed.

Naden began on the computer by drawing a single element, whether part of a joint, or muscle, or armour-plating, and slowly building up the robot from there. Each robot has around 50 separately drawn elements, each made up of many different software 'objects', which are pieced together to make the whole robot.



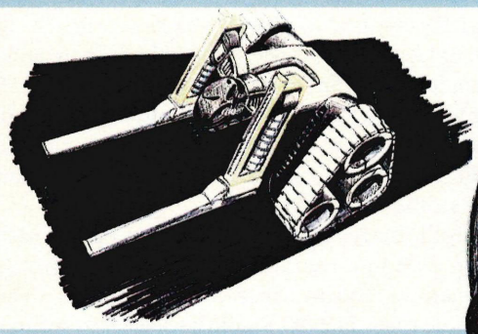


The crusher robot: here you can see how distinct body parts, the 'shoulder joints', left, have been drawn separately, before the entire crusher is assembled, as shown above.

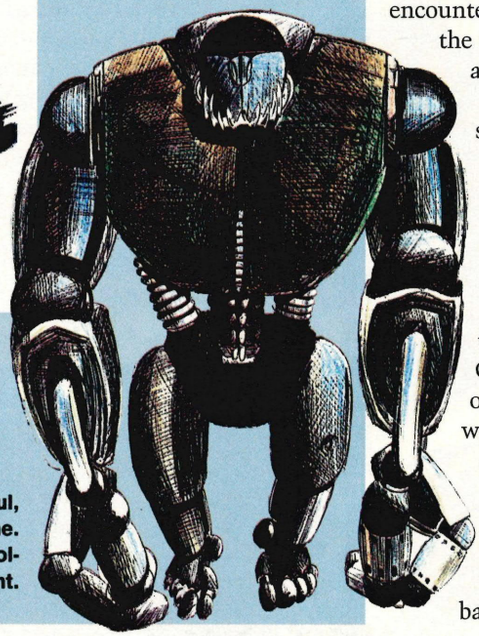




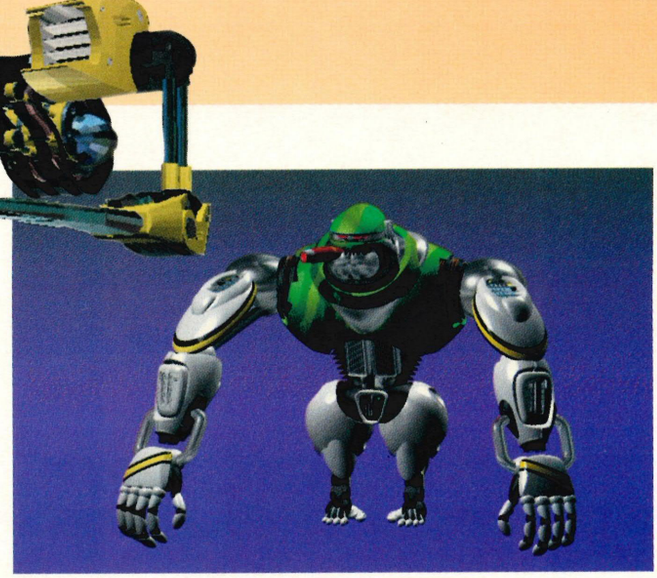
The security droid: still in the design stages, the security droid, far left, will have a variety of oriental-style moves more akin to kick-boxing. The supervisor, left, is a good example of how the team has been beguiled by 3D Studio. With his chrome texture, the supervisor will use 3D Studio's morphing feature to melt into a pool of liquid metal before rising up again.



The loader, above, is a stupid but powerful robot. It has been designed to look reminiscent of a fork-lift truck deliberately, since it represents one of the more primitive robot opponents and hence easier to defeat.



The builder droid is ape-like, strong and powerful, and nicknamed Prime-8 (groan) in the game. Here, the finished design, top right, closely follows the original sketch, right.



tions beyond the dimensions of each room, nor any obstacles with lighting, and the finished results are ready within a week.

The implementation on to the computer for these blueprints was freelanced out, then returned to Kwan for finishing touches, such as textures, and materials, again created using 3D Studio – and like Sean, Kwan learned the program from scratch.

Creating the plot

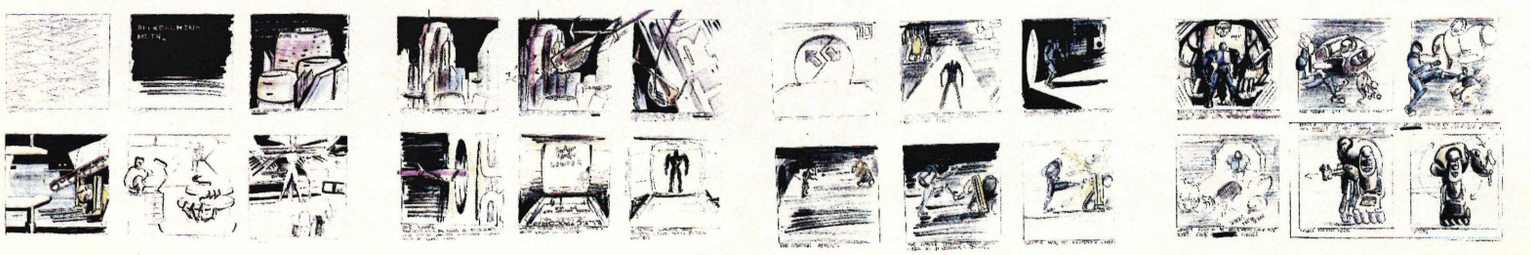
Actually, Rise is one of those games that barely needs a narrative background, but the excuse for all these battling tinmen goes like this: way, way into the future, the manufacturing industry is almost entirely robot-controlled, and Electrocorp, whose plant is depicted in the game, is the biggest manufacturer of military and industrial robots. Thanks to a computer virus, the robots are running amok, controlled by a self-aware Supervisor robot. However, the humans at Electrocorp have developed a cyborg robot – using a human brain – which can defeat the assorted rebels.

You play the role of the cyborg, and have to defeat each of the six types of renegade robot in turn. While the first two you encounter should be reasonably straightforward to despatch, the following four become progressively more intelligent and more difficult to overcome.

All the action in Rise of the Robots has been extensively storyboarded, although Sean Griffiths admits that they have already departed from the script in many scenes. The introductory sequence, as shown in the storyboard pictures below, far left, currently exists only in rough form on the computer and has already changed considerably.

The sequences for each of the robots not only sets the scene for each one, but also gives some idea of how Griffiths felt they should move. Each robot will have its own fighting characteristics: the loader trundles forward and its head must be removed for a clean kill; the ape-like builder can be severed at the waist and will copy your own moves as a form of defence.

As for the gameplay itself, we'll look at that in detail next month, when Gary explains how the 3D Studio rendered robots were turned into fully-fledged combatants and players in the game.



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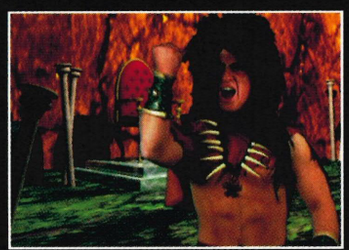

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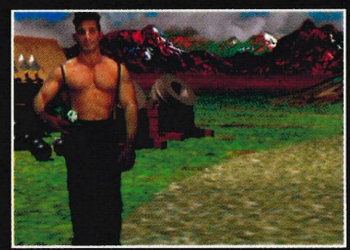

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Talk to me!

All you need is a sound card and some software and you can talk to your computer – but is it really useful? Mike James looks at four speech recognition products to find out

In Issue 21, we looked at products which enable your PC to 'speak'. This month, it's the other side of the coin: talking to your PC. By this, I don't mean the "Whaddya *mean*, 'bad command or filename'?!" stream of abuse which we all hurl at the computer from time to time, but teaching the PC toi understand, say, spoken commands as opposed to having to type them in — which just might cut down on the 'Bad command or filename' errors.

In science fiction computers talk to us and we talk back at them. It all seems so easy and natural – like talking to another human apart from their fictional tendency to take things a bit too literally. But science fiction very quickly becomes science fact – so how close are we to being able to talk to our machines?

Until quite recently any attempt to add speech recognition to a standard PC would have required additional hardware but with the popularity of sound cards which include a microphone connection this is no longer necessary. For the first time there are now a considerable number of PCs that only need some extra software to be able to recognise what you say to them.

I beg your pardon?

Having the necessary hardware ready to use is only a first very small step. At its most difficult, speech recognition involves trying to pick out works from sentences spoken by any human being. This is the sort of speech recognition that we find fairly easy. As long as the speaker doesn't have too pronounced an

Tried and tested



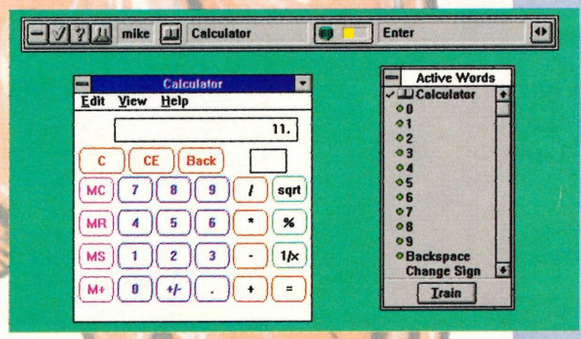
ExecuVoice

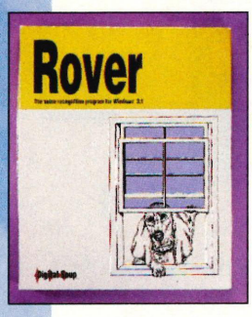
This is a Windows speech recognition system that works with a range of hardware. The version I tested came with Media Vision's 16-bit sound card, but as this is Sound Blaster compatible you can consider it to be a Sound Blaster-based speech recogniser. The sound card also comes with its own microphone, ready to be used with a variety of sound input software that is also bundled with it.

ExecuVoice installs easily, but it does assume that you have managed to install the sound card properly first. It makes use of some of the sound card's utilities, to set the volume level, etc. In use, all you see is a Windows title bar with a range of icons. It comes with a pre-trained command set, but you aren't likely to get very far using this so the first thing to do is engage in a bit of quick training. This automatically presents you with each command in turn and you have to say it once. At the end of quick training there should be a few commands, at least, that are recognised correctly. Any that aren't are candidates for full training – which is like quick training, but you have to say each word three times. I found training particularly easy because ExecuVoice decided when it had understood each word and moved on to the next. You can save a trained set of commands for a number of named users.

In use, ExecuVoice attempts to make it simple for you to see how well you are doing. A little microphone icon changes colour, according to how loud you are speaking – green means it can hear you, red for shouting, yellow for nothing but background noise and grey means it is in sleep mode. After you have said a word, ie, the icon has turned green, the recognised word appears in the bar and the corresponding command is subsequently issued.

The main problem with ExecuVoice is that it has a fixed set of Windows commands. Apart from this it works well.





Rover

This is an add-on to an existing Sound Blaster card. It is a very flexible voice recognition system in that you can add new words and define what they mean. You do this by entering the keypresses that you want sent to the active application when the new word is recognised. That is, saying the new word becomes equivalent to pressing a set of keys.

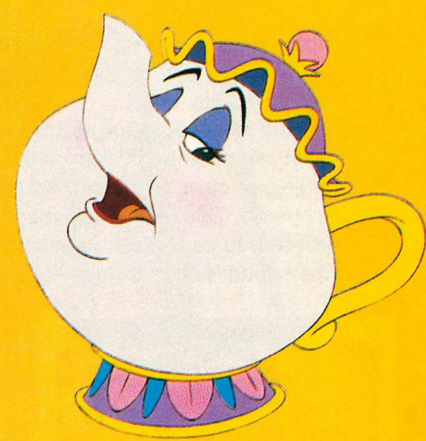
To train the recogniser you have to say each word until you are happy with the result. Rover doesn't automatically decide for you that a word has been trained sufficiently. You have to do this by looking at a small pattern which changes each time you say the word. As the pronunciation is learned the change in the pattern becomes less and less. This makes training Rover a long procedure and there is no quick training routine to get you started. You could, of course, just opt for saying each command once but you would still have to click on the 'Done' button to move on to the next word. However, once trained adequately, Rover proved to be very good at recognition.

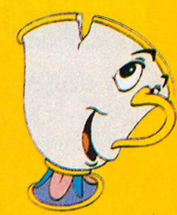


Disney SOFTWARE

Beauty and the Beast

"Tea for two and two for tea..."





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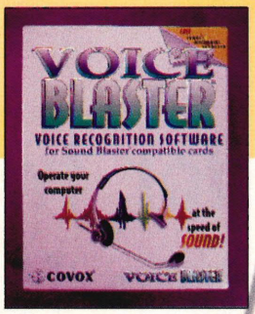
accent and speaks reasonably clearly we have no trouble in recognising each word in a sentence. If you try to get a machine to do this, you soon discover it isn't that simple.

For example, we hear gaps between the words in a sentence – they aren't there! We don't split spoken sentences up into words with pauses in between. Instead we run words together and if there are any gaps they are as likely to be within words as between! If you don't believe me, try listening to someone speaking a foreign language and try to pick out the individual words. As you learn a new language the continuous stream of sound slowly becomes recognisable as separate words.

Writing software to pick words out of continuous speech is too difficult to solve at the moment. So is the problem of making the recognition speaker independent. All we can manage to do is to recognise isolated words spoken by a single speaker. The software has to be trained to recognise a word spoken in a particular way by a particular speaker. A copy of the way each word is said is stored and 'recognised' by matching the current input against this dictionary of sounds. Put this way, speech recognition sounds very crude. To make it even more restrictive, you can only train a limited number of words. As the number of words goes up, so does the number of mistakes!

We have only just started to make progress with the problem and yet it is remarkable how much can be achieved with even this simple approach – as long as you are prepared to make allowances for its limitations.

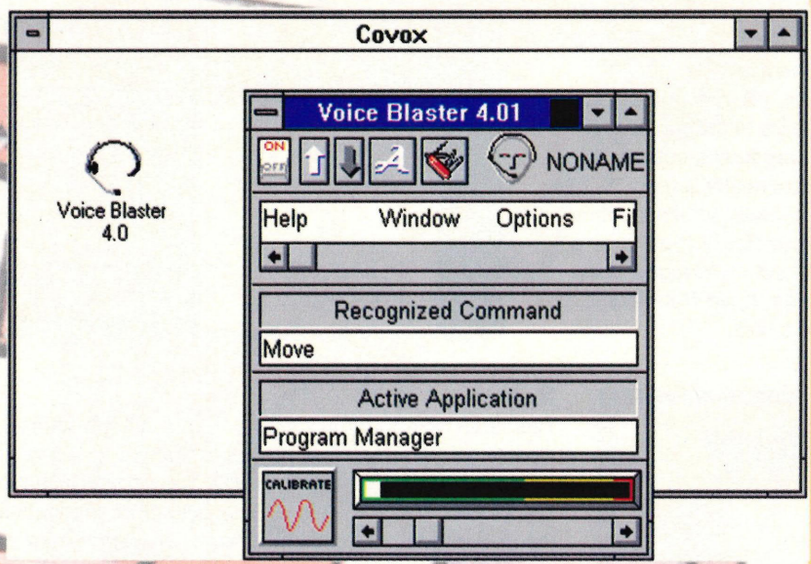
Tried and tested



Voice Blaster

This is the speech input software that complements Covox's speech output software – Monolog. It is an add-on to an existing Sound Blaster card, but oddly it comes with additional hardware that plugs into the parallel port that claims to 'condition' the microphone input to the card. You also get a very neat microphone headset that solves many of the problems of keeping the microphone at a fixed position.

The biggest surprise about Voice Blaster is that you get both MS-DOS and Windows- based software. The MS-DOS software runs as a pop-up TSR (terminate and stay resident program) and it seemed to run faster than any of the Windows recognisers. Both versions of the software enable you to enter you own new commands and associate them with suitable keystrokes. Of course the MS-DOS TSR may not work with all applications – but this is inherent in it being a TSR.



Training Voice Blaster is easy and automatic – just say the word three times. There is no quick training routine, but you can select which commands you want to train. You can also opt to echo back what you have said so that you can hear it over the speakers connected to the Sound Blaster.

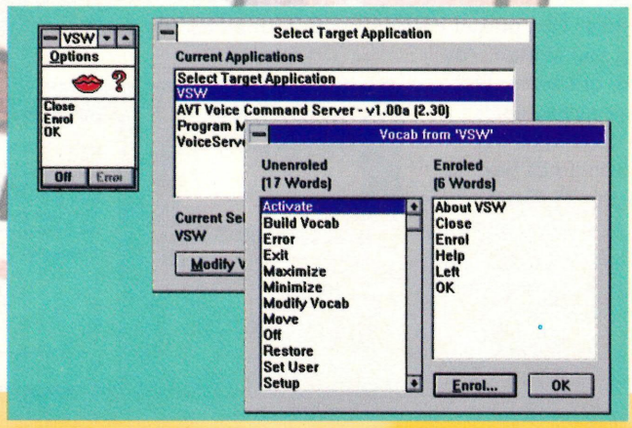
There are also utilities that enable you to make use of the sound recording capabilities of Windows in order to voice annotate files, etc.

When used for recognising words there are two ways in which it can operate. In manual mode you have to press a key, or click an optional foot switch before you say each word. This is useful in a noisy environment. Alternatively you can select automatic recognition and allow the sound level to trigger word detection.



Voice Server

This recognition system is quite different in that it comes with its own special hardware. This isn't anything whatsoever like a standard PC sound card but uses a powerful Digital Signal Processing (DSP) chip. This not only converts the microphone signal to digital form but performs some stages of processing.



VoiceServer has a fixed vocabulary from which you can train any selection. You cannot add new commands, and so there are some Windows applications with which its use will be restricted. Training is automatic – just select the word and say it four times – and after training you can test recognition. This is fun because you are supplied with feedback in the form of a score indicating how well your pronunciation matches. I suppose you could say that after you train it, it trains you!

The effect of the DSP is noticeable. I found the speed and accuracy of VoiceServer better than any of the programs that used a standard sound card. All you need is a sound card and some software and you are able to talk to your computer.

What sort of things might you be able to use speech recognition for? This is where science fiction could easily take over again! Given that you have to train each word individually and you have to say each word in isolation it seems obvious that the system is going to be best at commands. Don't think in terms of giving dictation directly into a word processor – that would be too slow and the vocabulary needed is too great. However saying "File open", or "Fire", or "Shields up", looks as if it might work.

The speech recognition programs available at the moment are all designed to give you voice control of programs. This is only going to be an advantage if voice control somehow increases your overall control. For example, you might have both hands full with mouse, joystick or keyboard and being able to say a command would speed things up. There are also situations in which a keyboard simply isn't suitable — for the disabled, for example — but these are more specialised cases. The real question is, do voice recognition systems have anything to offer the average everyday user?

That slightly crazy feeling

There are a number of voice recognition products now on the market, and those tested are detailed on these pages. Most, but not all, are targeted at Windows. Most, but not all, are also designed to work with a Sound Blaster or compatible card. You should also look out for Interplay's new version of Star Trek: 25th Anniversary coupled with the Aria Listener, in which you can control the Enterprise by issuing spoken commands — we hope to review this properly next month.

Interestingly, the actual experience of using each one discussed here was very similar. When you first sit down in front of a machine with speech recognition your hopes will be high, but don't expect to have an immediate dialogue. Although some of the products did come with pre-trained vocabularies you are unlikely to say any word that will be recognised. The first stage is therefore to train the recogniser.

To do this you have to repeat a list of words as requested by the training program. How easy this is varied from program to program, but in all cases I couldn't avoid feeling slightly crazy as I sat talking clearly and firmly to my PC. Being able to say each word in a natural and repeatable fashion is important. You have no idea how strangely your own voice circuits can behave when put under such pressure. At first there is the temptation to over-pronounce – as if you were in the middle of an elocution lesson. This isn't at all sustainable, of course, and before you know where you are you have slouched back into your own voice — and this of course is quite unrecognisable to the program!

As a result, you will probably have to train the recogniser more than once and your latter attempts are likely to be better. It is difficult to explain what it is like being able to talk to your machine. You say a command, for example, help, and a moment later the word help appears in the recogniser window and the application you are using responds by showing you its help screen. Then you say "Cancel" and the help screen vanishes. All this without laying a finger on the keyboard! It gives you a strange sense of being closer to your machine.

However, it isn't always so good. The placement of the microphone, background noise, a bad cold even, can alter the way that your voice sounds and make what is recognised more or less random. When it starts to go wrong you can quickly end up shouting at your machine – even though you know it will only make matters worse! In this state, speech recognition and a padded cell seem to go hand in hand ...

Forget about adding a speech recogniser if you want to add an extra dimension to playing games. The reason is that at the moment the response time and accuracy is such that you will just be frustrated rather than aided!

You can also forget dreams of dictating letters and having friendly chats for the same reason. However, if you are prepared to put some time in training it and yourself in how to use it, a voice recogniser does work. The special hardware included with the VoiceServer does seem to give it an advantage – so if you're serious that's the one to go for. If you want a DOS recognition program then Voice Blaster is currently your only choice. Finally choose Rover if you want to extend the range of commands that are recognised beyond the standard Windows set.

Suppliers

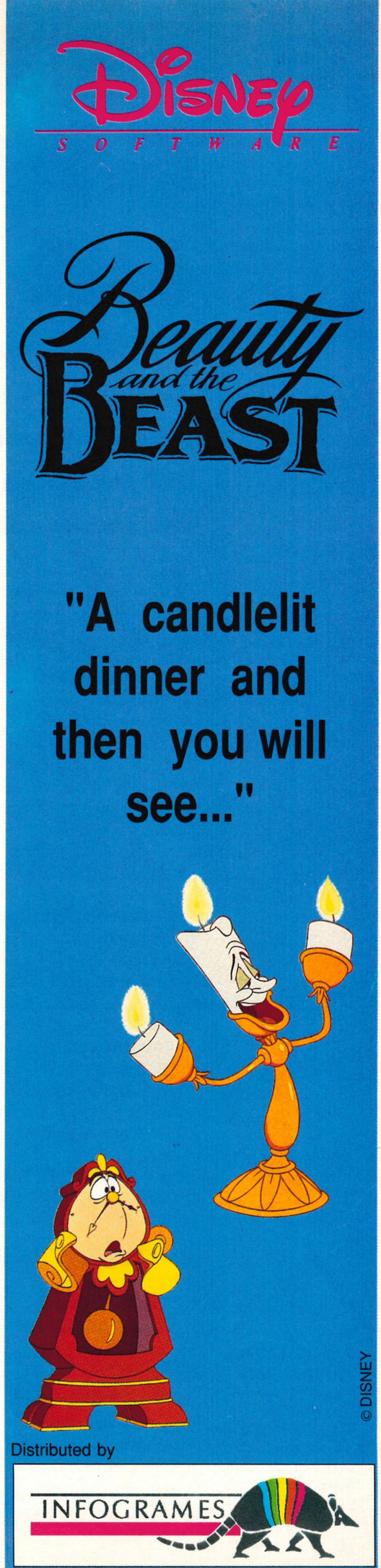
VoiceServer, £249 (including card), from Applied Voice Technologies: (071) 454 1224; fax (071) 454 1225.

Rover, until end of September £99.99, normally £129.99, from Speech International: (0865) 245120.

ExecuVoice is bundled with Media Vision's ProAudio Studio 16 sound card: £230 from Iansyst.

Covox Voice Blaster, £99.95 from Iansyst.

All the products mentioned are available from Iansyst, United House, North Road, London N7 9DP tel. (071) 607 5844 fax (071) 607 0187



Getting the most out of Windows

Windows 3.1 might have been bundled with your PC but the odds are it's not just as you like it. Maybe it's not running fast enough, or perhaps you want to tweak the colours or add sound. Gail Robinson takes you through some of the clever things that you can do with Windows

Make no mistake: Windows programs are big and they really tax your hard disk. This is where a cache comes in, that is, an area of memory set aside to store data read from the hard disk. If the processor needs data that's held in the cache it can take it straight from RAM rather than hanging around dragging the data from the hard disk.

Windows comes with its own cache, SmartDrive, and it's crucial to check that it's set up properly. Check your Autoexec.bat file to see if the file Smartdrv.exe is being loaded when you boot up your PC: if it's not, put it in there. If the file is stored in your Windows directory, simply add this line to your Autoexec.bat file:

C:\WINDOWS\SMARTDRV.EXE

You can run SmartDrive without specifying the amount of memory you want to set aside for disk caching; the program will make intelligent guesses based on a formula. For example, if you've got 4Mb of RAM, SmartDrive will set aside 1Mb for a cache under DOS and 512K under Windows. A cache between 1Mb and 2Mb is usually quite sufficient.

If you want to check out how well your cache is working, click on the Smartmon icon in your Main Windows group. This utility gives you information on the cache hit rate, ie, how good the cache is at guessing what bit of data you'll need next and pulling it in to memory (see picture, below).

The delights of FastDisk

A little known goodie lying deep below the control panel icon is FastDisk. This gives you 32-bit disk access, which means a faster Windows and as long as you're running in 386 enhanced mode you can probably take advantage of this speed boost.

Without FastDisk, whenever Windows needs to write a file to the hard disk it has to go through the ROM BIOS on your hard disk controller. To do this, Windows has to switch out off protected mode and into real mode (see the panel on page 58 if you're not sure what real and protected modes mean). Then it processes the disk access and switches back in to protected mode. It's all a bit of a palaver and understandably it slows Windows down.

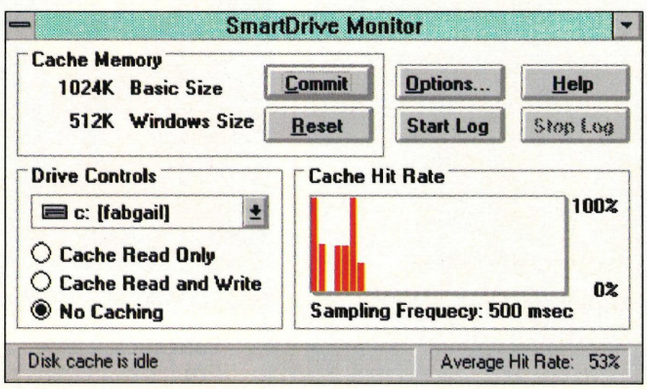
This is where FastDisk comes in — it's a device driver that runs in 32-bit protected mode and as long as your hard disk controller is WD1003 compatible (and most are) then Windows can stay in protected mode as it accesses the hard disk.

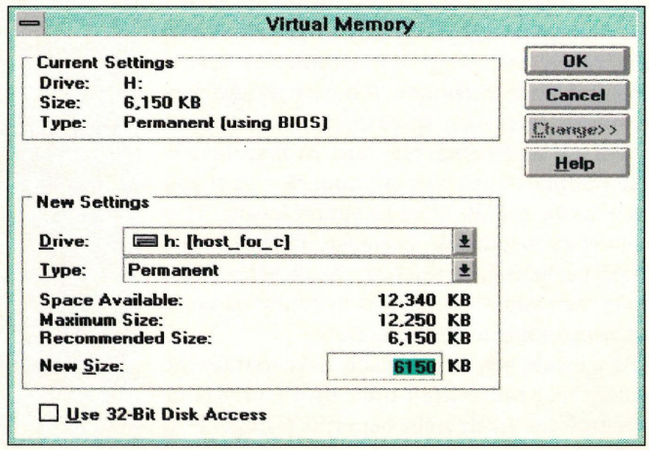
Windows' default setting for FastDisk is off, so if you want to give it a go, here's the sequence of events: select the 386 enhanced icon in the control panel, check on the Virtual Memory button, then choose 'change' and check the 32-bit Disk Access box.

Remember you'll have to come out of Windows and reload it before FastDisk will become active. Don't worry if FastDisk doesn't like your hard disk controller: it will turn itself off.

The joy of swapfiles

As you will have no doubt noticed, Windows programs are big and sometimes you will run out of memory. In these situations Windows will swap a bit of your program that isn't being used out of memory and on to your hard disk, the end result being that Windows can run like treacle. But, as long as you're





Right: SmartDrive Monitor is clever enough to tell you how effective your cache is. Far right: tick on that 32-bit Disk Access box to make use of FastDisk.

running Windows in 386 enhanced mode, you can devote an area of your hard disk to a swapfile — Windows uses this swapfile as if it were RAM, or what's known as virtual memory because it's not real RAM.

There are two types of swapfile — temporary and permanent. Permanent swapfiles are faster. To set up a swapfile go to the control panel and select the 386 enhanced icon, click on the Virtual Memory button, click on 'change' and then choose whether you want a permanent or a temporary swapfile. The swapfile should be at least 1Mb in size, but you don't have to make all the decisions, as Windows makes an intelligent guess as to what size swapfile you need.

Lower your sights

Use standard mode — if you don't need the various benefits that running in 386 enhanced mode gives you could drop down to standard mode. It runs about 10 to 20 per cent faster. If you've got a 386SX running at around the 16MHz speed mark you'll really notice the speed difference. To force Windows to run in standard mode type in:

WIN /s

to load it initially.

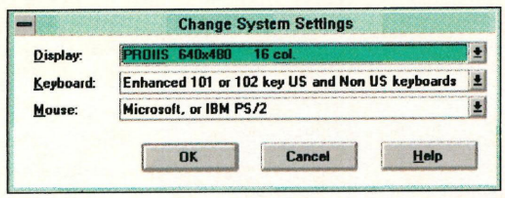
Use lower resolution VGA modes — If you've got a standard VGA card (ie, not a Windows accelerator card) then most of the video donkey work is done by your PC's processor. High resolutions, such as 800 x 600 or higher colour depths (eg, 256 colours) put more of a strain on the video card and as a consequence more of a strain on the processor which means a slower machine.

So if you don't need the higher resolutions, and, let's face it, running at a resolution of 800 x 600 on a 14-inch screen can be a bit of an eye strain, drop down to 640 x 480 in 16 colours. You change the video set-up by clicking on the Windows Setup icon in the Program Manager and then choose 'options', 'change system settings' and scroll through the options in the display category.

Video questions

While we're on the subject of video performance — a word of caution. Don't use the default Windows VGA driver unless you really have to. You should use the drivers that come with your video card, especially if it's an accelerated or local bus video system, because they will have been optimised for that particular piece of hardware. It could be that the 800 x 600 specific driver will be faster than the Windows 640 x 480 driver.

Most video card manufacturers run bulletin boards where you can download the latest drivers, but most of these are in the United States. However, if you're a member of the UK bulletin board CIX, it's well worth taking a look on there to trawl for video drivers.



Scroll through the options in the display category to change your video drivers.

More Windows tips and tactics

1. A change of colour

Windows selects its own fairly subdued range of colours; they're pretty dull and thankfully you can change them. In fact, Windows 3.1 has 23 predefined colour schemes. To access them, just go to the control panel and choose the colour option. From there you can scroll through the options and see them on screen. Watch out for 'fluorescent', 'emerald city' and 'hot-dog stand'.

You don't have to stick with the Windows defaults. You can change the colour of any one of the 21 elements that go to make up a Windows screen to produce a custom-built look. Again, this is all done from the colour option in the control panel.

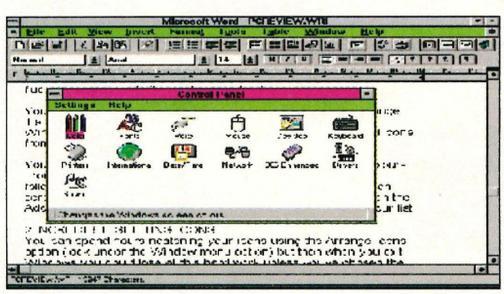
You could go one step further than that and define your own colours. From the colour dialogue box, choose the colour palette option followed by 'define custom colours'. Then pick from the shades on screen, and once you've got your colour, click on the 'add colour' button and you'll find it pops up in your custom colour list.

2. Incredible shifting icons

You can spend hours neatening your icons using the 'arrange icons' option (look under the Window menu option) but when you exit Windows you could lose all this hard work unless you've chosen the 'save settings on exit' button under the options menu.

3. Desktop delights

The desktop icon, under the control panel, holds a host of delights for Windows tweakers. From here you can change the Windows wallpaper, set your cursor blink rate or change the spacing between icons, but the most useful feature is the screen saver option. Not only can it save your



This rather attractive set of colours is Windows's fluorescent option — do not select after a heavy night on the town.

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Keyboard shortcuts

Not all of the Windows keyboard shortcuts are documented, so you may have to rely on your neighbourhood Windows experts to share their knowledge with you. Here's a list of some of the best ones I've found.

- Alt + Esc — Cycles you through each application you've got running, bringing each window to the top of the pile every time you press Esc while holding down the Alt Key.
- Alt + F4 — Exits the application you're currently running.
- Alt + Tab — In my opinion the neatest and most useful of the shortcuts. Pops up a window containing the name of the next Windows application you've got running. Press the tab key while holding down Alt, and you can run through all the other active applications. Simply release the Alt key when you get to the application you want to use.
- Alt + Enter — In 386 enhanced mode, this switches a DOS application that's running full screen in to running in a small window.
- PrintScreen — Copies the contents of the current Windows display into the clipboard. From here you can paste it in to Paintbrush or another Windows app.
- Alt + Spacebar — Pulls down the control menu; that's the icon in the top left hand corner of your application's window.

screen from burn-in but it also gives some basic security protection in the form of password protection. Choose the screen saver option from the desktop dialogue box, and pick the saver you want to use. Then go to the set-up option and turn password protection to 'on' and set your password. You can even type in a message to be displayed on your screen saver. Choose 'marquee' from the screen saver name listing, click on set-up and type in the words you want displayed in the text box.

4. Meet the gang

Windows programmers are a jolly bunch and to prove it they've slipped in a gang screen — this is a little message from the folks who developed the applications. To view the gang screen in Windows 3.1 just go in to any of the applets (Paintbrush, Write and so on) and click on 'help' and then 'about'. Up pops up a dialogue box, hold down the Ctrl and Shift keys and double-click the icon in the upper left hand corner of the box (eg, the picture of a pen in Write). Close the box by clicking on OK and then click on 'help' and 'about' again. Then hit Ctrl-Shift and double-click again on the icon in the left hand corner ...

But there's more. If you click on OK to close this box, then click on 'help and about', and then Ctrl-Shift double-click on the icon, you'll see a little figure which points up to box listing the Windows 3.1 development and marketing staff. The figure changes each time you run through this procedure sometimes it's head honcho Bill Gates, sometimes it's Steve Balmer (senior vice president), sometimes it's Brad Silverberg (DOS and Windows program manager and sometimes it's Fuzzy bear!

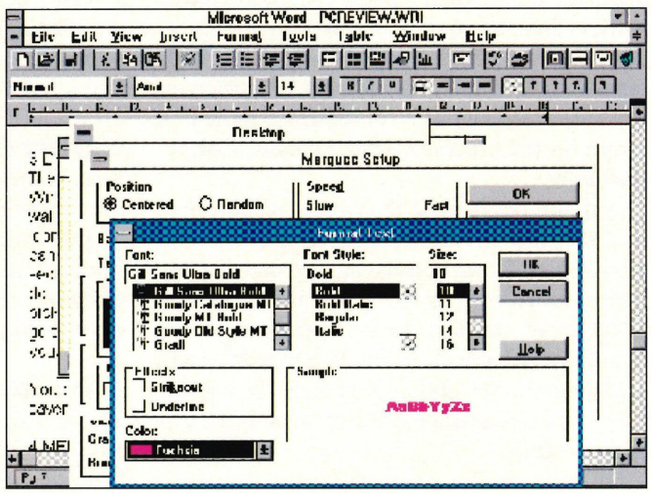
5. Rodent tricks

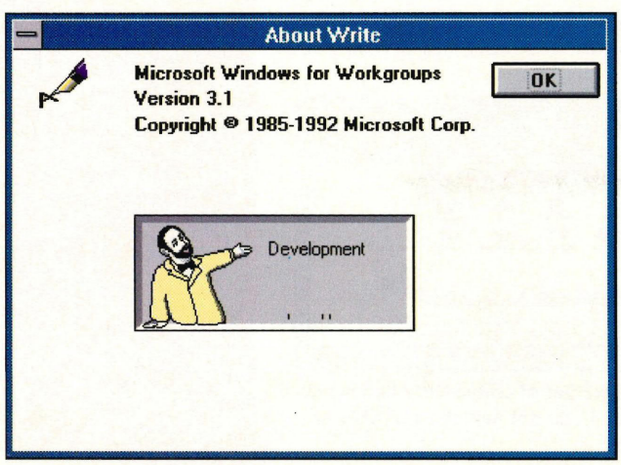
Take a look at the mouse icon in the control panel. You can use this to change the speed at which the mouse moves across your desktop. You can also add a trail behind your cursor: this is useful on laptop LCD screens since it enables you to keep track of your cursor much more easily. You can also swap over the functions of the left and right hand buttons — handy if you're left-handed or if you just want to confuse people.

6. Sounds good

You can spice life up by adding sound to various Windows events. Obviously this will have more effect if you've got a sound card installed. If you haven't, try to get hold of a file called Speak.exe which you'll find on bulletin boards such as CompuServe and CIX — this makes your PC speaker act more like a Sound Blaster.

To link sounds to Windows events, go to the sound icon in control panel. Tick the 'enable system sounds' box and then just click on the event you want to assign the sound to, for example, exiting Windows. Then move over and select the sound (WAV file) — it's that easy.





Right: meet the gang: most Windows applications have their own set of credits. Above right: Choose the marquee screen saver to insert your own message.

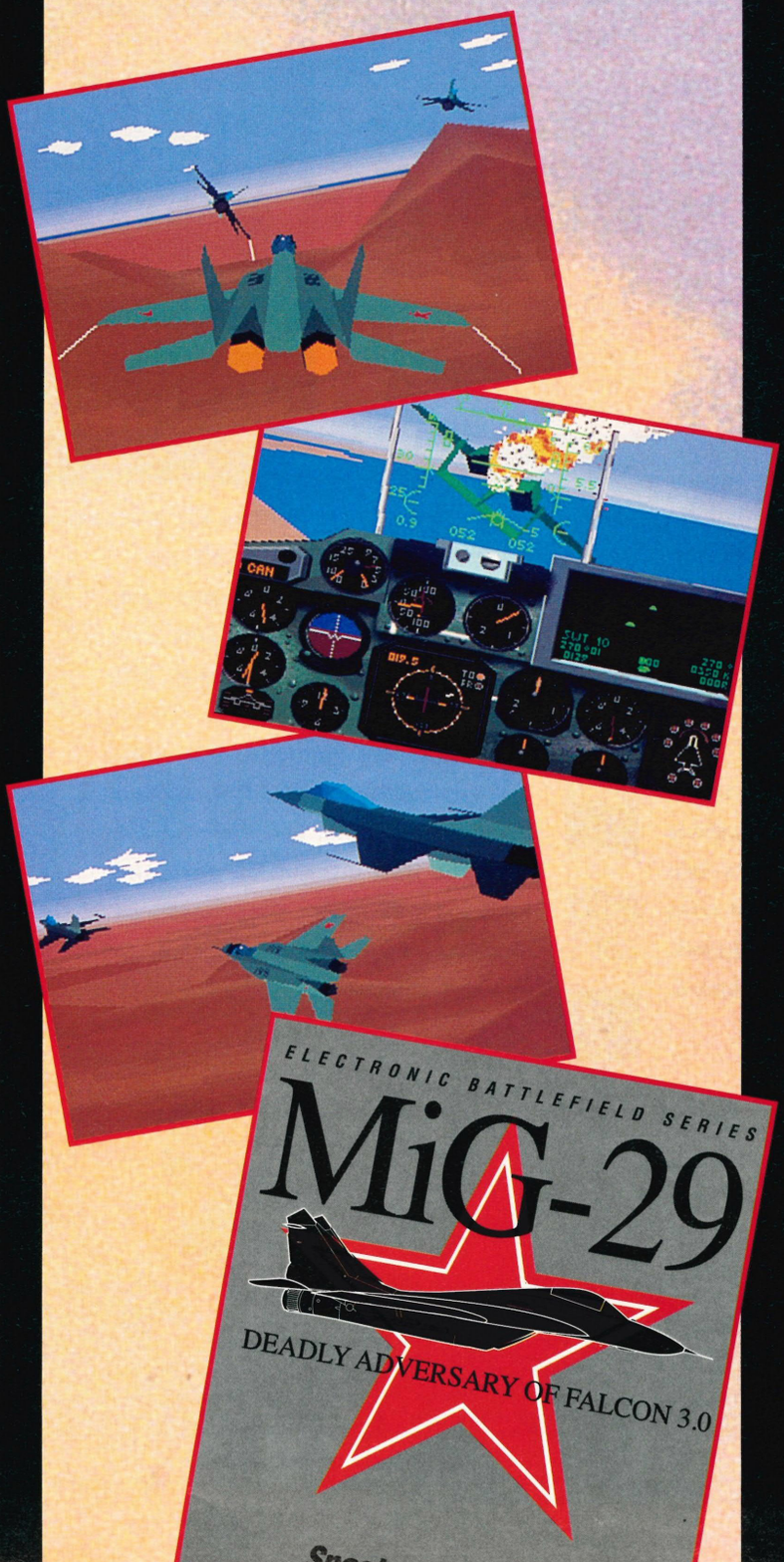
Windows modes

Windows 3.1 has just two modes of operation — standard and 386 enhanced mode. Real mode has been thrown out of Windows 3.1: it was only in Windows 3.0 to allow applications designed to work with Windows 2 to run under Windows 3.0.

- Standard mode — you'll need a 286 and at least 1Mb of RAM to run Windows in this mode.
- 386 enhanced mode — you'll need at least 2Mb of RAM for this mode, but it does give you a set of specific features specific to this mode, such as faster hard disk access and DOS applications launched under Windows will continue to run even in the background.

MiG-29

DEADLY ADVERSARY OF FALCON 3.0



Friend or Foe?

MiG-29 gives you the freedom to choose

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MiG-29.

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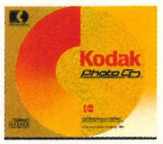
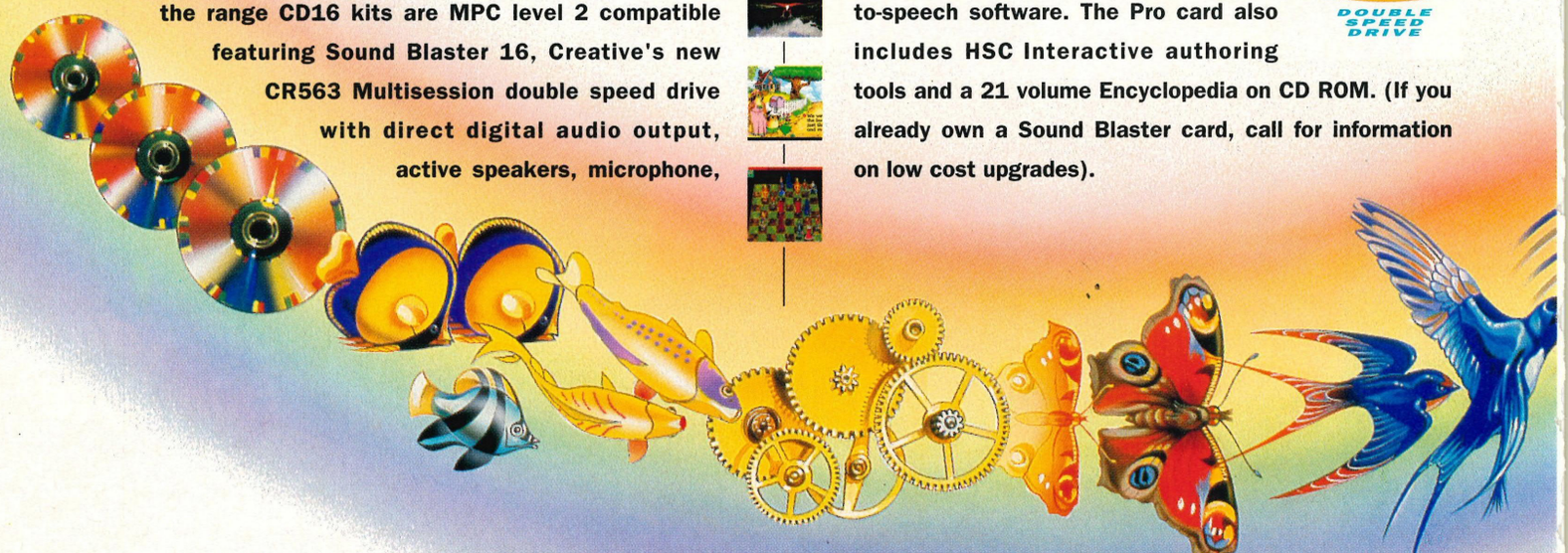


CD DOUBLE SPEED DRIVE



CD ROM titles included in: Starter Pack - Creative MPC Disk, MPC Battlechess, Multimedia Music Explorer. Explorer Pack - STW Multimedia Encyclopedia, Creative MPC Disk, MPC Battlechess, Kodak Photo CD Access, Multimedia Music Explorer.
Sound Blaster CD16 Discovery Pack - STW Multimedia Encyclopedia, Animals, Loom, Secret Weapons of the Luftwaffe, Monkey Island, Multimedia Music Explorer, Kodak Photo CD Access.
Sound Blaster CD 16 Professional Pack - Macromind Action, Authorware Star, Tempra, STW Multimedia Encyclopedia, Kodak Photo CD Access, Microsoft Knowledgebase, Multimedia Music Explorer. All trademarks acknowledged.

Software included dependent on product: Lemmings, INDI 500, Creative Wave Studio, Creative Talking Scheduler, Creative Mosaic, Voice Utilities,
SB Talker with Doctor Sbaitso, FM Intelligent Organ, Talking Parrot, MMPLAY Presenter, Jukebox for Windows 3.1, Monologue for Windows, PC Animate Plus, Midisoft Recording Sessions,
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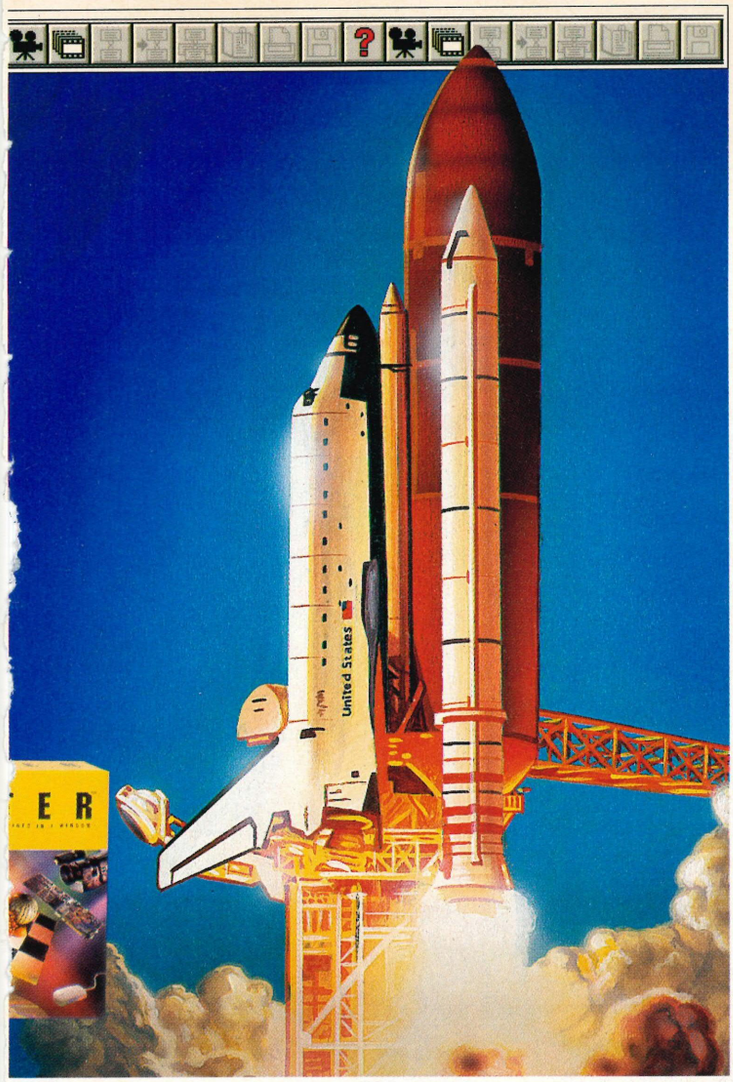


VIDEO BLASTER

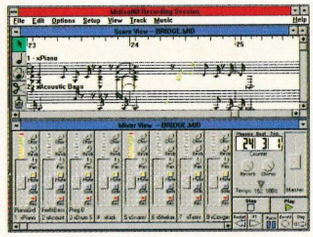
Watch full-screen, full motion live video on your PC. With Video Blaster you can integrate audio and video from your VCR, Laserdisc, or Camcorders, with high quality VGA graphics to create stunning Multimedia presentations.



Video Blaster includes Microsoft's Video for Windows capture and playback software, Macromedia's Action presentation software and Mathematica's Tempra graphics editing software.

MIDI BLASTER

This external stand alone MIDI Sound Module plugs into the Sound Blaster MIDI port (or other MIDI interface) and provides high quality 16-bit sampled instrument sounds.



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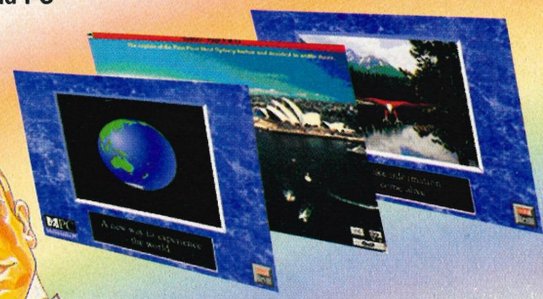

SOUND BLASTER 16

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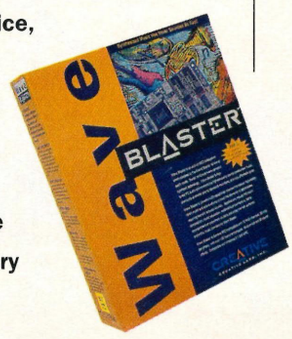
SB 16 AdSP also includes the facility to plug in Wave Blaster, an optional General Midi compatible 32 voice, 16-bit wave sample synthesiser complete with it's own Motorola 68000 CPU and 4 MB of 16-bit sampled instrument sounds. The Sound Blaster 16 AdSP and Wave Blaster combination represents the very latest in sound technology for your PC.



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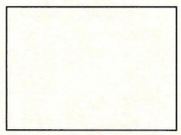
REVIEWS INDEX

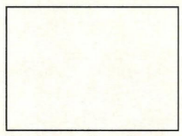
Our comprehensive reviews service starts here. Over the next 50 pages, you'll find the best in games, CD-ROM titles and budget releases appraised and dissected in PC Review's inimitable style, as detailed below

Two Minutes *through the magnifying glass*

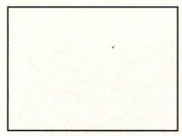
The only way of progressing through Consulting Detective III is to click on the icons in the main screen. This means that there's not much you can do to influence the outcome of the game so you might as well but sit back and enjoy the videos ...



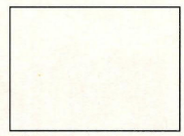
The gent with the phoney moustache and even phonier accent is Inspector Lestrade of Scotland Yard. This game opens up with a sublimely over-acted video introduction in which the Inspector tells Mr Holmes of a young solicitor's death.



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 notebook 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!

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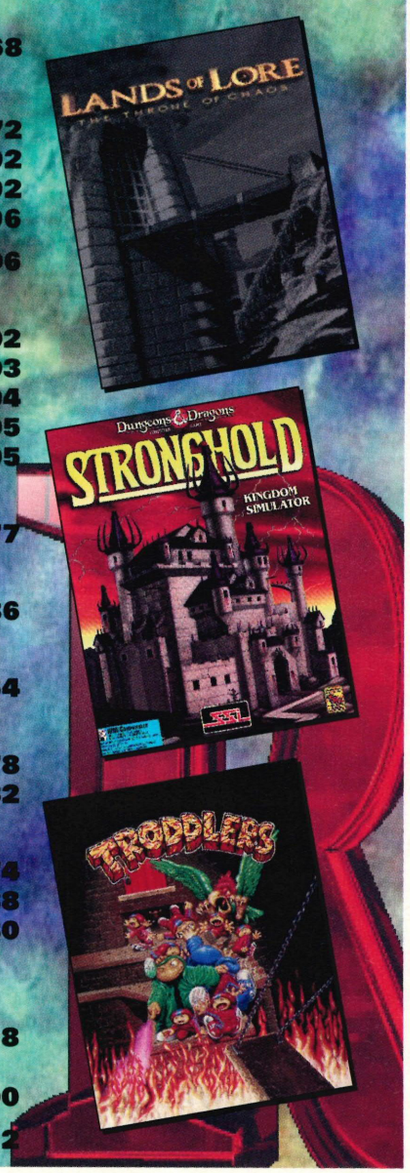
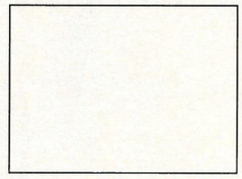


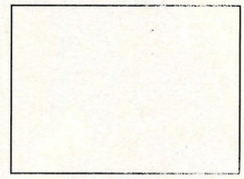
TWO MINUTES

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!

Alternatively...



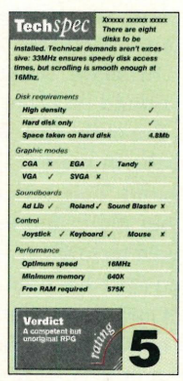
The Legacy
MicroProse, £44.99
Rated 8, Issue 19
This is another block-scrolling RPG, but it's unusual because the setting is a haunted mansion rather than a mythical/heroic past. Amongst other innovations it boasts rescaleable windows



Darkside of Xeen
US Gold, £45.99
Rated 6, Issue 23
This is the fifth instalment in the ageing Might and Magic series, and is designed to act as a companion to its predecessor, Clouds of Xeen. If you have copies of both games you can travel between the two.

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).



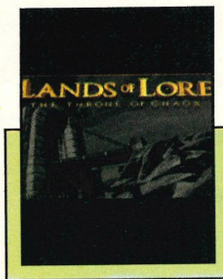
TECHSPEC

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

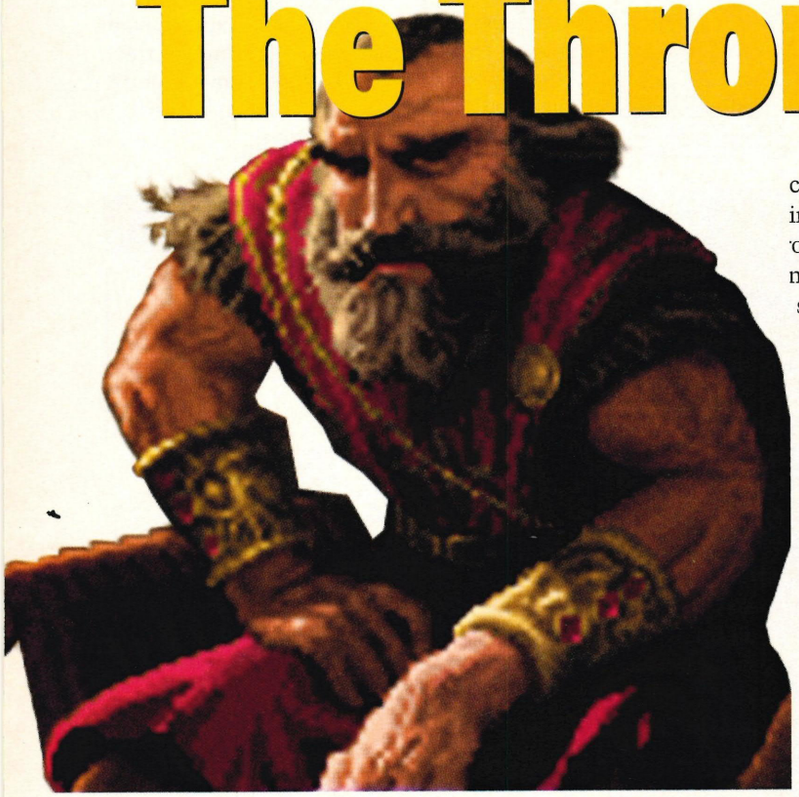




Title	**Lands of Lore: The Throne of Chaos**
Publisher	**Virgin**
Contact	**(081) 960 2255**
Price	**£35.99**

Yet another first-person 3D role-playing game arrives for review. Can it mount a serious challenge to the Ultima Underworld series? Will anyone even remember it this time next year?

Lands of Lore: The Throne of Chaos



First-person role-playing games were something of a novelty only a couple of years ago. Dungeon Master had been around on other formats for a long time, Eye of the Beholder had carved its own niche in the PC games market, and the Bard's Tale series was happily churning out old-fashioned RPGs using old-fashioned technology.

Since then there has been a flood of such games. Plot and character interaction were stretched by Eye of the Beholder II and III, amongst others; releases such as The Legacy and Wolfenstein 3D have taken the stories away from swords and sorcery and into haunted houses and a world war; and the technology used to display the first-person environment has been rapidced by the Ultima Underworld series. in this context that Lands of Lore: The one of Chaos arrives. Apart from a few nnovative features, in style and substance it's very similar to the original first-person RPGs. The block-scrolling is a lot smoother, the animations are more realistic, the variety in locations is better, the presentation is more accomplished — but underneath it all this is closer to Dungeon Master than it is to Ultima Underworld 2.

I have to admit I'm beginning to find the good vs evil fantasy plots in RPGs increasingly commonplace, so I won't bother you too much with this one. All you need to know is that Conrad is the first character you control, and he's helping King Richard (as good as anyone can be without throwing up) in his battle against Scotia (as evil as they come).

However, even though it's pretty unoriginal elsewhere, at least Lands of Lore attemtps to do something unusual with this rather tired format by initially creating a mission-based structure. It's not immediately a case of finding that the nearest dungeon, descending through 12 levels and killing everything in sight; instead you have to fulfil certain tasks before you are able to progress to the next stage of the game. Even though you may wander around and find entrances to new, mysterious locations (such as the Caves of the Draracle), you can't always enter them straight away.

But let's go back to the beginning. At the start of the game you have a choice

Having satisfied the more mundane requirements of his epic journey — finding an atlas, a few weapons and a travel pass — it's time for Conrad to follow King Richard's orders and retrieve the Ruby of Truth.



Conrad uses his travel pass to board a ship for the Southland Forest. His ultimate destination is Roland's estate and the Ruby of Truth, but on the way he can improve his skills by killing a few monsters.

of four champions to help King Richard defeat Scotia. Ak'Shel is handy with a wand but poor with his fists, Michael is the opposite, Kieran is weedy but swift, and Conrad is a good all-rounder. As you might guess, Conrad is the natural choice for beginners, but the others are useful if you want to make life difficult, or if you see your alter ego as a thug or the sensitive sorceror-type.

I was a little disappointed in this aspect of the game. Four characters is not really enough, and their statistics (magic, protection and might) are far from sophisticated. Nor is there any opportunity to customise the people available. You can't fiddle around with the stats, import new character portraits from graphics packages or create a new character from scratch. These ideas aren't revolutionary, and including some or all of them would have made Lands of Lore more impressive.



The almost obligatory animated introduction sequence is brief but impressive. The speech could be a little clearer, though.

A moving experience

After selecting your champion you're thrown into the game with instructions to go and visit the king. You start inside Gladstone Keep, relatively small compared to some palatial strongholds, and you're well advised to take a look around before visiting the regal Goody Two-Shoes. There are a couple of shops here, one buying and selling herbs and potions and the other trading in weaponry. Like most of the shops in the game, they always offer a fair deal.

If you're new to the genre it's also worthwhile taking a look at the options menu. This might seem like strange advice, but apart from saving, loading, deleting and exiting the game, the options menu also enables you to alter the game controls. Lands of Lore uses an optional 'floating cursor' which lets you move around without leaving the viewing window. It's not quite as advanced as Ultima Underworld's intuitive system, which catered for different movement speeds and a variety of turning options, but it's a nice touch all the same. Personally however, I preferred using the keyboard for movement and the mouse for everything else.

The options menu also means that you will be able to determine the strength of the monsters in the game, something which I can't recall having encountered before. You can choose between wimpy, normal and ferocious opponents and change the set-up at any time. This is most useful when you hit a particularly frustrating or large group of enemies.

Finally, you can decide whether to have smooth block-scrolling or jerky block-scrolling. The latter is especially useful if you have a relatively slow machine (ie, slower than 16MHz) or if you want to recreate that old-fashioned feel.

The principal 3D viewing window caters for a wide variety of different landscape types and is adequately impressive without being outstanding. The scrolling is smooth and the graphics are imaginative with few noticeable repetitions, but block-movement is not the most advanced technology around. Below the viewing window is a message box which is simply not big enough for reams and reams of text or even for detailed information. As a result, the few messages which you read there (and the occasional lame joke) only serve to weaken the atmosphere generated by the rest of the game.

Immediately to the right of the viewing window is a panel which is gradually filled as you progress by objects such as a

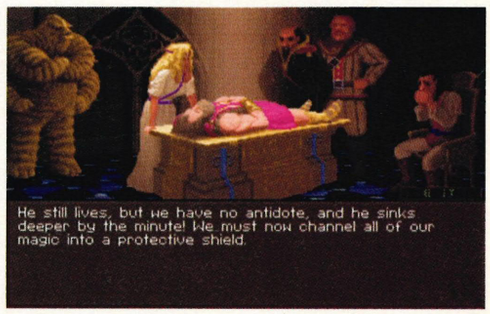
Two Minutes *of a futile mission*



He can also add a friend to his party. This is Timothy of Gladstone and he's willing to help King Richard's cause. More importantly, he's a useful ally in a fight. There are more than enough enemies lurking in the shadows.

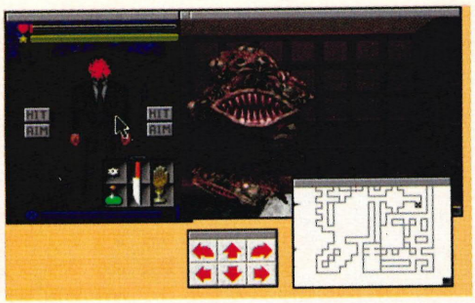


Deeper in the forest Conrad discovers Roland's manor. Disaster has befallen the estate: Roland lies dead, the Ruby is gone and dimwitted orcs are wandering the corridors. Maybe something in that chest will help?

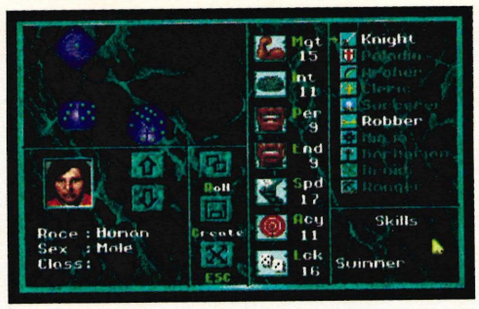


Conrad and Timothy bring the bad news back to the king, only to discover that the evil Scotia has poisoned him. Only one thing can cure him – an elixir from the Caves of the Draracle. This time Conrad can't afford to fail ...

Alternatively...



The Legacy
MicroProse, £44.99
Rated 8, Issue 19
This is another block-scrolling RPG, but it's unusual because the setting is a haunted mansion rather than a mythical/heroic past. Amongst other innovations it boasts rescaleable windows: you can move them around the screen and vary the size to suit your playing requirements. Apart from that, the game is pretty much a standard monsters, puzzles and exploration affair. However, the visual and aural effects create a uniquely brooding atmosphere.



Darkside of Xeen
US Gold, £45.99
Rated 6, Issue 23
This is the fifth instalment in the ageing Might and Magic series, and is designed to act as a companion to its predecessor, Clouds of Xeen. If you have copies of both games you can travel between the two worlds and complete missions involving both. The game is huge but ultimately uninspiring, let down by a dreary plot, laborious combat sequences and weak atmosphere. The wide variety of missions should appeal to fans of the series, though.

compass, a lantern and an atlas. Immediately to the left is space for a spell book. The movement arrows, disk functions and sleep/recuperate icon are all congregated in the bottom left corner, which leaves only two more areas: the character panel and the inventory bar.

The character panel has space for multiple party members but you begin with only one, the champion you chose at the beginning. The portraits change accordingly as the individual's health and magic are drained, and there are icons for engaging in combat and casting spells. Clicking on the portrait accesses the character screen, which then reveals equipment, skill levels and ability scores.

Your party members can be equipped with all the usual paraphernalia of the RPG genre: helmets, necklaces, armour, gauntlets, rings, boots and weapons. There is a huge variety of handy objects in the game, some of which you can pick up and keep, some of which are used to boost magical or physical abilities, and some of which can be traded for coins and other items at shops. The objects which you carry or use will affect how skilfully you fight and, of course, how successfully you defend yourself.

Skills are divided into three categories, fighter, rogue and mage. This is just about the bare minimum a role-playing game needs. Mage covers the categories such as the ability to heal poison and cast spells in battle, fight covers hand-to-hand combat, and rogue encompasses skills such as lock-picking, trap detection and using bows. Naturally, initially weak levels can be improved dramatically after a few tussles with enemies.

The inventory system is one of the least impressive features of the entire game. Objects aren't included on the character screens, but are grouped together in a scrolling bar at the foot of the main screen. If you organise your inventory well, by grouping all your weapons together, for example, and separating them from magic items, treasure, rocks and so on, it is just about manageable.

However, Dungeon Master provides different inventories personalised for different characters and enables you to give objects to whichever one you like, and Ultima Underworld (with only one main character) has a logical system of containers and rucksacks, all of which are easily accessed from the main screen. By contrast, Lands of Lore's inventory is quite bizarre and at times unwieldy.

Fighting is not simply a matter of clicking on the combat icon and hoping. Different opponents require different weapons, and most can be wounded by magic.



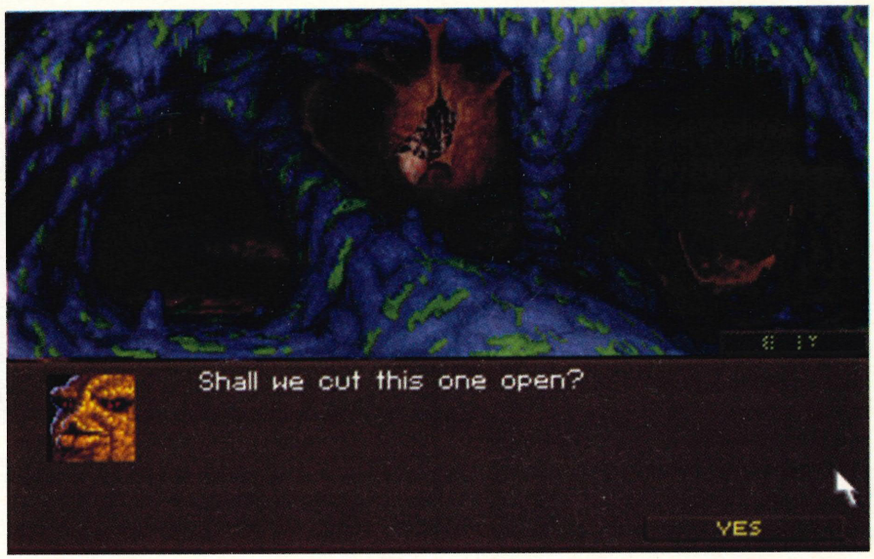
Maps, missions and magic

You begin your adventures by trying to locate the Ruby of Truth, and once you've completed that mission the action leads naturally to the next. This initial mission-based progress is both limiting and interesting. It's limiting because during your travels you discover other locations which occasionally can't be entered until certain characters join your party or until the current mission is over. It imposes a linear structure which many role-players will find frustrating.

I'll just give you one example of the way in which freedom of movement can be restricted to an annoying degree. Early on in the game when I had just entered the Caves of the Draracle, I wanted to return to Gladstone Keep to trade in some of the weapons and objects I had found. I couldn't do it because I wasn't allowed to re-enter the keep until I had fulfilled my current mission. I had to carry those weapons around for a long time ...

On the more positive side, the missions are interesting because of their clearly-defined short-term goals. Also, once you have successfully negotiated the first couple, the relative length and difficulty of your tasks increase, and the structure isn't just as imposing.

Your progress throughout is monitored by an automapper, the drawbacks of which are discussed in a separate panel, far right. Basically, for hardened adventurers this reveals far too much informa-



You can find new party members in all kinds of unlikely places, including this grisly monster's lair. Inside one of those food pouches you find Lora of Grisbl.

tion and provides an easy way out of some problems. The only people I can see appreciating its helping hand are novices.

The variety in terrain is very good, ranging from caves to forests to the interiors of castles and manor houses. Some graphical elements are inevitably repeated, but each location type has a unique atmosphere and its own set of problems.

Chief amongst these are the monsters which you encounter. These vary, from the fairly easy orcs and thugs, through some unusual varieties (giant lizards which steal weapons, minotaurs who inflict damage by roaring, and a wide variety of poisonous foes) to the formidable wraiths and cabal warriors. All are nicely animated, though hardly in the same graphical league as the opponents discovered in The Legacy and the Ultima Underworld games.

You can fight foes using one of two methods: weapons or magic. Weapons can puncture (dagger, rapier, arrow), crush (club, mace, maul) or cut (sword, axe, halberd), and most monsters have weaknesses which can be exploited by one of the three groups. The range of magic spells is neither huge nor particularly inventive, but the effects they generate on-screen are attractive at least. You begin almost immediately with a couple of basic spells (a spark attack and a simple healing spell), and build from there by finding magic scrolls.

However, even if you're armed to the teeth and have half a dozen spells at your fingertips some foes, such as wraiths, will still laugh in your face while sucking the life from you. Finding a way to kill them is one of the more interesting problems the game has to offer.

Healing yourself is a vital part of exploration. You can do it by taking salves and herbs (ginseng, for example, cures poison), by casting healing spells, or by resting. Resting follows traditional role-playing rules: if you attempt to sleep when there are monsters about you'll get a somewhat rude awakening. Bizarrely, you don't have to worry about food, so you can rest as often as you like.

Combat isn't the only method of bypassing opponents. There are many (often predictable) occasions during the game when you can bluff your way around an enemy, and if everything else fails you can always take the most honourable alternative: run away. The kind of subtlety that enables you to negotiate your way out of a fight is all too rare in the game. As a whole, Lands of Lore lacks the depth of character and breadth of imagination needed for a convincing role-playing experience.

Déjà déjà vu vu

Apart from its somewhat rigid structure and poor inventory system, there's not a great deal that's wrong with Lands of Lore. It's a little cheaper than most RPGs, it's very easy to get into and it's beautifully put together, with some neat animated sequences linking the disparate areas of the game. The graphics and sound are well up to scratch, if not particularly outstanding, and the presentation is accomplished. As an introduction to the genre it has quite a lot to recommend it.

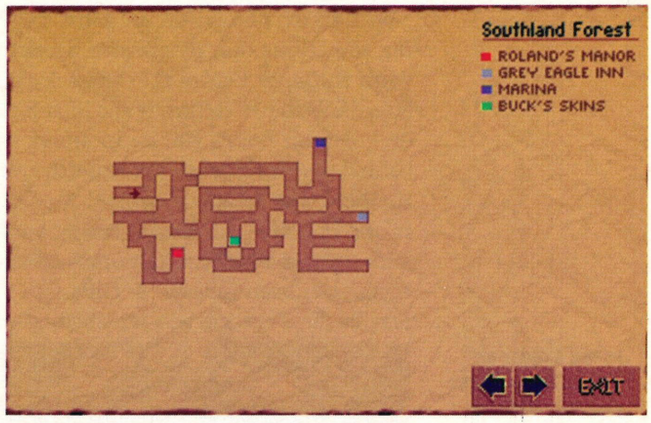
However, anyone who's played the more technologically outstanding and innovative first-person RPGs, such as Ultima Underworld, The Legacy and Legends of Valour, will be unimpressed by this effort. In the end, though I enjoyed many of the many challenges it offered, I found Lands of Lore limited in scope, too restrictive when it came to exploration, and too simple to maintain long-term interest.

■ Gordon Houghton

Handy mappa mundi

Many modern role-playing games feature some kind of automapper, and some are more successful than others. The Ultima Underworld version is arguably the best; not only does it outline the bare details of your progress but you can also type in your own notes. In Lands of Lore you first have to find a magic atlas — an easy feat — which then records your progress. Uniquely however, it also reveals the location of many places and switches which you might have missed on your travels. So, for example, if you find yourself stuck in a labyrinth of caves, consulting the map could reveal a pressure pad or a lever which opens up that hidden secret door...

Depending on how skilled a role-player you are, this is either a welcome feature which makes exploration less laborious, or an unwelcome addition which takes the fun out of finding your own way around.



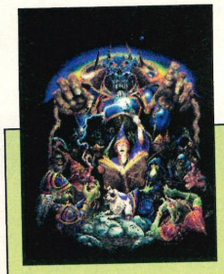
Techspec

There are eight disks to be installed. Technical demands aren't excessive: 33MHz ensures speedy disk access times, but scrolling is smooth enough at 16MHz. Apart from sound cards below it supports General MIDI and Sound Canvas.

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	596K				

rating **5**

Verdict
A competent but unoriginal RPG



Title	**Simon the Sorcerer**
Publisher	**Adventure Soft**
Contact	**(0742) 753423**
Price	**£39.99**

Simon the

Simon may only be 14 and lacking in worldly experience, but he's got a smart head on his young shoulders. How do you wake the sleeping giant? How do you get the sousaphone from the bard? Read on.



The oaf is depressed because he's planted his magic beans and they steadfastly refuse to grow. Simply convince him that they need watering and drown them with the bucket of water.

Move over Bernard Bernouli, step aside Guybrush Threepwood, and push off Indiana Jones, because a 14 year old schoolboy is poised to become the biggest and the most purple new star on hard disks across the country.

Simon, the 14 year old in question, is the unlikely hero of Simon the Sorcerer, a new graphic adventure from the small but perfectly formed West Midlands-based company, Adventure Soft.

With the graphic adventure game enjoying something of a renaissance recently (with the witty Day of the Tentacle, the beautifully drawn Return of the Phantom, etc), Simon hopes finally to sneak up behind Guybrush, cosh him smartly over the head and steal the coveted Monkey Island crown – the long-standing yardstick against which all humorous adventuring has been measured. Let's face it, Day of the Tentacle was obviously good but too easy, and Phantom was also sadly let down by simplistic puzzles. So, can Simon the Sorcerer address this problem, put it right and have absolutely everything? Surely not.

At first glance Simon seems to owe a huge, if not colossal, debt to Monkey Island and the LucasArts school of adventure design (my, that interface sure looks familiar!), but on closer inspection it's not just another point-and-click, 'ooh, look at those nice graphics' sort of adventure. In fact, Simon the Sorcerer is a slick, humorous and superbly drawn fantasy proving at last that anything those guys at LucasArts can do the Brits can do too.



In the Tower of Doom Simon gets shrunk. Alice in Wonderland reference, anyone?

Cute and winsome?

Simon's story begins at his 14th birthday party. As he watches his uncle Marvelo perform amazing feats of conjuring and sleight of hand, Simon throws away his ambition to be a train driver and teen pop idol and is seized by the desire to be the next Paul Daniels (strange kid). So before he blows out the candles on his birthday cake Simon wishes hard for the power to make magic just like his uncle.

But later that night, his dreams are cruelly shattered as he tries in vain to produce doves out of his dad's bowler hat and make his mum's silk handkerchiefs disappear into thin air.

Weeks pass and while his career as a magician is temporarily forgotten, Simon is cheered by the arrival of a lost puppy, which turns up on his doorstep clutching in its mouth a mysterious, leather-bound book. The book is written in a strange language that nobody can understand but Simon attempts to read a page at random. As he struggles to finish the page, a spinning disc portal opens up behind him and the dog jumps quickly through it. Now it's not often that an inter-dimensional gateway opens up in a suburban bedroom and Simon was staggered to say the least. But in a moment of unrivalled and foolhardy spontaneity he leaps through after the dog and the portal snaps ominously shut behind them both.

Two Minutes *of teenage cleverness*



Having got the beans from the oaf, Simon has to trudge wearily back to the wizard's cottage, nip behind it and stick them in the compost heap. Hey presto and alakazam ... a melon.



42, 23, hut, hut. To get the sousaphone Simon must chuck the melon into it. Afterwards just pretend to own a sousaphone repair emporium and the bard will hand it over.



With the sousaphone safely in the hat, Simon walks up to the hibernating giant and uses the unwieldy instrument. The noise stirs the giant, who knocks the tree over. Hurrah.



A politically correct troll finally has enough of the original fairy tale text.

Simon lands in a strange fantasy world and after escaping from a goblin cooking pot, finds himself in a wizard's cottage. Like many an adventure game before it, Simon the Sorcerer's plot unashamedly revolves around that reliable old plot device, the quest.

Not only must he rescue the good wizard Calypso from the evil clutches of Sordid the Sorcerer, but along the way Simon must complete a number of mini-quests: finding the staff of Nafflin the Necromancer, for example, and making a magical axehead for a melancholy woodcutter so he can chop down rubber trees.

But as his final aim is to save Calypso and defeat the evil Sordid, Simon must embark on a long journey to the Fiery Pits of Rondor, travelling through over a hundred locations including a tavern, a witch's cottage, a dwarven mine, a goblin village, and the Tower of Doom.

Adventure Soft has created a weird and wonderful land, where fairy tale, classic fantasy and comedy mix together in twisted but totally recognisable forms. In fact, it's a bit like the scene in Who Framed Roger Rabbit? where Bob Hoskins walks through the studio backlot surrounded by a whole host of cartoon characters like Dumbo and the dancing Hippos from Fantasia. In Simon you've got Rapunzel, the three billy goats Gruff (complete with troll), a chest with teeth (vaguely reminiscent of Terry Pratchett's famous luggage) and even Gollum and his 'precious' magic ring.

You're going to need a lot of determination, a bit of luck and some serious thinking to get anywhere in this world. It's a strange and foreign land and you have absolutely no idea where anybody or anything is. Worst of all, you have



The village druid has been captured and stretched by the goblins. Now you're trapped too. Get out of this one.

With sleeping giants and drunken dwarves, Simon the Sorcerer might just be the Monkey Island beater you've been waiting for

Simon the Sorcerer

Alternatively...



Day of the Tentacle
LucasArts, £42.99
Rated 9, Issue 23
Cal claims it's the adventure of the year and it's hard not to agree. Follow the exploits of Bernard, Laverne and Hoagie as they joke their way through past, present and future in an attempt to save the world from the evil purple tentacle. Superb animation and digitised speech make this game an essential addition to your hard disk.



Freddy Pharkas Frontier Pharmacist
Sierra, £39.99
Rated 5, Issue 21
The latest adventure from Al Lowe (Mr Leisure Suit Larry) is a spoof western packed to the hilt with corny gags and ancient puns. Not quite the rib-tickler it was promised to be, Freddy Pharkas is likely to provide more of a wry smile than a belly laugh. Nice graphics but short term entertainment at best.

nothing to aid you bar a fridge magnet and a pair of hairdressing scissors. Life as a trans-dimensional hero isn't a complete bed of roses, you know.

Good looks

The first thing that should strike you about Simon the Sorcerer is the superb quality of the graphics. These incredibly detailed, high resolution backdrops are not just good, they're exceptional. In fact, scratch that, they're absolutely phenomenal and will undoubtedly set new standards in graphic adventure visuals. Throw that copy of DPaint out of the window, fire those graphic artists – these backgrounds are the most impressive I have ever seen in a graphic adventure.

All of the backgrounds in Simon have been carefully hand-drawn, first on to paper by the artists, then scanned into the computer using an ordinary hand scanner. The resulting black and white drawings have subsequently been retouched and coloured in Autodesk Animator Pro to produce the stunning background images which you see here.

Of course, sumptuous backgrounds alone don't make a good game (though they help enormously), and these images are complemented by some superb and detailed character animation. Shunning the current trend for using digitised graphics, Adventure Soft has concentrated on developing a quirky, cartoon style. Simon himself struts purposely around, confidently leaping across icy ledges and scaling tower walls. There's over 1,000 frames of animation in the Swampling scene alone and there's also a sneezing dragon, a walking chest and, my personal favourite, a brilliantly animated goblin guard who industriously picks his nose and then secretly eats the contents.

OK, so it has great graphics and first-rate animation but Day of the Tentacle had all these and terrific sound as well. Simon the Sorcerer doesn't disappoint here either, with a funky background soundtrack (groovy if you have a sound card, sort of bleeping techno if you haven't) and with the usual comical boings, crashes and bangs, it's right up there with the best of them.

As you will no doubt have noticed, the control interface is very similar to the LucasArts system. Walking is the natural default action and the other 11 icon commands in the bottom left of the screen really need no explanation. To the right of these is the customary inventory window, where all the items Simon picks up are displayed. Fortunately Simon is a strong lad and there's no restriction on the amount he can carry. Where Guybrush stored items in his coat, Simon puts all his collectibles in the immense, tardis-like space of his pointy hat.

In Simon the game world is arranged about the central hub of the forest with most of the major locations situated on the edges. An annoying feature of recent graphic adventures (including Simon) has been that if you find a useful object on eastern side of the game world you can be pretty certain that you'll have to use it far, far away on the western side. Simon the Sorcerer overcomes all the laborious trudging about with the implementation of an overhead map facility. Like the map in Shadow of the Comet, once you've been to an area, you need to just click on the icon with the mouse to instantly return there. It's a less pretty way to travel but it makes the game a welcome trudge-free zone.



Simon gets dragged into a shape-changing battle with an evil witch. She's none too pleased if you beat her.



Simon crosses the chasm on his Austin Allegro Broomstick. Too much speed and splat.

Tentacle beater?

Simon the Sorcerer scores over Day of the Tentacle in one significant respect, and that's its difficulty. One of the major complaints about DOTT was that it was too easy and thankfully this is not a criticism that can easily be levelled at Simon.

The puzzles are engagingly devious without being obscure, eg, a woodcutter needs a new axehead, so first you must find the metal (milrith), then you have to find a way to dig it up and get it made into an axehead. There's all sorts of puzzles crammed in here, ranging from the blatantly obvious (using the rope with the hook to make a grappling hook) to the more subtly clever (turning on a tap in the Tower of Doom garden and ... I'm not going to tell you that one!).

Adventure Soft has also incorporated an on-line hint facility in the form of a wise old owl, but his cryptic mumblings are of little help with the bigger problems. And I feel this is a good thing. An adventure should last you a good few weeks, if not months, and should always get you to that horrible point where you've tried every object with every other object in every conceivable location and you still can't get any further. I have a strong feeling that Simon the Sorcerer is going to be damned difficult to complete, just like Monkey Island was.

The game's other main selling point is the humour and to my chagrin I didn't really find it as funny as DOTT or Monkey Island. Of course, humour is all very subjective: one man's Jack Dee is another man's Bernard Manning, but while in places it makes you chuckle, in others Simon completely misses its mark.

The humour is quintessentially British (playing on fairy tale and fantasy clichés) and where Day of the Tentacle and Monkey Island 2 made me laugh out loud, Simon just kept me playing with the odd smile on my face. I enjoy a well timed 'sod off' and an underage drinking gag as much as the next man and call me humourless if you like, but I don't think that Simon has the same continuous vein of wit as DOTT. Some of the responses, retorts that were crying out for a quick double entendre or a pun, were instead just ordinary and a little flat.

The adventure engine is also at times a tad clumsy and not nearly as polished as the LucasArts SCUMM system. For example, in the tomb of Nafflin the Necromancer, because there is no push/pull command (only an all encompassing 'move') you have to 'move' a loose bandage on a mummy to defeat him. Move a bandage? Come on, guys!

Here at PC Review we have often been disappointed by end sequences. I mean, you struggle all the way through an adventure, complete the easy puzzle at the end and that's it. No huge animated closing sequence, just 'The End' in 24 point bold and cue credits. Simon, I'm told has a very impressive ending sequence to counter just such an accusation. I haven't got there yet, I'm still playing.

On the whole, Simon is a charming and graphically excellent adventure even though it didn't attract the same sort of excitement or the large goggle-eyed crowd round my monitor that DOTT managed. But where DOTT was really little more than an interactive cartoon, Simon the Sorcerer is a true adventure. It's a challenging game but unfortunately it's not as atmospheric as either DOTT or Return of the Phantom; this is maybe because the fantasy world is sometimes too diverse and lacks a single unifying factor (in DOTT you had the speech and the fun-house style graphics; in Phantom it was a combination of ornate opera house decor and stirring organ soundtrack).

But I liked Simon the Sorcerer. It kept me playing even when I was well and truly stuck and wanted to throw the computer through the nearest window. As an adventure, it's definitely the best thing to hit my screen since Monkey Island 2. It's not an event like DOTT was, but it's a much harder game; with great graphics, superb animation, cute storyline and puzzles so cunning you could put tails on them and call them foxes.

So, if you're looking for a good laugh and an even better challenge, you really shouldn't miss Simon the Sorcerer because it's destined to become a classic. It doesn't quite beat Monkey Island 2, but, boy, does it come close.

Dean Evans



Wearing Gollum's ring of invisibility, Simon watches a goblin guard picking his cavernous nostrils.

Techspec

A mouse is essential if you're going to play Simon the Sorcerer as unlike DOTT you can't use the keyboard. Otherwise Simon is just so nice it won't muck your machine about at all.

Disk requirements						
	High density	✓				
	Hard disk only	✓				
	Space taken on hard disk	10Mb				
Graphic modes						
	CGA	×	EGA	×	Tandy	×
	VGA	✓	SVGA	×		
Soundboards						
	Ad Lib	✓	Roland	✓	Sound Blaster	✓
Control						
	Joystick	×	Keyboard	×	Mouse	✓
Performance						
	Optimum speed	16MHz 386				
	Minimum memory	640K				
	Free RAM required	520K				

rating **8**

Verdict
Gorgeously drawn, superbly animated and a tough adventure to boot



Title	**Wing Commander Academy**
Publisher	**Origin/Electronic Arts**
Contact	**(0753) 549442**
Price	**£34.99**

Despite the Gauntlet shoot 'em up mode, Wing Commander Academy is all about creating your own customised missions. So here we go.

Wing Commander Academy

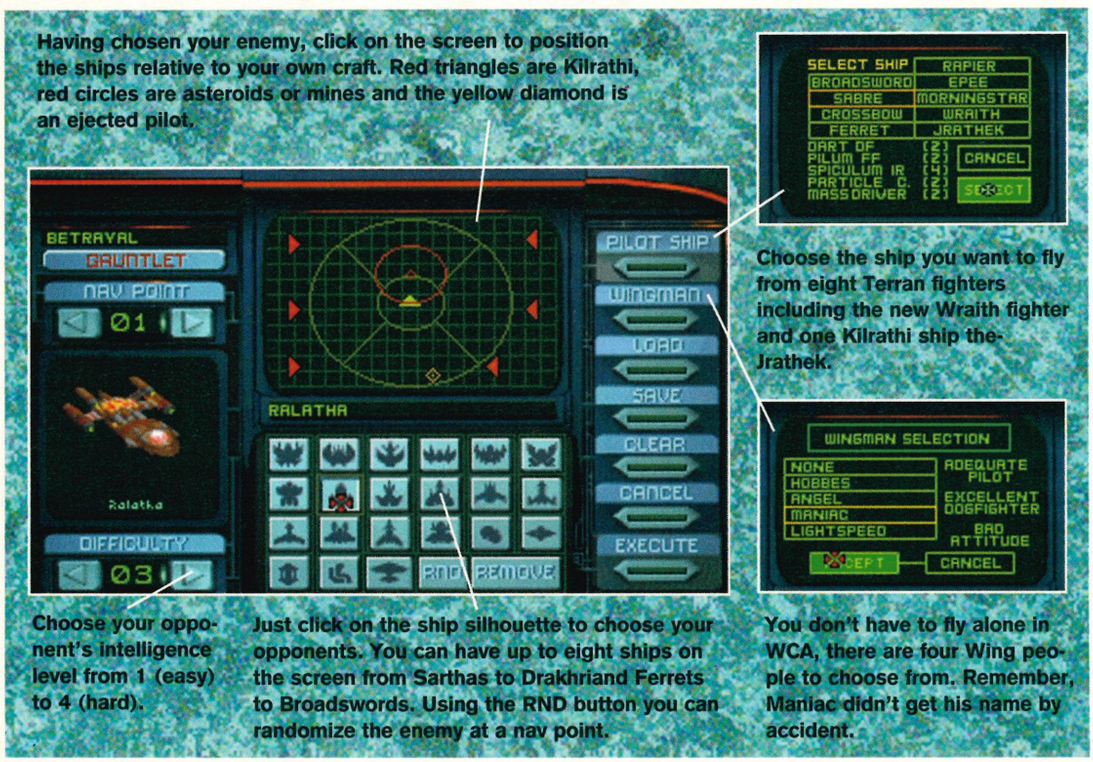
If you're still suffering Wing Commander withdrawal symptoms, Origin's Wing Commander Academy might just satisfy your intergalactic blood-lust

After the huge success of the Wing Commander series, Origin has bowed to public clamour for more deep-space combat. The result is Wing Commander Academy, a pilot training simulator, shoot 'em up and Wing Commander mission builder.

If you've never come across the Wing Commander series before, let me enlighten you. WC is a space combat simulator featuring a whole host of square-jawed, perfectly formed earthlings fighting an interstellar battle against the evil Kilrathi, a race of huge, cat-like aliens. More Battlestar Galactica than Star Wars, when WC appeared back in 1991 it was a computer event, best remembered for its ground-breaking graphics (shading, curved surfaces,animated sequences, etc) and its invasion of two-thirds of your hard disk. If you had a PC, Wing Commander was the gaming experience.

Wing Commander Academy is basically a Wing Commander construction kit, where you recreate the frantic space combat that helped to make WC famous. The program offers you the facilities to build your own missions with up to four separate nav points. You decide what ship you fly, how many Kilrathi you fight, what their ships are, whether there are asteroid fields and mines to negotiate or beleaguered space stations to defend. WCA also includes the Gauntlet mode, a 15 level shoot 'em up where you fly against wave upon wave of enemy fighters, gaining shield recharges and weapon replacements after every wave.

Er, and that's really all there is to it, I'm afraid. WCA seems to be little more than a quick but ultimately shallow Wing Commander cash-in. Yes, you can tinker with the basic WC game engine but no, you don't get any of the fancy WC frills. This would be excusable if it was very,



Two Minutes *of commanding a wing*



The sim room is a tiny domed cupboard with flashing walls. But here you can safely fight Kilrathi fighters,hi-jacked Terran ships and capital ships without injury – apart from eyestrain, of course.



Having decided to pilot a Crossbow I've set up a daring confrontation in an asteroid field. Four Drakhri, two Broadswordsand little old me. There's also a datapod to retrieve as well.



Time to choose a wingman. Lightspeed here was your tutor's brother. Eager, impulsive, trigger-happy but dead, Lightspeed is included in the sim as an example of an unreliable wingman.



Kaboom! Idle threats from the Kilrathi are no match for a massdriver cannon and a brace of missiles. Yet another cat is introduced to the delights of the vacuum. Only three more to go.



Now you can create your own epic Wing Commander action: Kilrathi, weakened space stations, wingmen the works.

very good but unfortunately it isn't. The gameplay has neither changed or advanced and compared to X-Wing, the Wing Commander game engine has dated rather badly, all in all.

So what's gone wrong? Well, WC was the first of a new breed of games to play the cinematic card for all it was worth. The cinematic sequences – now emulated genre wide – were what made Wing Commander stand out. In WC a story unfolded around you and without this element, the space combat, pretty though it is, doesn't really stand on its own. The game has been reduced to the status of a shoot 'em up, giving you only part of the WC experience.

I think Origin has missed some golden opportunities here. Obviously WCA is just a filler to satisfy demand until the imminent release of Privateer and Wing Commander 3 next year but if you're a Wing fan like myself, you'll be disappointed. If you're an ardent Wing Commander or a combat freak you may enjoy it for a while but as there's no eventual aim to fight towards and no congratulatory message at the end of a mission, WCA is a bit flat.

But it could have been great. If only Origin had put in a library of preset animated sequences (mission briefings, congratulatory messages, etc) where you could insert your own text and speech, for example. I would also have liked to have been able to link the single missions into a campaign to give the whole thing some badly needed structure, and the inclusion of a head-to-head facility via serial or modem link would have been a bonus.

I really hoped that there would be more to WCA than just a combat and mission builder, but sadly a combat construction kit is all Academy seems to be.

At £34.99 I'd feel disappointed, disillusioned and cheated if I'd bought WCA as it falls way short of the standards I've come to expect from Origin. If you're in the market for space combat, go out and buy X-Wing. You'll have a lot more fun.

Origin says it creates worlds but in WCA, you've got to create your own.

■ Dean Evans

Alternatively...



Wing Commander 2
Origin, £39.99
Rated 7, Issue 1
One of the best space combat games until the arrival of X-Wing. A ground-breaker when it appeared, Wing 2 chronicles the further exploits of a young Terran pilot as he fights wrongful court martial and once again attempts to defeat the angry Kilrathi hordes.



X-Wing
USGold, £45.99
Rated 8, Issue 19
Although the graphics aren't as pretty as Wing Commander, X-Wing scores over the Origin game in gameplay. With the combination of familiar characters, weaponry and inspirational theme music, X-Wing has the edge in both dogfighting and sheer enjoyment.

Techspec

Origin recommends 4Mb of RAM for WCA and if the game runs slowly (or too fast) on your machine, you can even adjust the frame rate. WCA has been tested and does work with DOS 6 and Doublespace.

Disk requirements					
High density				✓	
Hard disk only				✓	
Space taken on hard disk				**5Mb**	
Graphic modes					
CGA	✗	**EGA**	✗	**Tandy**	✗
VGA	✓	**SVGA**	✗		
Soundboards					
Ad Lib	✓	**Roland**	✓	**Sound Blaster**	✓
Control					
Joystick	✓	**Keyboard**	✗	**Mouse**	✗
Performance					
Optimum speed				**25MHz 386**	
Minimum memory				**2Mb**	
Free RAM required				**586K**	

Verdict
Disappointing and limited, WCA will only appeal to ardent Wingnuts

rating **5**



Title	**Clash of Steel**
Publisher	**SSI/US Gold**
Contact	**(021) 625 3366**
Price	**£xxx**



The political screen is where you come to make declarations of war and to browbeat neutrals, but you must be careful who you pick on – an ill-judged spot of arm-bending can drive a country into the enemy camp.

Clash of Steel

Clash of Steel is a simulation of the entire western theatre of World War Two. You can either play one of six time-limited scenarios or begin in September 1939 and fight your way through to the bitter end.

It's a big game, encompassing air, sea and naval action from the Atlantic to the Steppes, but there's more to it than military manoeuvre: your strategy will be determined by the need to control the means of production, represented by cities, industrial resource centres and access to shipping lanes (convoys), and it's up to you to determine just how you spend your carefully hoarded revenues. Which do you need most, tanks or warships? Should you be investing in scientific R & D to develop potentially war-winning new technologies? The choices are hard and there's never enough material to go round.

It's September 1939 and the Germans are massed on the Polish border. With careful planning Warsaw should fall in the first turn and then it'll be time to turn west. Early on, the Axis player should stick fairly closely to the historical strategy.



Experienced war gamers will recognise that we are in Third Reich territory here, and the influence of Avalon Hill's seminal board game is plain to see in Clash of Steel. This SSI version, however, is no mere imitation. It's a well thought out, well presented and absorbing game with a number of innovative features – I particularly like the R & D rules and the political phase in each turn, wherein you get the chance to influence the alignment of neutral countries while trying to counteract the persuasive efforts of the enemy.

But perhaps what I like best about the game is the look of it. SSI's war game graphics have in the past varied from the poor to the downright dreadful, but here they are vastly improved. Looks may be secondary, but that's not to say they're unimportant, and while Clash of Steel is nowhere near as stunning to look at as the WWII 360 Pacific games (Utah Beach, etc), it's good enough.

I do have some criticisms. The naval side is not quite satisfactory and the controls are a little clumsy, but these are minor points and they're offset by the addictive quality of the gameplay. Experienced armchair generals may not find the artificial intelligence routines sufficiently challenging, but there is a two-player option to extend the gameplay.

■ Simon Shaw

Techspec *You will need at least a 386 PC to run Clash of Steel, and I would recommend a 33MHz machine or better to get the most out of it. It's a large game and correspondingly memory hungry — the more you have the better.*

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	**20MHz**				
Minimum memory	**2Mb**				
Free RAM required	**600K**				

Verdict
Addictive gameplay

rating **7**

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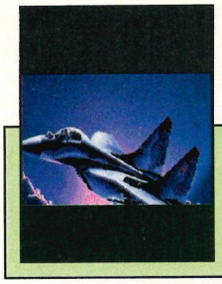
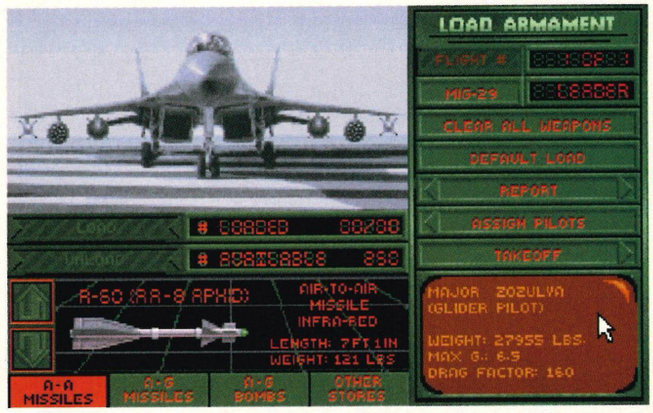


Title	**MiG-29: Deadly Adversary of Falcon 3.0**
Publisher	**Spectrum Holobyte/MicroProse**
Contact	**(0666) 504326**
Price	**£24.99**

MiG-29:



Deadly Adversary of Falcon 3.0

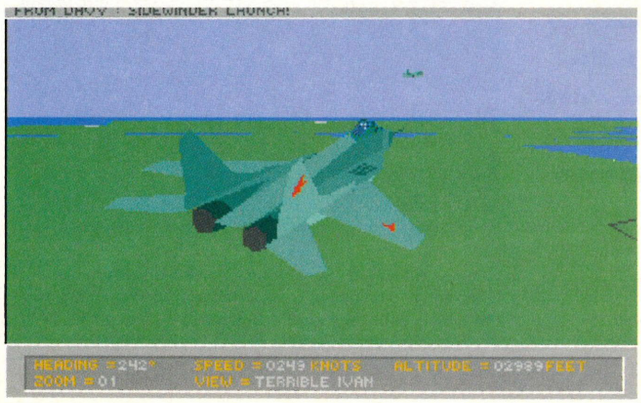
MiG-29, latest addition to Spectrum Holobyte's hugely successful Falcon-led "Electronic Battlefield" series, is a set of add-on disks to enhance your Falcon 3.0 and enable you to pilot Russia's state-of-the-art interceptor.

When installed, MiG-29: Deadly Adversary of Falcon 3.0 adds a whole new dimension to your original Falcon game. Where you once had a General Dynamics F-16 to play with, you now have a Mikoyan-Gurevich MiG-29; where you had Major Gibson, you now have Major Vinogradov, and so on. The MiG-29 add-on program doesn't overwrite the old Falcon data, but updates and co-exists with it, giving you better graphics and the option to fly for the other side.

Developed as a foil to the F-16, F/A-18 Hornet and Tornado, the MiG-29 was designed to outfly NATO aircraft. In wartime, the MiG-29 would technically be the F-16's natural opponent and if you've casually flamed MiGs in your time, now's your chance to sit in your enemy's G-suit and loose an Aphid missile up an F-16 tail-pipe.

At the arming screen, you can arm your sleek MiG-29 with all manner of lethal weapons.

Ever fancied flying a MiG? The MiG-29 can outfly and outfight the American F-16. Allegedly.



Apart from the Russian names and some snazzy red text, the game functions are identical to those in Falcon 3.0. The war room retains the familiar instant action, config, red flag and ACMI options but they're all very different; instant action, for example, puts you slap-bang in the middle of a US strike wing of B-52's and A-4's. The words "turkey" and "shoot" suddenly spring to mind.

But Mig-29 is more than just new graphics and a fresh perspective. The Fulcrum flies very differently to the F-16 and this complexity is reflected in the size of the manual (a weighty 150 pages) containing information on all aspects of the MiG-29 from design history to authentic air combat manoeuvres and flying controls.

Thankfully, the MiG-29 is as challenging to fly as the F-16 and gives the pilot some decidedly distinct advantages over an American opponent. These include higher agility, an infra-red tracking system and a highly accurate nose cannon, all features that NATO aircraft can't currently match in real life. The MiG-29 also has a helmet-mounted 'monocle' targeting system. This effectively slaves the tracking system to the pilot's helmet view, enabling you to track and lock on to whatever you're looking at. Using the padlock view, this should give the MiG pilot the edge in a dogfight.

When you get right down to it, MiG-29 is simply Falcon 3.0 with a different plane. There are six campaign scenarios for you to get violently involved in, namely, Iraq, Syria, Cuba, Russia, North Korea and India, and if you have a modem, network or just a plain old serial cable, you can now fly a campaign with one person flying MiGs and the other flying F-16s.

MiG-29 isn't exactly hyper-realistic, but it does provide an insight into what flying the Russians' most advanced fighter aircraft might be like. As the data disks automatically upgrade Falcon's extremely dull graphics as well, MiG-29 is undoubtedly a necessary addition to your old copy of Falcon 3.0, breathing even more longevity into what must surely be the definitive flight/combat sim to date.

■ Dean Evans

Techspec

Obviously you've got to have the original Falcon 3.0 itself to play the MiG-29 add-on disks, as MiG overwrites some of the original data. Like Falcon, it's a hungry program requiring 603K of free base memory.

Disk requirements

High density	✓
Hard disk only	✓
Space taken on hard disk	**2.5Mb**

Graphic modes

CGA	**x**	**EGA**	**x**	**Tandy**	**x**
VGA	✓	**SVGA**	**x**		

Soundboards

Ad Lib	✓	**Roland**	✓	**Sound Blaster**	✓

Control

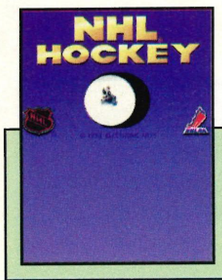
Joystick	**x**	**Keyboard**	**x**	**Mouse**	✓

Performance

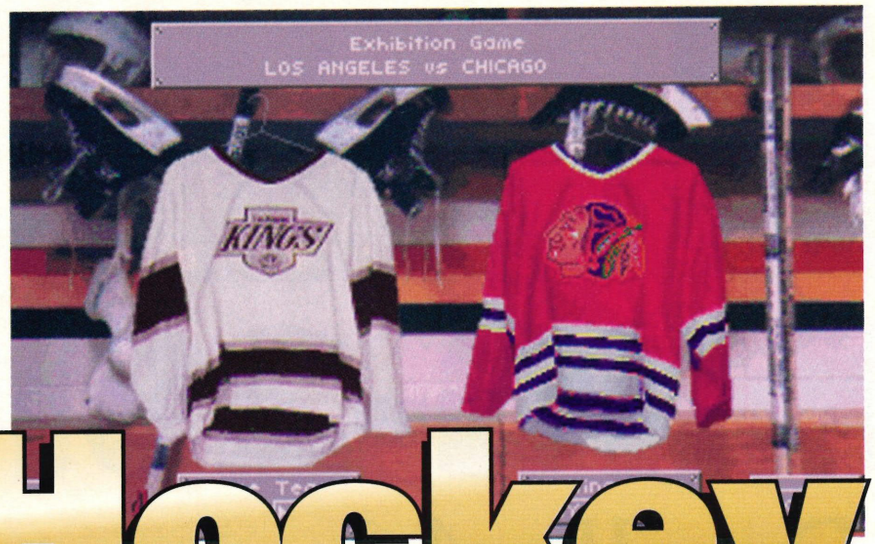
Optimum speed	**25MHz 386**
Minimum memory	**1Mb**
Free RAM required	**603K**

Verdict
Simply your old Falcon 3.0 but now with a MIG.29

rating **7**



Title	**NHL Hockey**
Publisher	**Electronic Arts**
Contact	**(0753) 549442**
Price	**£TBA**



NHL Hockey

Despite ice hockey's worldwide appeal, computer simulations of the sport are hardly the most popular pastime in Britain. What makes NHL Hockey think it can change all that?

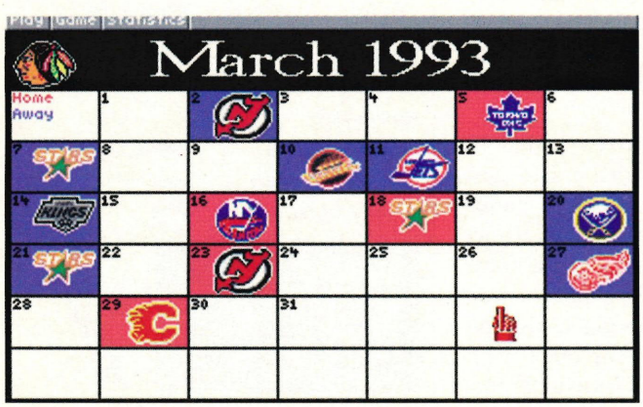
There has been an ice hockey league in Britain since 1935, but the sport has never been as great an obsession on this side of the Atlantic as it is in North America and Canada. As a result, its rules, tactics and players will be a mystery to many people reading this review. However, if the name Wayne Gretzky means nothing to you, don't be discouraged. Once you've got to grips with its regulations and strategy, NHL Hockey is a compelling arcade game.

Part of this is due to its comprehensiveness. The action is licensed from the US National Hockey League, and includes all results and teams from the 1992-93 season in both league and cup. Every player is defined by his own set of statistics, ranging from stick-handling to aggression. When it comes to creating your own leagues and cup competitions, you can select any of the 24 teams and randomly generate league and cup structure.

The flexibility of the design is impressive, too. You can play a one-off exhibition between any two teams, take part in a league or try the cup tournament. In addition, the action can be customised to create various levels of authenticity.

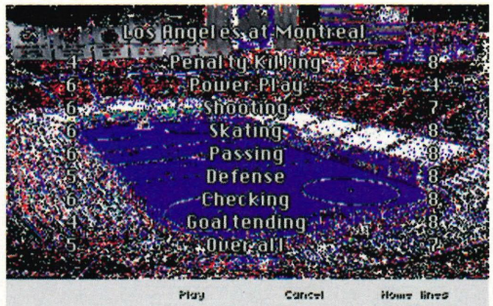
That's not all. You can add players to the league at any time, and you can trade players between human-controlled teams as you wish. With the option to play around with so much information you can, of course, save all your efforts to disk.

But masses of statistics and a flexible game design are useless without a good arcade game, and NHL Hockey doesn't fail in this respect. The rink scrolls vertically, and unlike Wayne Gretzky 3 (see Alternatively...) there are no alternative viewpoints. Apart from a little TV-style presentation, you can be on the ice almost immediately. Ice hockey matches are divided into three periods, and you can specify the length of each, between five and 20 minutes, so you can play up to one hour per game, which would probably be excessive were it not for the fact that you can save the action at any time.



A league and play-off set-up utility enables you to create a whole new season or play the 1992-93 season all over again.

If you've never played, watched or read about ice hockey in your life, now's the time to learn. The rules and regulations might be a foreign language at first, but the gameplay soon speaks for itself.



You're unlikely to alter the team line-up until you become accustomed to individual players' skills, but once you acquire some proficiency at the game your choice of players is vital. This is where team selection starts.

Gameplay is where NHL Hockey really scores over its rivals. Realism is enhanced by smooth scrolling, impressive player animations and true-to-life puck movement. However, the sound effects do most to recreate a feeling of being there; with grunts and groans of player collisions, rink-side announcements, crowd noises, the sound of stick striking puck, as well as sirens, klaxons and whistles.

You can control your team using joystick, keyboard or mouse. I found the joystick easiest, although whichever method you choose it will take you a good deal of time to get used to the speed of the action. Selected players are highlighted by a 'star' on the ice beneath their feet, and the method of transferring control from one player to another is quick and intelligent.

Difficulty levels are determined by the team you select. If you are unfamiliar with the strengths of the teams, taking a look at the league statistics before you start will help. By far the best way to introduce yourself to the action is to play a series of exhibition games against very weak computer opposition. Alternatively, if you're really struggling, you can set both players to human control and practise a few plays against static opposition.

The presentation is a model for all sports games. Apart from the contribution made by the sound effects, there are animated crowd members, an electronic scoreboard, lights reflected on the ice, team logos on the rink, a phantom organist and post-match awards. You can also stop the action at any time to view a variety of statistics, alter the game parameters or study the instant replay.

The instant replay facility takes a 10-second snapshot of the most recent action, so you can move forwards or backwards quickly or frame-by-frame. It's most useful for watching (and saving) a goal or a particularly neat move, but you can use it for strategic purposes, too. You soon learn which moves are most effective at penetrating your opponent's defences.

NHL Hockey isn't perfect, though it is one of the best sports games I've played on the PC. The graphics don't always work (sometimes players appear to run through each other), and the initially bewildering rules could prove daunting to some. The fact that you can ignore many of the regulations by disabling (for example) penalties, offsides, and the two-line pass is a help for beginners.

Other complaints are trivial. An option for shorter period lengths (say, two minutes) would have provided a quick, simple game to play in a spare few minutes. Also, due to the vertical scrolling, I found it more disorienting playing down the rink than up. However, the major bonus would have been a team strip and name editor, where you create your own league and cup competitions – probably not present here because of the NHL licence.

All complaints are minor. As a one-player game it has very good long-term appeal, as a two-player game it's superb.

■ Gordon Houghton

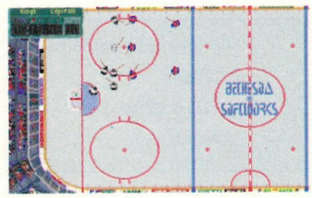
Techspec *You need at least 2Mb of RAM to run the game. All three major sound cards are supported, with impressive speech available to Sound Blaster owners. Processing power is important when creating random leagues (a lengthy process even at 33MHz).*

Disk requirements					
High density	✓				
Hard disk only	✓				
Space taken on hard disk	8Mb				
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	580K				

Verdict The most comprehensive ice hockey simulation avaiable

rating **8**

Alternatively...

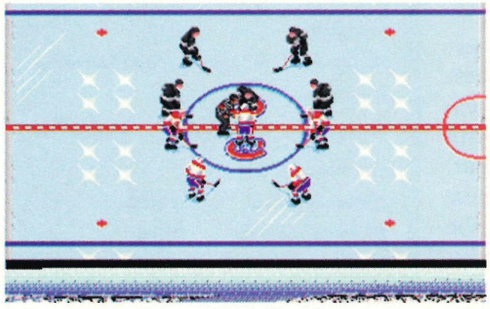


Wayne Gretzky Hockey 3 US Gold, £30.99
The Wayne Gretzky Hockey series also includes this game's two predecessors (both recommended) and the Wayne Gretzky Hockey League Simulator, an impressive management game. This latest version includes two views (an overhead and three-quarters view), penalties, good player animation and sampled speech. Its one principal drawback is the unfortunate lack of a season option: NHL Hockey's superiority in this respect just about gives it the edge.

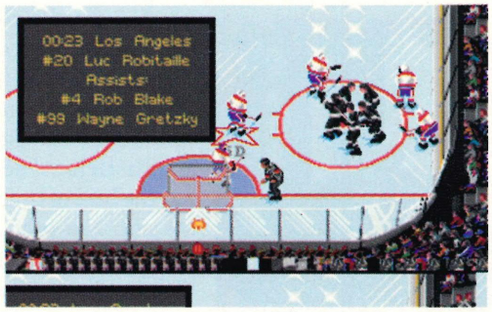


Speedball 2 Renegade, £30.99 (on Bitmap Brothers Vol 1 compilation)
Passing over Databyte's ageing and unspectacular Superstar Ice Hockey, this is an off-beat alternative to EA's simulation. It's a future sport involving two teams of heavily armoured and armed thugs whose aim is to throw a steel ball into their opponents' goal. The similarities to ice hockey are strong, and with a token management facility, good visual and aural effects and superb two-player action, this is well worth a look.

Two Minutes *of skill and thuggery*



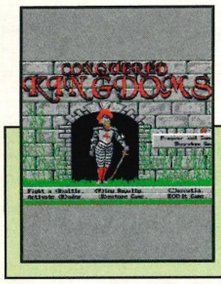
The teams are announced, the national anthems are played and the action is ready to begin. Speech and organ music as well as sound effects play a vital part in creating the big match atmosphere that is the National Hockey League. Violence is compulsory.



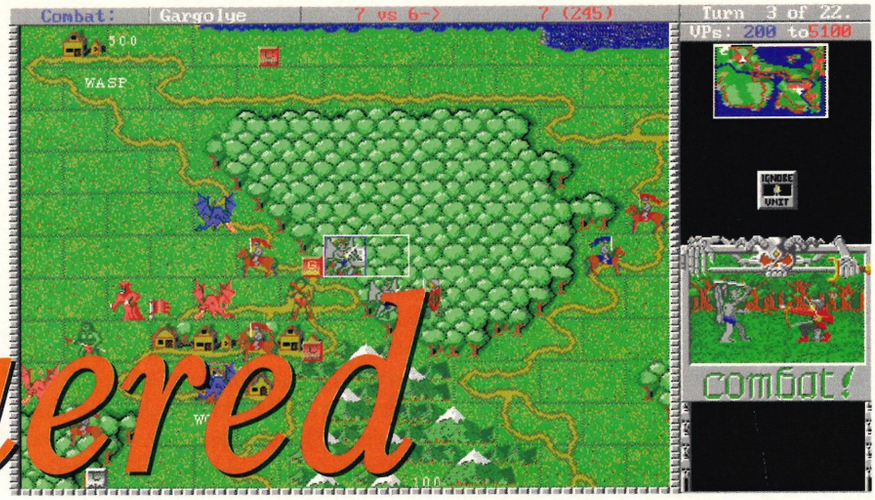
Even though one of your opponents is sweating out a two-minute penalty, his team still manages to score. The crowd goes wild, sirens sound, and an electronic scoreboard announces the damage. It's a truly sickening moment.



Just in case you missed it, a comprehensive replay facility enables you to fast forward, rewind, play and repeat the goal frame by frame. 10 seconds of action can be saved to disk, but however you look at it, it's still 1-0.



Title	**Conquered Kingdoms**
Publisher	**Mirage**
Contact	**(0260) 299919**
Price	**£44.99**



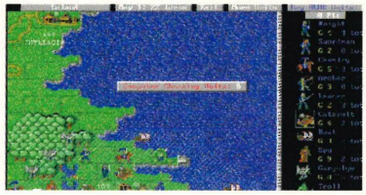
Conquered Kingdoms

Conquered Kingdoms is a fantasy strategy game set in an imaginary world with one of those silly names that sounds like a brand of laxative. It's a bit reminiscent of Castles 2, with a hint of Realms and a whiff of Powermonger. Unfortunately it's not as good as any of those games, and in some respects it's positively dire.

To say that the graphics look dated would be an understatement: the last time I saw anything like this Bros were in the charts. The screens look suspiciously like they've been coloured in with crayon on the back of a cornflake packet, an impression reinforced by the startling resemblance of the sprites to rub-on transfers. Of course, strategy games can rarely boast the high resolution of adventures or RPGs, but this is taking primitivism a little too far.

Thankfully the game doesn't play as badly as it looks, but it doesn't rise above the mediocre either. You can play single battles or campaigns (there's even a two-player modem option) but the principles remain the same: firstly you are given a point allocation with which to purchase your units, with a choice ranging from knights and archers to ogres and trolls.

Battle rages for the key villages of Woxly and Wasp. Just as well Woger the Wizard's on hand to sort 'em out.





You then place them on the map at three locations of your choice. The object is to capture castles and towns and to secure natural resources, thus enabling you to build yet more ogres, trolls, etc, which you send out to duff up the enemy, who's got ogres and trolls of his own.

There are lots of maps to choose from and there's also a random generator option, so there's plenty of potential. On the other hand, there's very little variety and sheer volume is no substitute for depth of gameplay. The game mechanics are simplistic and have the feel of the less imaginative type of board game. There's also one of those plodding turn-based combat systems so beloved of fantasy designers. You know the sort of thing – 'Dragon scores four hit points against troll, wizard casts fireball, six hit points unless you're wearing asbestos underwear ...' I'm prejudiced against these systems at the best of times (they seem to generate all the atmosphere of a statisticians' seminar) but the best of times these are not. Not only are the combat routines dull, but they give the impression of lasting for ever.

Conquered Kingdoms isn't the worst game I've ever played, but it's the worst I've played recently. It might have passed muster two or three years ago, but even if it were budget price I couldn't recommend it. As it is, I would suggest that anyone expecting the game-buying public to part with £44.99 for this really must be living in a fantasy world.

■ Simon Shaw

Techspec

Conquered Kingdoms isn't likely to tax the most humble of systems in either processor or memory terms. The game can be played using the keyboard (or just about) but a mouse is infinitely preferable.

Disk requirements

High density	✓
Hard disk only	✓
Space taken on hard disk	**3.5Mb**

Graphic modes

CGA	✗	**EGA**	✓	**Tandy**	✗
VGA	✓	**SVGA**	✗		

Soundboards

Ad Lib	✓	**Roland**	✗	**Sound Blaster**	✓

Control

Joystick	✗	**Keyboard**	✓	**Mouse**	✓

Performance

Optimum speed	**12MHz**
Minimum memory	**640K**
Free RAM required	**550K**

Verdict
More miss points than hits

rating **3**

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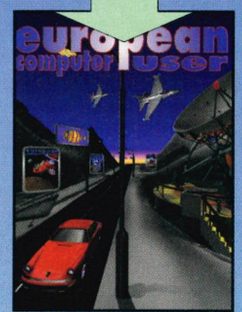

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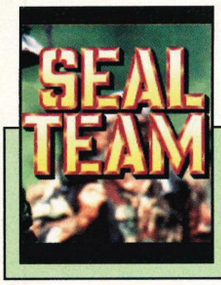
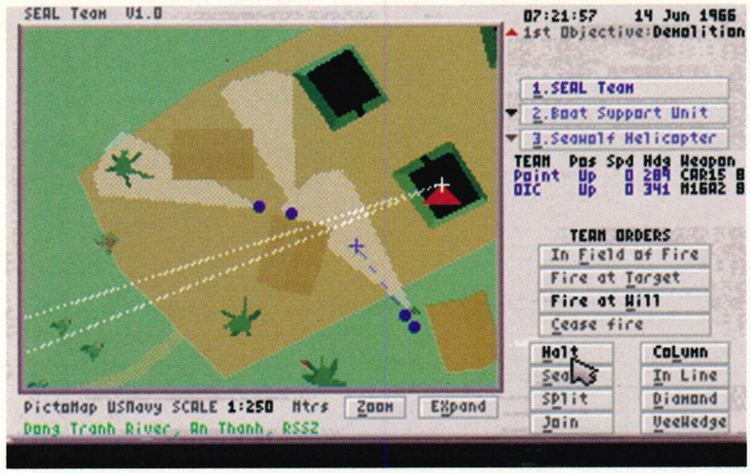


Title	**Seal Team**
Publisher	**Electronic Arts**
Contact	**(0753) 549442**
Price	**£44.99**



The map screen, right, shows your team, their cones/fields of vision and all the possible formations that you can arrange them in.

The first-person view, below. Your current weaponry is shown bottom left with your current tool (a med kit) bottom right. The screen compass at the top shows you the way to your target.

It's 1966 and you've been shipped to Vietnam, a raw recruit with the US Navy Seals, an elite fighting force very much like our own SAS, operating wherever and whenever they're needed, ie, on Sea, Air or Land, hence their highly original nickname.

If you have ever watched Tour of Duty on late night TV or, indeed, the old Vietnam news footage, then you'll already know what to expect here in terms of style; helicopter gunships thudding across darkening skies, patrol boats sneaking along mud-choked rivers, GIs with cigarette packets in the headbands of their helmets and the VC in midnight-black pyjamas and dinky straw hats.

Produced in association with the Navy Seal Museum, Seal Team aims to try and recreate the covert Seal incursions into the Mekong Delta between 1966 and 1969. There are no tanks or artillery, no huge vanguards, brigades or battalions, just four highly trained men who look dashing and butch in camouflage green.

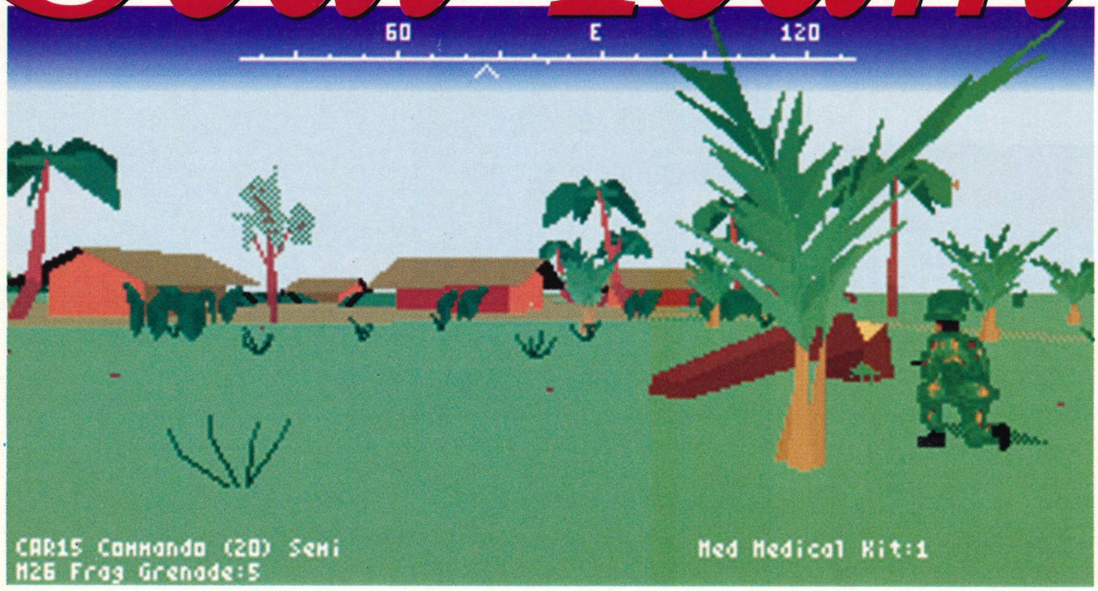
In fact, Seal Team looks and feels very similar to the MicroProse classic oldie M1 Tank Platoon. In other words, you control a military unit of four (of which you are the leader) while the three others blindly and faithfully follow your every move. As in M1, you can split your team up, change their formation (vee-wedge, diamond, column, etc), order them to cease or open fire or just panic and run away. Should things get more than a little hot in the DZ you can also call in support strikes from Seawolf helicopters, Bronco aircraft and river patrol boats. So in essence, Seal Team is M1 Tank Platoon with soldiers, and it's described as a squad sim, simulating what it might feel like to be a Navy Seal.

But what sets this game apart from other squad combat games is its use of the first-person perspective view.

Using what is basically a flight sim engine, Seal Team affords the player a soldier's eye view of the battlefield. And with a combination of 3D vector technology and bitmapping, Seal Team serves up a sparse jungle terrain complete with huts, bunkers, paddy fields and booby traps. OK, it may not look all that pretty at first glance (in fact, the bitmapped soldiers look very blocky and the jungle is not just thin, it's positively anorexic), but Seal Team overcomes its primitive visuals with some solid and, dare I say it, absorbing gameplay.

Fight VC, destroy bunkers, command helicopters and boats. Have you got what it takes to be a Seal?

Seal Team



There are times when it pays to stay undetected in Seal Team and then there are other times when you should just blast everyone to ashes. This is one of those 'other' times.

In Seal Team you assume the character of Point Man in a four man unit. The Point Man's job is a simple one involving leadership, man-management and generally being first, up-front and slap-bang in the enemy's line of fire. You not only control the movement of your team but are ultimately responsible for the lives of your three colleagues.

Once your character has been selected from the latest batch of green recruits and you've chosen your best weapons from a wide array of machine guns, grenades and shotguns, you will be briefed on your main mission objective.

This can be anything from a simple patrol to destroying an arms cache or rescuing a downed pilot, and although the missions are reasonably simple to start off with, as the game progresses there are more VC and NVA and if you're not careful you can get WIA in the DZ and have to call the UH-1B PDQ to get away ASAP. Frantic stuff, believe you me.

Your Seal team is dropped into the danger zone by either patrol boat or helicopter and it's here on the battlefield that Seal Team and the flight sim bear serious comparison. Seal Team betrays its obvious flight sim origins by including almost all of the features that have become customary in modern flight games, such as the mission briefing, customised weapons selection, compass arrows, waypoints and the obligatory external views.

Like a flight sim too, the direction of your main objective is indicated by a locator or waypoint arrow, you can cycle through your weapons packages and you can even earn the odd chest decoration or two (purple hearts, presidential citations, etc) if you're wonderfully and hugely successful.

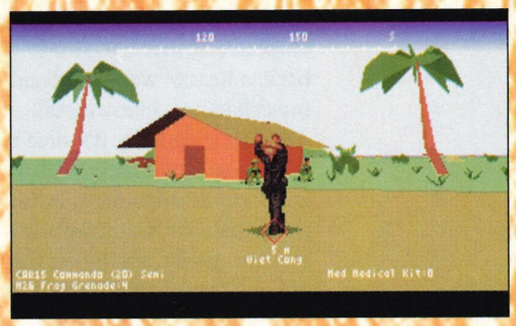
As your team weave their slow and cautious way through the vectored flora (running, walking, crouching and crawling), they can be controlled and viewed in both the external and first-perspective view. The latter affords the most effective targeting with enemies appearing in a target diamond, which kicks in at about 100m or so. When any unfortunate VC are close enough you can let rip with your automatic weapons and grenades. Although all weapons are self-targeting, the chance of hitting decreases the further away your target is and for intelligence purposes it's sometimes better to take prisoners first and shoot later. Cold-blooded stuff.

Some, if not most, of the missions depend on you staying undetected which won't please the trigger-happy amongst you who just want to be able to stand up and kill things quickly and in great numbers. But although the focus in Seal Team is squarely on hush-hush, secretive action, it's often a lot easier (and a lot more fun) to stand up, run fast, open fire and blow everything into tiny, little bits.

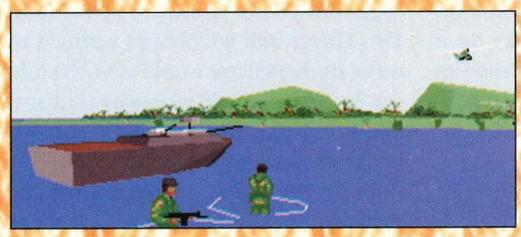
And it's here that the game trips, stumbles and limps where it should walk. For example, I went in to snatch a prisoner (a VC propaganda official) and I found it was much easier to hang back, call in the choppers, demolish the entire village from



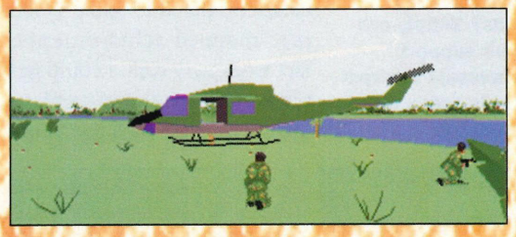
SEAL BULL
In the Seal 'bull' session, your guys gather round, bond with each other as only men facing death can, clean their weapons and utter macho and heroic claptrap.



PRISONER CAPTURE
Capturing Viet Cong prisoners aids the Army's intelligence effort, so if you train enough guns on them even the most fanatical villager will stand up and reach for the sky.



POSING NEXT TO PATROL BOAT
Seal Team A pose alertly next to their indestructible river patrol boat. The PB is most often used as an insertion unit but can also offer considerable support fire for beleaguered Seals.

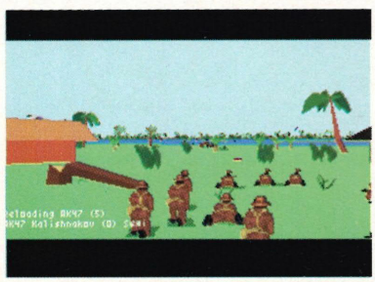


POSING NEXT TO HELICOPTER
Seal Team B pose casually next to a Seawolf helicopter. Only the Point Man can issue an extraction order, although the Huey will extract the team automatically if half the team are killed.

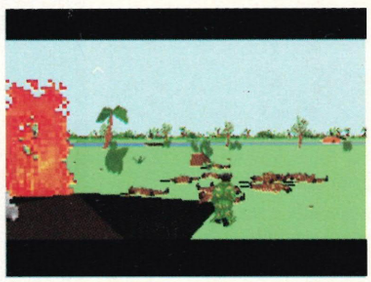
Two Minutes *of not so covert action*



The all-important mission briefing. This time out, intelligence has isolated an NVA weapons cache and has detailed your team to go and demolish it. Pick your weapons and let's go.



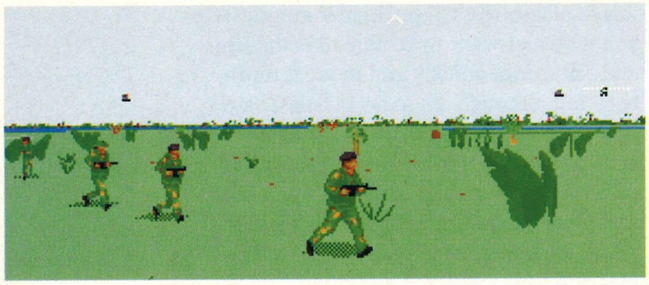
Using the enemy view, you can see that the area is swarming with NVA soldiers. Things don't look too promising. Let's see, four of us against 25 of them. Gunship time, I think.



It's amazing what a little gunfire can do. All NVA resistance has been quashed in one concentrated attack. Moving in, all I've got to do is search the dead and then hitch a lift home.



A quick call to the extraction helicopter and we can be on our way. With no casualties the mission has been a success. And I've hardly fired a shot. Seals 25, NVA 0.



The external view above shows my Seal Team striding meanly yet very cunningly across the Mekong plain.

the air, and just casually go in afterwards to mop up the odd survivor. It didn't really seem to matter whether the target was taken dead or alive. In fact, you could use this method for a number of mission types and at the end of them all I wasn't even taken aside by the OIC and chastised for not accomplishing my mission objective. I just got another pat on the back, a hearty 'well done' and some more miscellaneous chest metal.

On the plus side, it's nice to see developers experimenting with game design and I loudly applaud it, but if there's one thing that Seal Team lacks it's some basic realism. Don't get me wrong, I had a lot of fun playing Seal Team; running around through the brush, tossing grenades at VC, diving into rivers and calling in helicopter strikes, etc. But the game seems incomplete and I feel that more could have been done with it.

Things getting too hot? Suppressed by overwhelming odds? Simply call in air support. Wholesale destruction is only a radio call away.

Although the graphics are extremely basic compared to today's Gourad and texture-mapped achievements, they do in fact work very well. I could ignore the simple graphics if the gameplay was superb, but I was irked by a few minor problems.

Did all Navy Seals have the amazing ability to walk through walls? Could patrol boats really travel on grass and still make a wake? And why weren't we all told about that terrific invention, the totally silent, stealth helicopter?

If I could overlook design faults, I can't really conclude without mentioning the tactical shortcomings. The biggest of these is the way that your helicopters hang in the air in plain view of the village that you're sneaking up on. Surely two Hueys and a Cobra hovering a mile away from a village would alert the inhabitants, being a dead giveaway that something is about to happen. I've also still yet to see a helicopter get shot down, perhaps they're indestructible like the patrol boats, and I find it laughable that the only way your team can destroy bunkers is using satchel demolition charges while the choppers can blow them up from the air using only a large-calibre machine gun.

Soundwise (even on Ad Lib), Seal Team is not too shabby, with an atmospheric soundtrack, shouting VC, rattling rifles and the sound of bullets whizzing past your ears. With a Sound Blaster the sound is even better with selected speech and a battalion singing something like, "I want to be your drill instructor". Unfortunately I still couldn't hear the sound of the helicopters or the boats – a real shame.

All this aside, Seal Team is a good game that's only brought down a peg or three by, (a) the problems mentioned above and, (b) the speed of machine needed to run it. I'd recommend at least a 486 for Seal Team because on my trusty 25MHz 386 machine, even playing the game on the lowest detail level (of which there are six) still only gets the scrolling up to tortoise speed at best.

So if you want to try your hand at something a little different, Seal Team's 80 mission campaign might just keep you happy. It's a promising first attempt and hopefully EA won't abandon the system completely because if there's a possibility of Seal Team 2, with a tweak or three it could really be something special.

■ Dean Evans

Techspec

Seal Team needs a whopping 600K of free base memory to run and on a 486 at the highest detail level the scrolling is still a tad jerky. You can play it on a 386 but I wouldn't recommend it.

Disk requirements						
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	Ad Lib	✓	Roland	✓	Sound Blaster	✓
Control						
	Joystick	✓	Keyboard	✓	Mouse	✓
Performance						
	Optimum speed	40MHz 386+				
	Minimum memory	640K				
	Free RAM required	600K				

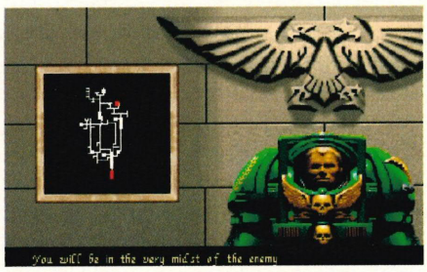
rating **6**

Verdict
Great idea, but the game doesn't quite live up to its potential

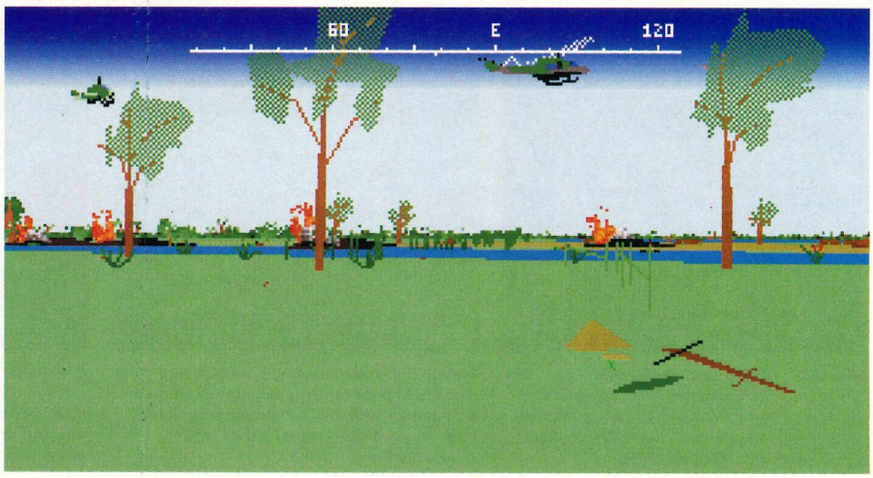
Alternatively...



M1 Tank Platoon
US Gold, £14.99
This 3D tank sim is still a challenge despite its undeniably aged look. You control a unit of four tanks and take command of the individual crew positions. M1's strength lies in its realism with fast polygon graphics, air strikes and artillery support. It may take a while to get to grips with but it's certainly worth it.



Space Hulk
Electronic Arts £34.99
Rated 7, Issue 20
With huge derelict spaceships, heavy-duty battle armour, lots of weapons and a ruthless alien enemy, Space Hulk is a greater challenge than Seal Team with a stronger strategy element. Lots of entertainment and damned difficult, Space Hulk will keep you hooked for months.





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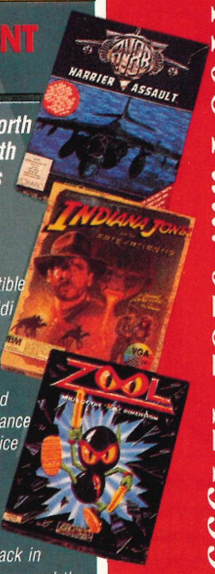

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Title	**Solitaire's Journey**
Publisher	**QQP/Mirage**
Contact	**(0260) 299919**
Price	**£44.99**

Solitaire's Journey

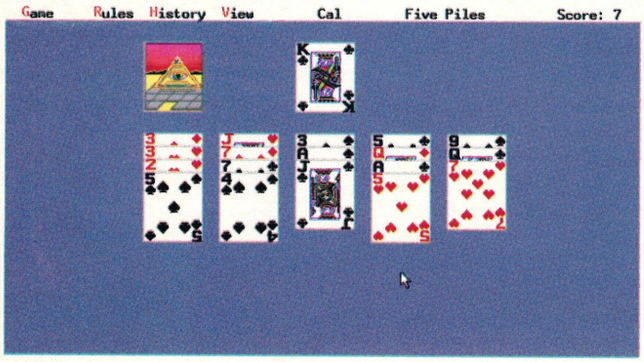


Above right: one of the variations is named after Agnes Bernauer. Whoever she was.

Patience is a game which you play when you're bored. If there's nothing on the telly and you really can't find anything better to do, it's tempting to sit down with a pack of cards and while away the hours. But just how often does anyone genuinely get that bored? Often enough, it seems, because QQP has just brought the noble art of time wasting to computer.

Solitaire's Journey is, if nothing else, comprehensive. It comprises of 105 different variations of patience, some played with one deck of cards and others two. Either way, most of the games are very difficult to win and so QQP has come up with an average score for you to aim for. An explanation of the rules has also been included in each of the games, and, should you be interested, there is even a graphic history tracing the game's development. In addition to all the single games, you can also take part in a tournament, a quest or a journey.

This game sports the dubious name of Five piles. Sounds painful.



The tournament is a series of games, the object of which is to amass the highest score possible. There are different tournaments to choose from, but I can't quite imagine a bunch of card sharps sitting in a smoky room with their sleeves rolled up, playing patience.

Fortunately, the quests are slightly more interesting, consisting of four different mansions. The object is to play a different game in each of the rooms, collect a certain number of gold bars and leave by the shortest route possible.

Finally, the journey consists of four different tours. Various cities throughout the United States, Canada and Mexico are holding a solitaire tournament, and starting at one location, you must win your way to your destination.

Solitaire's Journey is well implemented, and although the graphics are nothing to write home about, it's not the sort of game which needs texture mapping, Gourad shading or ray-tracing to make it work. Patience is patience, after all. On the other hand, I think that it really should have been a Windows game. The one place that you're likely to get bored enough to play patience is in the office, and as I said in my review of Sierra's Take-a-Break Pinball (see page 92), the advantage of Windows is that you can hide games behind more useful applications when the boss is around.

There isn't really very much wrong with Solitaire's Journey; I just feel that it's rather unnecessary. The fact that if I have a PC available and time to kill, I can think of 101 other games which I'd much rather be playing. Ultimately, if you really, really want to play solitaire, it's far cheaper to go out and buy a pack of cards.

■ Cal Jones

Techspec ***Solitaire's Journey will run on most machines and needs MS-DOS 3.3 or higher. I would also recommend a mouse to play, since using the keyboard is a fairly laborious process, to say the least.***

Disk requirements

High density	✓
Hard disk only	✓
Space taken on hard disk	***1.5 MB***

Graphic modes

CGA	***x***	***EGA***	✓	***Tandy***	***x***
VGA	✓	***SVGA***	***x***		

Soundboards

Ad Lib	✓	***Roland***	***x***	***Sound Blaster***	✓

Control

Joystick	***x***	***Keyboard***	✓	***Mouse***	✓

Performance

Optimum speed	***16MHz***
Minimum memory	***640K***
Free RAM required	***550K***

Verdict

Overpriced and a bit pointless

rating **4**

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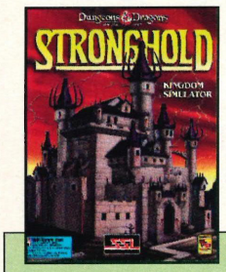


Title	**Stronghold**
Publisher	**SSI/US Gold**
Contact	**(021) 625 3366**
Price	**£34.99**

The dwarves have got the hump, and built a pub. Then the elves decide to build a garden. Typical. Can't we just get on with the business of putting a roof over our heads in peace?



Right now, everything seems peaceful and the land is prospering. Just for once, the inhabitants don't have anything to complain about ...

Stronghold

Take a pinch of D&D, a dash of kingdom-building, and decorate profusely. The result? A delightful and quirky newcomer from SSI

Stronghold is an appealingly simple idea right from the off. Starting in one desolate location, surrounded by assorted ravening monsters, you have to keep your people safe, housed, fed and happy. And breeding.

Funnily enough, the breeding's the easy bit. The D&D element then brings in character types and alignment to dictate individual and racial performance, skills and abilities. It also brings a more personal and varied approach to the standard God game or world builder, which normally leave you with faceless, ant-like minions running around.

My immediate worry was that in trying to combine diverse game styles the end result would be superficial and short-lived. This is far from the case, however.

There are five worlds to choose from in Stronghold, and a random world generator. Add to that three basic levels of difficulty – peaceful, aggressive and hostile. Then add a custom setting which enables you to decide how many low, medium or high intelligence monsters will populate your world (up to a maximum of 64) if you want a really tough time.

There are also three distinct ways to play the game, decided when you generate your lead character. If you choose to be lawful, then you must reach the rank of emperor (meglomania); choose chaotic and you have to wipe out all the bad guys (psychopathic), and if you go for neutral then you must kill everybody and become emperor (psychopathic meglomaniacs sign here).



You have to plan for the severe winters in Stronghold, or your people will starve.

In the beginning ...

The measure of success in Stronghold is your progress through the ranks (to emperor). This is based on a combination of how popular you are with your subjects, the size of your domain, and the number of enemies you've trashed.

Once you've created five characters, selected class, rolled the dice for attributes, chosen alignment, and all the usual D&D shenanigans, you then carefully position each one on the world map, taking into account the suitability and defen-

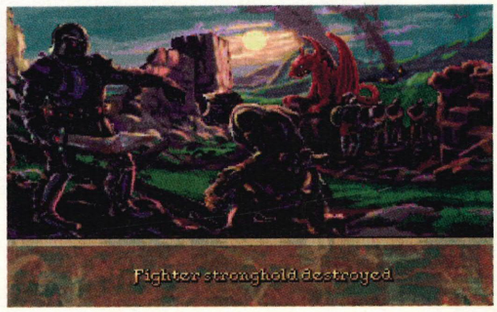
Two Minutes *of life in the suburbs*



Meanwhile, back in Minotaur city, my small army is getting a bit of a hiding from the locals. Shame I can't call in an airstrike.



Swapping to the map view gives me the chance to manipulate my forces en masse, and keep track of the opposition.



Unfortunately I failed to repel borders, and a marauding bunch of Orcs has trashed my main keep. Honestly, some people ...



The way to stop the monsters is to demolish their stronghold before they do the same.

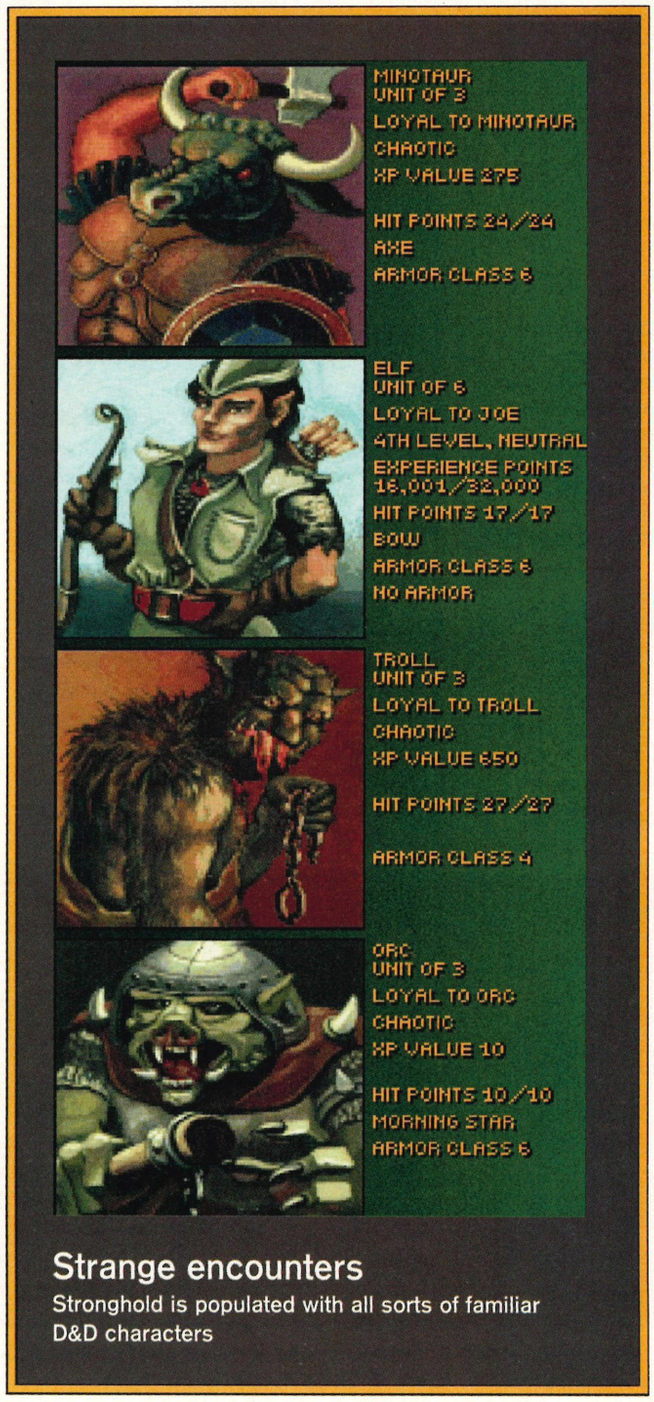
sive potential of the surrounding area.

Characters are either 'home', 'ready' (first to be called to a more promising area or to a fight) or unassigned (wandering around looking for a place to live). The important thing right away is to feed and house them, or else they complain like mad. You have to set them cultivating land, mining, hacking down trees, building pubs (honest) and getting some sort of commercial system up and running. You can make tactical switches of ownership, salvage and repair properties, all in the light of the usual stereotypes; elves build gardens, dwarves mine well but can't climb trees, and halflings have hairy feet. Or something like that, anyway. With a bit of luck, as the seasons progress your strongholds should expand, and that's when the enemies start to appear.

Controlling all this feverish activity takes a bit of doing, and SSI's solution is an unusual one. The choice of a ground-level landscape view as the main terrain view, with the option to swap to an overhead map view, and a mini overhead view window is an ideal combination. As you can also see from the screenshots, there are 'activity pyramids' (for recruiting, training and building) which indicate the amount of effort put into a given task by the inhabitants of a block. At times it can be a bit fiddly, but on the whole it is remarkably easy to use. You can block select whole areas and set an entire class of character doing the same thing, as well as altering the settings block by block.

The economic and social statistics are neatly hidden behind the scenes, but are a very important part of the game. Here you are given a complete breakdown of available units, food production, storage, property types and income, you name it. If you just leave your people to get on with it while you go out and find a monster or three to mug, the realm will go to wrack and ruin pretty sharpish. You're as likely to lose the game through mismanagement, starvation and economic incompetence as through out and out warfare.

Even so, defence is pretty crucial. If an enemy stronghold is too near to where



Strange encounters

Stronghold is populated with all sorts of familiar D&D characters

Alternatively...



Eye of the Beholder III
SSI/US Gold, £39.99
Rated 6, Issue 21

If you want more role playing instead of strategy, Eye of the Beholder III is a huge game in classic dungeon tradition. This style of game is starting to suffer by comparison with some of the more original and technically advanced RPGs, like Legends of Valour or Ultima Underworld.



Populous 2
Bullfrog, £34.99
Rated 8, Issue 15

Populous was the classic and original world builder, and this second version captured all the best features of the first and added a vastly improved look and a two player option (which Stronghold can't offer). A must for all budding meglomaniacs.

your people are expanding, then you're going to lose a lot of innocent people. The uglies usually concentrate around their stronghold, but some will always go walkabout, bless 'em. Of these, some are more likely to head for the heart of your little empire, while others are just lost and foul-tempered. But in the early stages, when your players lack experience, even a low-level monster or two can wipe you out of the game pronto.

The obvious solution is a spot of genocide. If you can fight your way through to an enemy stronghold and demolish it, then it stops generating new monsters. Gathering together a suitable army, suited, booted and ready to make like Millwall supporters, and then watching them slug it out with a horde of monsters is certainly marvellous fun, even though you can't do anything to influence the outcome once battle commences (except call in reinforcements).

When you have demolished all of the enemy strongholds, a second and final wave of randomly generated baddies appears. Getting to this stage takes a fair amount of time, if my experience is anything to go by. The difference with the second wave is, fairly obviously, that they're bigger 'n badder baddies than the first lot, and include His Royal Unpleasantness himself, Mindark.

Different terrain offers different possibilities for mining or cultivating land. And there's no point just walling your people in — half the monsters fly.



Sitting pretty

Presentation may not be the sole criteria for a good game, but it certainly helps. The pretty landscaping, with trees, fields and munchkin houses under construction, may be sickeningly cute for some, but others will find it delightful.

On top of this, although the characters may be tiny, they're immediately recognisable and nicely detailed. During a battle they lay into the opposition with gusto, using appropriate weapons and spells according to class and experience. This attention to detail goes as far as the way dress changes according to rank, and the clangs, bangs and squeals that accompany fighting, building, or both.

In an ideal world, I'd like to have seen a trading or alliance option as regards the more intelligent enemies, but I'm assuming the intention was not to swamp the gameplay with too much in the way of stats and obscure options (a perfectly fair way of thinking). As it stands, though, the only interaction you have with other creatures is of a terminal sort.



Moan, moan, moan. But unless you keep the people fed and happy, you won't get promoted. Click on leader here to get an economic breakdown ...

Perhaps there could be more effort on the building side by the opposition. There are plenty of character types perfectly capable of wielding a hammer – other than to the base of someone's skull – so they should be building bridges to get at you, towers to spy on you, and walls to keep you out off their turf rather than just wandering about.

On a practical note, the game can drag – even on a fast 486 – if it is overloaded with information to cope with. If you're asking it to keep track *and* inform you of events going on across the map, while also attempting to produce the sound effects, messages and keep score as 15 dwarves, five wizards and an elf with a chip on his shoulder merrily decimate the local troll population, the PC will start to struggle noticeably when you try to view the scrap, funnily enough!

The last point is really my only criticism of this rather strange mish-mash of Dungeons and Dragons role playing, monster bashing and kingdom builder – a game that has kept me thoroughly absorbed for the past few weeks. And no-one could be more surprised about that than me, since I usually run a mile in the opposite direction if someone mentions the words "pretty" and "role-playing" in the same breath.

■ John Bennett

Techspec

Stronghold has no difficulty performing well on lesser PCs provided you play the game in a refined manner. However, the game slows dramatically if there's too much fighting going on.

Disk requirements					
High density	✓				
Hard disk only	✓				
Space taken on hard disk	6Mb				
Graphic modes					
CGA	✗	EGA	✗	Tandy	✗
VGA	✓	SVGA	✗		
Soundboards					
Ad Lib	✓	Roland	✓	Sound Blaster	✓
Control					
Joystick	✗	Keyboard	✓	Mouse	✓
Performance					
Optimum speed	20MHz				
Minimum memory	2Mb of RAM				
Free RAM required	585k				

Verdict
Unusual, charming and absorbing

rating **7**

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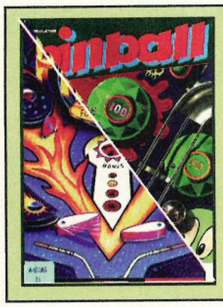

Title	**Pinball Dreams**
Publisher	**21st Century Entertainment**
Contact	**(0235) 851533**
Price	**£37.99**
Title	**Take-a-Break Pinball**
Publisher	**Sierra**
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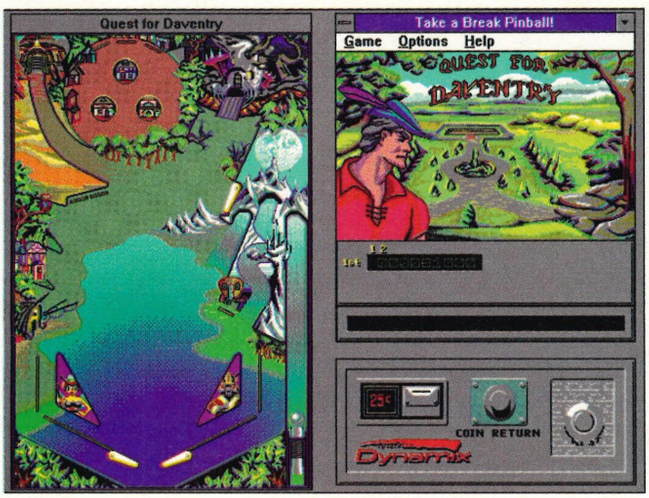
Pinball

It's raining, the pubs are shut and you've used up all your change at the launderette. But don't worry, you can always play pinball in the safety of your own home – with the help of your trusty PC, of course

You can't beat a good game of pinball. There's nothing quite like downing six pints, swaying over to the table and then cursing because the right flipper feels sluggish and you can't see the ball for the reflections from the overhead lighting.

Ah, the atmosphere, the adrenalin, the anguish. The smoke in the eyes and the alcohol in the blood. And the very, very bad language as you lose your ball just when you've finally managed to light up all the bonuses. How on Earth can anyone translate all that on to the PC? Well, two software houses have tried. Pinball Dreams from 21st Century Entertainment is a straightforward pinball simulation, whilst Sierra has come up with Take-a-Break Pinball for Windows, specially designed so that office workers can sneak a quick game when the boss isn't looking.



The Willy Beamish table is as American as apple pie. And just as sickly.

The King's Quest table has you aiming for Daventry. But isn't that a service station on the M1?



First up, in the red corner, is Pinball Dreams, a game which boldly claims to be the most realistic pinball simulator ever seen on the PC. There are four different tables to choose from, ranging from the rather drab Ignition to the stupendously addictive (well, I found it stupendously addictive; the rest of the PC Review team were slightly less than convinced) Nightmare. As many as eight players can take part, although this means a hell of a lot of chair swapping unless you're prepared to do away with the chair altogether and kneel on the floor Japanese tea ceremony style.

As for the game itself, it's actually quite good. Due to the shape of the average monitor, you can't see the whole table on screen at any one time. Instead, the screen scrolls up and down according to where the ball is. The manufacturers recommend a modern VGA card, otherwise the scrolling can be a bit jerky to say the least. The ball moves in a fairly realistic fashion, and flipper control is about as good as you can get on the PC. My only real gripe was that the speed of the ball was a bit erratic; rocketing round the table one minute and behaving sluggishly the next. Call it momentum if you like, but I'm convinced my ball had been at the stimulants. On the whole, I was reasonably happy with the accuracy of the simulation, and although you can't beat the real thing, this game will keep you going long after the pubs have closed.

The Sierra Game, in the blue corner, Is a different kettle of fish altogether. It runs in Windows, so the main advantage is that you can quickly hide it behind your



Beatbox is a more modern looking table, and is fairly good fun to play. The music ain't bad either.

spreadsheet if the boss looks likely to appear. Other than that, it isn't all that great. There are eight tables to choose from, all based on Sierra games such as Space Quest, Willy Beamish and Leisure Suit Larry. The whole table is viewed on screen at once, which made it rather too small. Not matter what I did, I couldn't resize the window, so I was stuck with a doll-house sized table that had my poor bloodshot eyes screaming for mercy. Yes, the graphics are nice and colourful, but this hardly made up for my eye-strain induced headache.

To add insult to injury, it wasn't even very good. Perhaps it's down to size, but it just didn't feel right. It contains some features that Pinball Dreams lacks, such as being able to introduce a second ball into play, but all the bells and the whistles in the world wouldn't make this a good game. Taken as a piece of Windows entertainment rather than a pinball simulation, it's just about all right, but frankly I'd sooner play Solitaire.

So, in terms of simulation accuracy, Pinball Dreams wins the first round hands down. But what about sound?

The music in Take-a-Break Pinball is not bad at all, but bears little resemblance to anything you'd hear emanating from a real pinball machine. It was pleasant enough, certainly, but it just didn't create the right atmosphere. And why, I ask myself, do you need digitised speech with a game like this? I can well do without someone saying "Oh Willy!" when I'm about to shoot my ball.

The sound in Pinball Dreams isn't exactly brilliant, but it's a damned sight better than the Sierra effort. With a Sound Blaster, the music is quite good, especially on the Beatbox table. With an Ad Lib card, it's passable. Unfortunately, the internal speaker sound is really appalling. It's a bit like being sat next to someone on the tube with a loud personal stereo. Fuzzy white noise with the odd tune struggling to get out. Not good. Even worse, it slows the game down no end; a problem I didn't have when I was using a sound card. Even so, Pinball Dreams wins the sound round convincingly.

And now on to the final round, the battle of the manuals. The Sierra pamphlet, er, manual, didn't impress me at all. It contains guidelines for playing each of the eight tables, but the installation instructions are minimal and it doesn't contain any of the information that you really need to know, such as how much disk space it takes up and how much conventional memory it uses.

Pinball Dreams is better packaged, and includes a glossy manual, installation instructions and Pinball Dreams postcard. If you're really sad you can even send off for a Pinball Dreams T-shirt. Anyway, Pinball Dreams wins this round too, and thus takes the match by a knockout.

So, it's a hands down victory to the 21st Century game. I admit to playing it solidly for the last three days, despite derisive comments from my colleagues. The only real problem with this game is the price, which I think is rather excessive for a product like this.

■ **Cal Jones**



Steel Wheels has a lot of targets to hit, a couple of ramps and a Wild West train theme. Railroad Tycoon with added balls.

Techspec *Take a Break Pinball requires a 386SX or better running Windows 3.1. It also runs with disk-compression. Most soundboards are supported but a DAC equipped sound card is necessary if you are going to make full use of the digitised speech.*

Disk requirements	
High density	✓
Hard disk only	✓
Space taken on hard disk	6Mb
Graphic modes	
CGA ✗ EGA ✗ Tandy ✗	
VGA ✓ SVGA ✗	
Soundboards	
Ad Lib ✓ Roland ✓ Sound Blaster ✓	
Control	
Joystick ✗ Keyboard ✓ Mouse ✓	
Performance	
Optimum speed	20MHz
Minimum memory	2Mb
Free RAM required	580K

Verdict Less interesting than an episode of Bread

rating **4**

Techspec *Pinball Dreams needs at least a 286 although a 386 is recommended. The game also requires MS-DOS 3.3 or higher and 256 colour VGA. A fast VGA card will improve performance.*

Disk requirements	
High density	✓
Hard disk only	✓
Space taken on hard disk	2.5Mb
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	530K

Verdict Addictive, fun, but pricey

rating **7**

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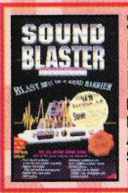

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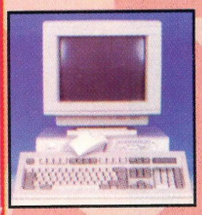

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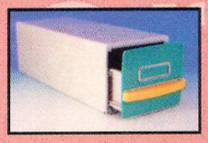

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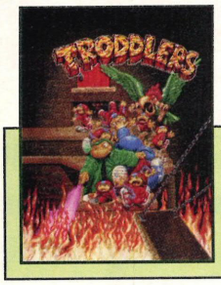


Title	**Troddlers**
Publisher	**Storm/The Sales Curve**
Contact	**(071) 585 3308**
Price	**£29.99**

Troddlers are stupid. Very stupid. Almost as stupid as Lemmings, in fact. Once they've got it into their tiny brains to walk in a certain direction, they'll do it even if a giant mincing machine happens to be in the way. Oops.

Troddlers

Troddlers is a platform-cum-puzzle game in which you direct cute but suicidal rodents to the exit of each brain-teasing level. Hmm, now that sounds familiar ...

Troddlers shares many of the same principles as the much acclaimed Psygnosis puzzler, Lemmings, in that you have to guide the little fellas through each level without getting them all killed. But this isn't the great rip-off that it first appears, because Troddlers has a charm all of its own.

The main difference between Troddlers and Lemmings is that, whilst Lemmings are blessed with different abilities which you have to exploit to complete each level, all troddlers are identical. Their only aim in life is to walk. They walk along platforms, they walk up and down vertical walls; they even walk upside down on the ceiling. But most often, they walk straight into traps, which is where you come in.

You play the part of either Hokus or Pokus, a pair of gormless apprentices who work for the sorcerer Divinius. Like most apprentices, they find their time is taken up not with learning the arcane arts, but doing the grubby little jobs Divinius would rather not sully his hands with. Not surprisingly, boredom sets in and when asked to tidy the storeroom, they decide to amuse themselves by tampering with a few things which they ought to have left well alone. The result is that a batch of the experimental troddlers teleports into another dimension, and to avoid the wrath of their master, they have to go and retrieve the little blighters.



This jungle level is quite easy to complete — the only problem is doing it in the time allowed.

Like Lemmings, each level has at least one entrance and exit, and your task is to get the troddlers from one to the other before the allotted time runs out. To accomplish this, you use blocks to build a route between the two doors. On some levels you already have a number of blocks to play with, whilst on others the blocks are strewn around the screen and you have to collect them first. Later on you also encounter unclimbable ice cubes, flippers which move each troddler from one side of a block to the other, bouncy trampolines and pausers which slow the critters down. You will even run into evil zombie troddlers whose only aim is to decimate the good guys. Lose too many and you die, needless to say.

Not all the levels can be completed simply by rescuing the troddlers: on some you must also collect a certain amount of diamonds in order to finish the puzzle. In addition to this, there are various

Two Minutes *of mental blocks*



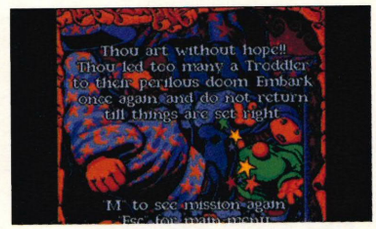
An easy level to start – the solution is to place the blocks so that the wayward rodents climb up to the exit (centre). Their magnetic boots mean they can walk just about anywhere.



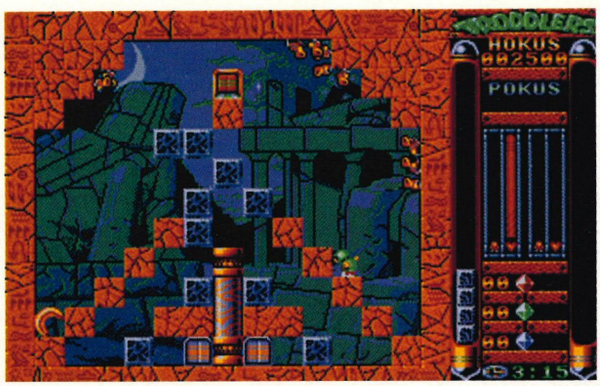
Now it's time to move on to something a bit more difficult. Each level poses a different challenge, and they get progressively harder as you go along. Some of the later levels are a real bitch.



I don't have any blocks, so I must get them from the centre of the screen. Those mincing machines in the corners don't help. While I'm trying to figure it out, Hokus finds time for a nap.



Innumerable hours later and I'm still stuck on the same flaming level. Bah! Perhaps it's time to turn my attentions to something a bit more constructive. Like making another cup of coffee.



Later on and it's more of the same. You can always grab that banana on the left for a bit more energy.

bonuses to collect, such as hearts and fruit which help to restore health points, shields which make you invincible for a minute and clocks which give you extra time to complete the level.

Most levels also contain a gruesome selection of traps, so you have to be careful not to place your blocks in a position which will entice the daft critters to get themselves killed. The other thing you want to avoid is placing a block on top of a troddler – the result is always spectacularly messy. Actually, watching the little suckers bite the dust is half the fun.

Even so, the pleasure soon starts to wear thin once you realise that you've been stuck on the same level for the last half hour. This is when you need to put aside your single player game and go to war. Troddlers has one huge advantage over other games of this type, the inclusion of a two player mode. You can either team up with a friend (one playing Hokus, the other, Pokus) and help each other rescue the troddlers. Or you can opt for the war mode and try and blow each other to bits. The latter is by far and away the most enjoyable way of playing the game. Basically, it means that you can indulge in every sadistic whim you can think of without screwing up your own game. Providing that your so-called friend isn't doing the same to you, of course.

I hate to keep comparing it with Lemmings, but let's face it, there are many similarities, and it's bound to happen. So, if you already own Lemmings, is there any point to buying this game as well? In a word, yes. The two player option is one good reason. It'll probably cost you your friends and break up your marriage, but what the hell. Even in solo mode, Troddlers has a lot to offer. As well as 75 two player levels, there are 100 to attempt on your own. It's a quirky little game which will keep you hooked for ages.

If you held a gun to my head and forced me to choose, I think Lemmings just has the edge. But Troddlers is still a good game, if a bit unoriginal, and at a penny under £30, it won't break the bank.

■ Cal Jones

Techspec

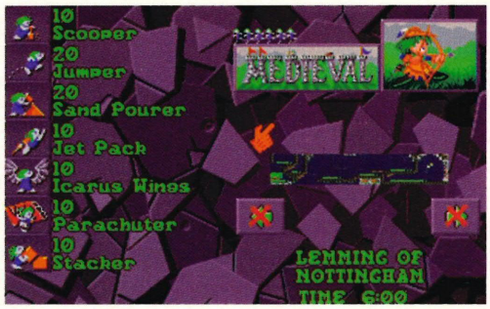
To start with, Troddlers needs 580K of free base memory. It also needs a VGA graphics card and a minimum of a 286 PC to run. Other than that, it should present few problems for most PCs, and also supports a wide variety of sound cards.

Disk requirements					
High density	x				
Hard disk only	x				
Space taken on hard disk	896K				
Graphic modes					
CGA	x	EGA	✓	Tandy	x
VGA	✓	SVGA	x		
Soundboards					
Ad Lib	✓	Roland	✓	Sound Blaster	✓
Control					
Joystick	✓	Keyboard	✓	Mouse	✓
Performance					
Optimum speed	20MHz				
Minimum memory	640K				
Free RAM required	<550K				

Verdict
An entertaining and addictive game

rating **7**

Alternatively...



Lemmings 2 — The Tribes
Psygnosis, £39.99
Rated 8, Issue 19
One of the true originals, Lemmings was responsible for more lost sleep than virtually any other PC game. The sequel is even better, with a greater variety of Lemming skills and 120 levels to complete. Just brew a big pot of strong, black coffee, take the phone off the hook and get ready for some late nights.



Humans
Mirage, £29.99
Rated 7, Issue 17
Another Lemmings-alike, Humans is a lot more sedate than the Psygnosis effort. You have 100 levels to evolve your primitive chappies into something a bit more sophisticated, picking up tools and skills as you go. Each level involves a different task, from killing a dinosaur to rescuing a friend. Entertaining stuff.



Title	**Where in Space is Carmen Sandiego Deluxe?**
Publisher	**Broderbund/Electronic Arts**
Contact	**(0742) 753423**
Price	**£39.99**



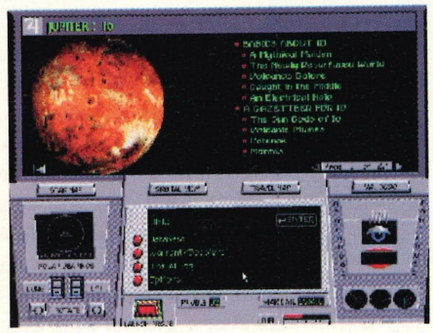
Where in Space is Carmen Sandiego Deluxe?

The Acme database contains reams of information on planets, moons and comets. If you find a mystery place name, just type it into the computer and see if the database comes up with a match.

Carmen Sandiego is a notorious arch-criminal, and the latest in Broderbund's "Where in ..." adventure series finds her gang of 14 alien outlaws roaming the solar system swiping everything they can, from planetary slush mantles to the Eiffel Tower.

Aimed primarily at children of 12 years old and upwards, you play a space sleuth employed by the Acme Detective Agency (Intergalactic Division) which is relying on you to hunt down Carmen and her gang. Like other games in the series (Where in the USA, Europe, World and Time), Where in Space has a strong educational slant, combining planetary information with detective work. The game mechanics are simple enough: track down the individual gang members using clues and information you find at various interplanetary locations, and then arrest them.

For example, say someone has stolen the Macbeth Crater from Uranus' moon Oberon. Only one witness, a casual shopper, saw the thief making off with this



6km hole but she did overhear that the villain's next destination was Jupiter's moon Io. Armed with this knowledge, you pop back to your Cosmohopper 911 Turbo, flit to Io and pick up the trail.

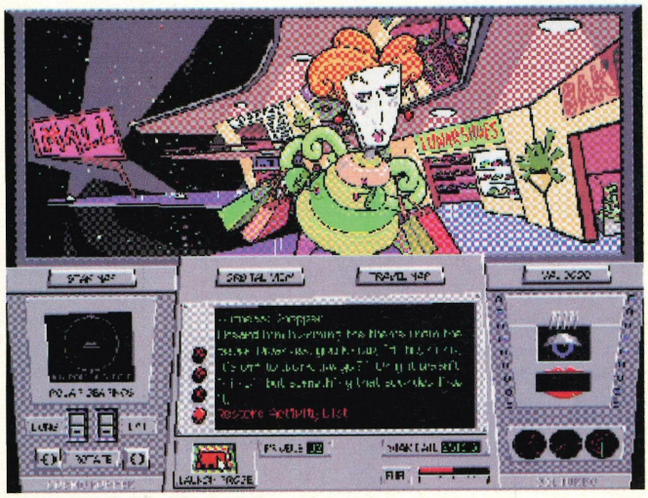
A good detective always has a network of informants and an Acme space sleuth is no exception. At the various destinations you can chat to an informant who will give you a clue to your renegade's appearance. So if you're told that your quarry was boasting in the space bar, claiming he could spend hours underwater without using a snorkel, you might deduce that the thief has gills. The database automatically highlights all the suspects who are blessed with the joy of aquatic lungs and so you can then discount anyone who doesn't have them.

That's really all there is to it: this basic process is repeated for hundreds of cases over seven difficulty levels spruced up with good animation and a realistic backdrop. But Where in Space is more than just a game, it's a learning tool as well. With a massive space database that incorporates more than 50 digitised photos, pages upon pages of background information on the geography, mythology and science of our solar system, profiles of the early astronomers and a free 128 page field guide to the stars and planets, Where in Space teaches children while they play.

However, on the minus side, Where in Space seems to get a bit repetitive and after a while the case-solving becomes quite a tedious chore. But, of course, the program isn't aimed at people like me, it's aimed at children. Although Where in Space is Carmen Sandiego Deluxe? might not wean your kids off Mario or Sonic, they'll learn a lot about the solar system playing the game and they might even have a fun time doing it.

■ Dean Evans

The witness says that the thief was going to "hi ho hi ho". Far from being an ardent fan of the Seven Dwarves, our target has probably gone to Jupiter's moon Io.



Techspec

The program causes few problems and can also run under Windows. It's not memory hungry in any way whatsoever and gives you the opportunity to make a boot disk. In fact it's troublefree and a joy to work with.

Disk requirements					
High density				✓	
Hard disk only				✓	
Space taken on hard disk				**8Mb**	
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				**16MHz**	
Minimum memory				**640K**	
Free RAM required				**580K**	

Verdict
A good mix of education and gameplay

rating **7**

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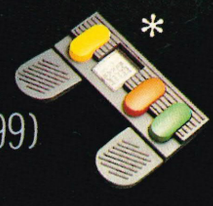

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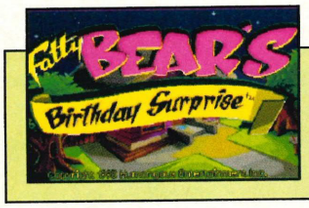


Title	**Fatty Bear's Birthday Surprise**
Publisher	**Electronic Arts**
Contact	**(0753)549442**
Price	**£34.99**



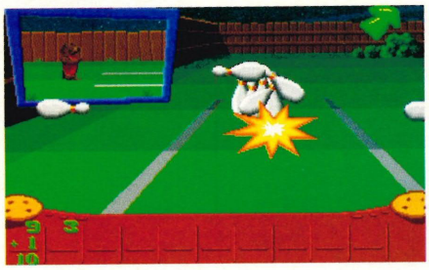
Fatty Bear's Birthday Surprise

If Fatty Bear is anything to go by, then the days when kids' software is of the two-colour 'fun with sums' variety are hopefully well and truly over. And about time, too.

The story behind the game is simple enough. Tomorrow is Kayla's birthday. Tonight, Fatty Bear and friends come to life to make the preparations – balloons, cake, decorations and puppies (straaange party ...). You have to find all the necessary objects in and around the house and get the show on the road, as it were.

Visually, Fatty Bear is an absolute delight. The graphic style is a mix of Tom and Jerry and Day of the Tentacle. It's beautifully drawn, the animations are fluid, humorous, and most importantly, plentiful; almost every object in and around the house can be clicked on and made to perform somehow. Pictures, for example, will re-arrange themselves, books fly round the rooms and hoovers hoover (like they do). There's no point to any of this, it's just fun.

Often objects can be used in conjunction, such as when you click on a picture and a balloon flies across it. If you then click on the Eros statuette opposite and



get the timing right he'll shoot the balloon. Then there are the side attractions and mini games-within-a-game, like the dressing up box, the telescope, the ten-pin bowling alley, the piano, or the musical shower attachment. In short, there's a lot to discover, and enough hidden extras to keep children playing when they've solved the game itself.

And the educational content? £35 may be a fair price to pay to keep the little angels occupied, but it does help if they're learning at the same time. One of the advantages of computers is that — if it's done right — it's quite easy to sugar the educational pill so that the child isn't really aware that he or she is being taught.

This is fairly true of Fatty Bear, which makes no attempt to structure any learning, but as well as the inherent logic puzzles involved, the game manages to include a bit of spelling, painting (well, decorating a cake, anyway), simple maths and music. What is impressive is the thought that has gone into the dialogue; the characters prompt and explain all the way through the game, which means, hopefully, that the kids can be left to get on with it without your help.

To make the most of Fatty Bear, though, you really do need the speech to help a child through the game, and there's just no substitute for a sound card.

As for the age group, I'd suggest that it leans more towards the lower end of the four to seven year old suggested age range.

Oh, and how could I forget – you also get a set of crayons, pencil, puzzle book, pencil sharpener and a 'Humongous Entertainment' frisbee, which is currently causing all sorts of carnage in the office. I have only one question, though; in these politically correct days, is 'Fatty' Bear somewhat derogatory to circumferentially challenged people?

■ John Bennett

I've just found the first thing I need — the green ribbon in Fatty's pocket.

Very clever, Fats, but it'll all end in tears ...



Techspec *12Mb is rather a lot of hard disk space to devote to a kids' educational game. The game benefits greatly from a sound card, and does support a good range of cards. Will run on a 286, just ...*

Disk requirements					
High density	✓				
Hard disk only	✓				
Space taken on hard disk	**12 Mb**				
Graphic modes					
CGA	**x**	**EGA**	**x**	**Tandy**	**✓x**
VGA	**✓**	**SVGA**	**x**		
Soundboards					
Ad Lib	**✓**	**Roland**	**x**	**Sound Blaster**	**✓**
Control					
Joystick	**x**	**Keyboard**	**✓**	**Mouse**	**✓**
Performance					
Optimum speed	**20MHz**				
Minimum memory	**640K**				
Free RAM required	**550K**				

Verdict
A great game for younger children. Buy it and get some peace and quiet

rating **7**

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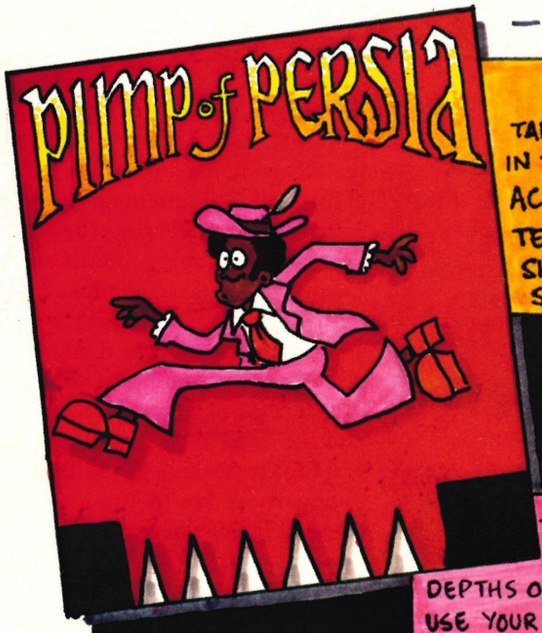

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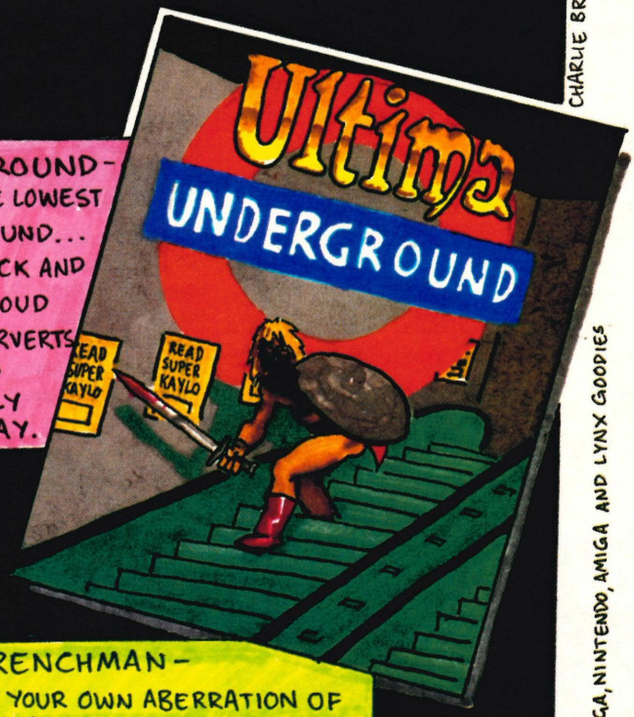

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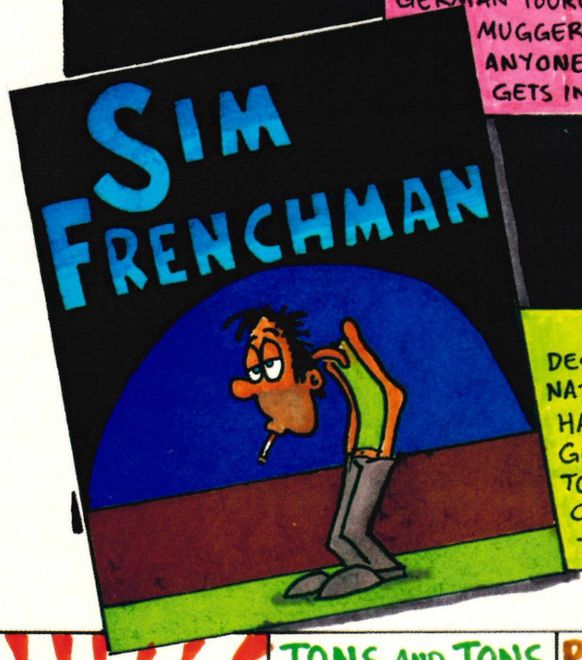

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Title	**Dune CD-ROM**
Publisher	**Virgin Interactive Entertainment**
Contact	**(081) 960 2255**
Price	**£49.99**

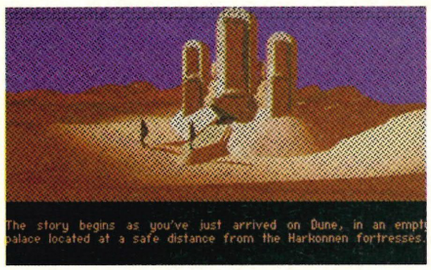
Dune CD-ROM

The original Dune was a fine game with stunning graphics and a superb soundtrack. Its weakness lay in the gameplay which, although absorbing to begin with, failed properly to develop and petered out into a disappointing ending. Despite that, I kept the game on my hard disk for ages after finishing it, just because I was so impressed by the sound and vision. I'm even more impressed now.

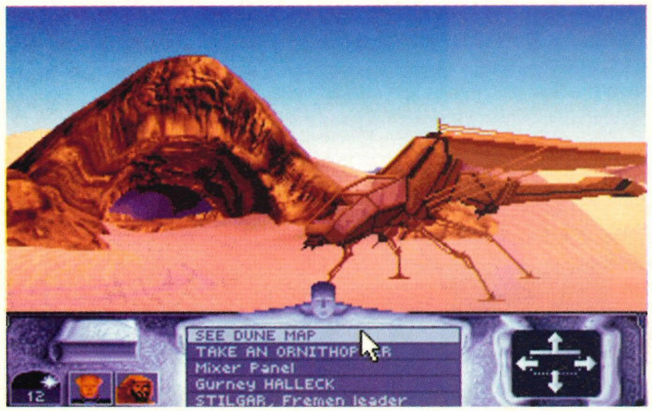
This CD-ROM version is simply breathtaking. The original had a marked cinematic quality, but this is like going from a silent movie to a talkie. So powerful is the effect that playing the hard disk game afterwards felt almost eerie, as if I'd popped out of the room for a moment only to find that everyone had been mysteriously struck dumb on my return. The pure novelty value of speech in games is wearing off, so why does the addition of voices make such a difference here? This is the crucial question, because not much else has changed. It's true that some of the graphics are even better (in the aerial passages particularly so; the new Dune landscape is gorgeously exotic and alien) but the gameplay isn't and that's what ought to count at the end of the day.



Your aim in Dune is to harvest the invaluable spice mélange and to defeat the evil Harkonnens. This is your humble abode, where the game begins.



The superb graphics add to the cinematic quality of Dune on CD.



Where the difference lies is in the production. That cinematic quality is no accident: this is a deliberate attempt to recreate motion picture values in CD format. The lip synchronisation, the vocal/music mixing, the all-round expertise and even the standard of acting, are all excellent, and to look at some other CD titles afterwards is like putting on a home movie after seeing – well, a David Lynch film? And even if, like me, you think the film of Dune was his worst, you've got to admire the technique.

There's about 10 minutes' worth of clips from the movie cut into the game, including a marvellously atmospheric introduction. Indeed, the whole game is drenched in atmosphere, giving you a sharp sense of 'being there'.

It's one thing to animate, quite another to breathe life into a game. Here the characterisations are crisp and subtly delineated, again suggesting that you're taking part in a film as much as just playing a game. A fair indication of the amount of work that's gone in here is that the CD contains a phenomenal 400Mb of material. This attention to detail even extends to the packaging: the lid flips up to reveal the gaping mouth of a sandworm, and inside you'll find a free audio CD, so that you listen to the Jarre-ish soundtrack on its own. Unfortunately, you'll need a fast CD-ROM to get a decent performance, but titles like Dune and the 7th Guest justify getting one. Hats off to Virgin; in the multimedia interactive stakes they're a clear length ahead of the rest of the field.

Even if you played the original I'd urge you to have a look at the CD version. If you haven't played it yet, I envy you.

■ Simon Shaw

Techspec *Dune needs to be run on a minimum of a 386 SX PC. Virgin recommends a 33MHz machine with 256 colour VGA. A CD-ROM drive with a data transfer rate of 150K per second (or better) is essential, as the game will suffer on slower CD-ROM drives. As with most games of this type, Dune is best played using a mouse, and it supports all of the major sound cards.*

Graphic modes

VGA	✓	SVGA	✗

Soundboards

Ad Lib	✓	Roland	✓	Sound Blaster	✓

Control

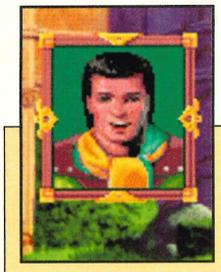
Joystick	✓	Keyboard	✓	Mouse	✓

Performance

Optimum speed	33MHz
Minimum memory	640K
Free RAM required	500K

Verdict CD-ROM complements Dune superbly. Stunning.

rating **8**



Title	**King's Quest VI (CD-ROM version)**
Publisher	**Sierra On Line**
Contact	**(0734) 303322**
Price	**£49.99**

King's Quest VI

Sierra hasn't been slow to release games on CD-ROM. Most of its 'series' games boast at least one release on the format, all for £44.99: Jones in the Fast Lane, Space Quest IV, Stellar 7, Willy Beamish, Castle of Dr Brain and, of course, King's Quest V.

For full details about the plot and background, there's a review in Issue 15. Prince Alexander has received a cry for help from a princess in peril, and on his way to rescue her he is shipwrecked on a remote island. To reach her, he has to do a spot of island-hopping, a lot of puzzle-solving and – well, you can guess the rest.

As with the CD-ROM version of King's Quest V, your first problem will be freeing enough base memory to play the game. Once you've installed the mouse and CD-ROM drivers, you'll be hard pressed to find the necessary 599K. If you play the game under Windows, you should have no problems — and you also get to see a video presentation of the making of King's Quest VI, which I found rather self-indulgent and a bit dull (it's also displayed in a minuscule window).



The in-game graphics are just as impressive as in the disk version, but the speech, music and sound effects enhance the atmosphere of an interactive fairy tale.

An interesting 50Mb animated introduction sets the tone for the action to come. All it lacks is a full-screen display.

The game itself is technically impressive, beginning with a stunning 50Mb introduction and incorporating hours of clear speech, excellent music and sound effects, and high-resolution (640 x 400) close-ups of talking characters. King's Quest VI has a greater number of puzzles than any previous release in the series and offers multiple routes to the ultimate goal.

What lets the whole package down is a combination of a limited icon interface (leading to formulaic puzzle sequences) and an excessively sentimental atmosphere. The sugary content suggests a target audience of younger players, and if there is the slightest streak of cynicism in you, the 'olde worlde' settings, characters and speech could induce nausea.

So why has it been awarded a 7? There are two reasons. The first is that the technology really does create a new level of interaction – some of the speech does grate on repeated hearings, but on the whole the effect is outstanding. The second is that it's a very big, visually stunning game which, if you forgive the twee plot and simplistic interface, will reward you with many hours of enjoyment.



TechSpec

King's Quest VI can be played from either Windows (all features included) or DOS (limited features). A 386 SX minimum, DOS 5.0 and 2Mb of memory (4Mb for Windows) are essential, and I'd recommend a CD-ROM data transfer rate starting around 150K per second. All standard sound cards are supported. The mouse is the most useful control method, but if you choose keys it's essential you consult the Readme file.

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
A solid adventure with some stunning enhancements

rating **7**

CD-ROM reviews

CD-ROM drives are getting cheaper, and more and more games are released on CD, often as 'enhanced' versions of their floppy disk counterparts. Welcome to PC Review's new CD Reviews section, in which we round up all the latest CD-ROM releases and put them through their paces. Ratings are awarded according to the usual criteria, with extra marks for significant enhancements over disk-based versions

Title	**Eric The Unready**
Publisher	**Accolade**
Contact	**(081) 877 0880**
Price	**£34.99**

Eric The Unready

The disk version of this text-and-graphic adventure was reviewed back in Issue 18, and its CD-ROM cousin is virtually the same. Eric The Unready is the most hapless (not to mention the luckiest) knight of the Rhomboid Table. His missions are only ever successful by accident, and his fame is more myth than legend.

The action is mission-based, and begins with a comfortable introductory task that involves rescuing a pig from a privy. This should give you some idea of the tone of the whole adventure. It's an occasionally satirical and usually very funny representation of medieval life, enriched by the quality of the text which accompanies it.

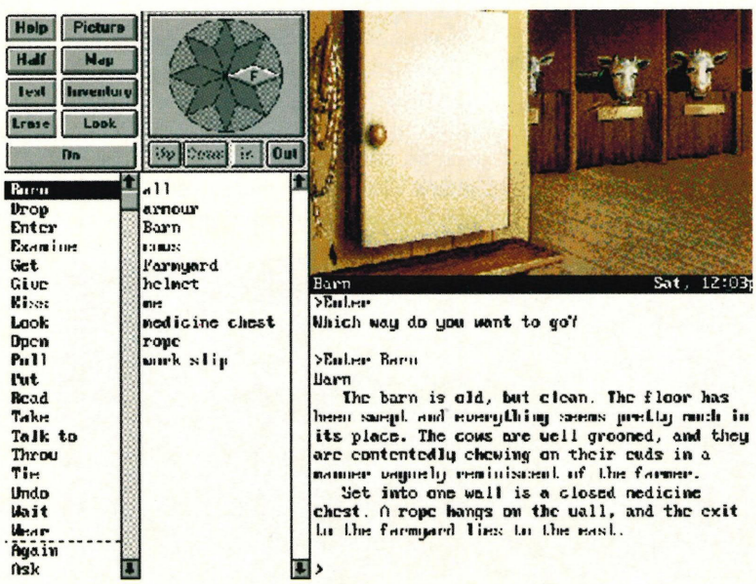
The game system itself appears a little anachronistic, particularly on the 'pioneering' CD format. At its core there's a text-based adventure with logical command structures and text descriptions of locations.

However, outside this core there's a very flexible game interface which makes exploration and puzzle-solving a pleasure and inputting the text unintrusive. There are three possible ways of interacting with the game: clicking on the graphics window or built-in compass, constructing sentences with a couple of verb/noun menus, or typing in the commands using the keyboard.

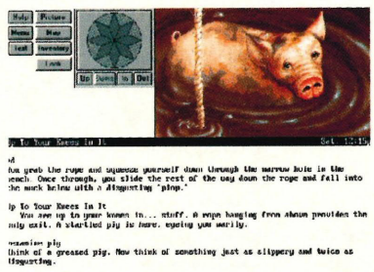
The plot is varied and almost always interesting, using a subtle system of hints to guide you along. You have to be in tune with the game's humour to appreciate some of the puzzles, and if Pythonesque comedy isn't to your liking the experience can get a bit weird. On the whole however, this is about as good as text adventures get.

If you have a copy of Issue 18 to hand you might well notice that this version has been awarded a slightly lower mark than the disk-based alternative, despite being sold at the same price.

The reason is simple. The reams of beautifully-written prose provide an atmosphere which many purely icon-driven graphic adventures lack, but you can't help feeling that your CD-ROM drive would be more comfortable with ground-breaking technology than this nostalgic homage to the glorious past of adventure gaming.



Eric The Unready's technology might leave a lot to be desired, but there is plenty of old-fashioned adventuring for the unfussy.



Mediaeval muck and humour abounds. How are you going to get the pig out of the privy, for a start?

Techspec *A hard disk and 640K RAM (at least 570K free) are essential. EGA is the minimum graphics requirement. If you want the SVGA display you need over 600K RAM. All major sound cards are supported, and a mouse is recommended.*

Graphic modes

VGA ✓ SVGA ✓

Soundboards

Ad Lib ✓ Roland ✓ Sound Blaster ✓

Control

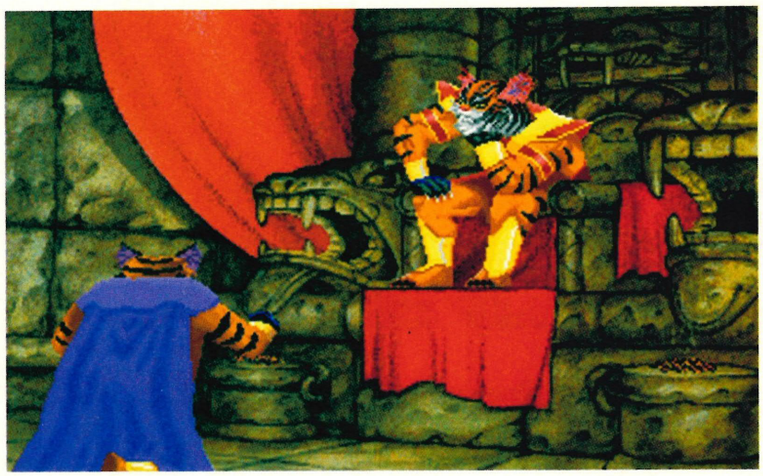
Joystick ✓ Keyboard ✓ Mouse ✓

Performance

Optimum speed	33MHz
Minimum memory	640K
Free RAM required	599K

Verdict
A solid text-input adventure, but no different to the disk version

rating **5**



A combination of novel, role-playing game and adventure, Larry Niven's imaginative Ringworld makes its graphically impressive debut on the PC.

Title	**Ringworld:Revenge of the Patriarch**
Publisher	**Accolade/Tsunami**
Contact	**(081) 877 0880**
Price	**£39.99**

Ringworld: Revenge of the Patriarch

This release is inspired by author Larry Niven's most famous creation, Ringworld. This is a massive artefact loosely based upon the Dyson sphere, and, just like all of Niven's ideas, it combines a solid base in contemporary science with imaginative inventiveness. The game has been generously hailed by Niven himself as 'the sequel to the first two books'.

The plot has been left deliberately vague, so I won't reveal too much of it here. However, the action is part adventure and part interactive novel, combining role-playing and adventure techniques with a large amount of occasionally intrusive narrative. The adventure elements include collecting and using objects to solve puzzles, and the role-playing occurs during discussions with friends and foes. The story-telling is usually a reward for a successful sequence of actions. It involves you sitting around watching the plot unfold for anything up to a quarter of an hour. This can be tiresome, particularly if you have one of the slower CD-ROM drives.

The game system is less annoying. A click of the right mouse-button accesses a bank of six icons: walk, look, touch, talk, inventory and utilities. On the surface this doesn't allow for complex interaction, but the game's strength lies in unravelling the plot using limited tools.

How you respond to Ringworld will depend on how much interaction you want. If you want to be involved in all the details of the plot such as flying spaceships, you'll be disappointed. If you're more interested in watching the consequences of major decisions unfold, the experience will be a pleasure.

The CD-ROM version includes the original game (originally reviewed in Issue 19), three atmospheric music tracks and an interview with Larry Niven. With a few more enhancements to the graphics and sound this could have been a very impressive package indeed. As it stands, it's still well worth a look.

Techspec *A hard disk, a 386 running at 16MHz or better, DOS 5.0, a mouse and VGA display are Ringworld's minimum requirements. You also need 640K RAM, with 590K free. All three major sound cards are supported.*

Graphic modes

VGA ✓ SVGA ✗

Soundboards

Ad Lib ✓ Roland ✓ Sound Blaster ✓

Control

Joystick ✓ Keyboard ✓ Mouse ✓

Performance

Optimum speed	33MHz
Minimum memory	640K
Free RAM required	590K

Verdict Adventure meets interactive novel — may be too passive for some

rating **6**

Title	**Lord of the Rings**
Publisher	**Interplay**
Contact	**(0865) 390029**
Price	**£44.99**

Lord of the Rings

Let's face it, it shouldn't be difficult to sell a fantasy game with Tolkien's name and Lord of the Rings as a title. Lord of the Rings CD-ROM is a version of the disk-based game of the same name (the first of the series), which came out in December 1990. Leaving aside the usual CD-ROM paraphernalia of demos, tutorials, animations and movie scenes, the principal differences to the game are an improved interface and an automapper (both features of the second game). Otherwise, everything is much as it was three years ago.

This, in turn, leaves the game open to the same criticisms that applied three years ago. The turn-based combat is clumsy and could, no should, be a hell of a lot better than it is, or else scrapped completely. The landscape is rather featureless, the deceptive scaling kills the atmosphere, and the movement of the characters through narrow gaps can be irritatingly fiddly.

On the other hand, the magic system is, at least, quite simple and straightforward, and the movie sequences, for the intro and interspersed throughout the game, are marvellously well done and help to tell a beautiful story. The sound track is also first rate, and reminds me of those Sunday afternoon Tudor epics on the TV.

But this is hardly a sufficiently redeeming feature. Lord of the Rings CD-ROM is a dated game, despite the odd tweak here and there, and doesn't really stand up well three years since its disk-based release.

The CD-ROM movie element will no doubt appeal to diehard Tolkien fans, and is sufficiently well done to attract the less committed. But this is CD-ROM as it shouldn't be, attempting to paper over the cracks and milk a bit more life out of a prehistoric game system.



Techspec *Needs at least a 386SX PC, with 550K free base memory and 1Mb of EMS. Run on a slower CD-ROM drive, Lord of the Rings didn't present any real problems, unlike some of the other CDs reviewed here.*

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 Terrific intro sequence, but an outdated game

rating **3**



Lights, cameras, action ... cue hobbits. Anyone see those hobbits?

BUDGET reviews

You don't have to spend over £30 on a PC game. There are plenty of games on the shelves at less than half price, often re-released titles from a year or so ago. While they may not have the heavyweight packaging of brand new games, there are some golden bargains to be found if you know where to look. Which is where this section of PC Review comes in ... Tim Rafferty takes you through the latest releases



Mean 18
Hit Squad
£9.99
(061) 832 6633

It's obvious why golf games are so popular on the PC. Get caught in the office playing a golf sim and you can haughtily claim to be improving your swing. Get caught playing Zool and suddenly you're posted to Sarajevo.

This air of respectability has lead to great looking games such as Links and extremely playable games like PGA Tour. They all follow pretty much the same approach. Point in the right direction, select a club and control a shot by halting the back swing and then 'snapping' the downswing for optimum contact.

All of which is delivered in Mean 18. It may be seven years old but apart from its EGA graphics it has as much gameplay as some of its more illustrious cousins. Indeed, the quick scrolling, automatic club selection and simple keyboard control make for a very quick round.

You can start by practising your swing, before progressing from beginner to expert. Poor shots career realistically across the fairway or bounce from trees to bunkers. When you do manage to find the green, there is an attempt at undulations but it's hard to figure out where the breaks lie.

Periodically you can take a bird's eye view of your position and compare your progress using statistics, such as the longest drive.

One nice touch is the accuracy of placing a drop ball, ie, no nearer to the pin. Links has the most stupid cheat in the world; deliberately play out of bounds and then place your drop ball by the hole!

There are four courses to play: St. Andrews, Augusta, Pebble Beach and Bush Hill. There's even a course designer for creating new challenges.

With a VGA interface this would be a steal. Still, if you've ever wondered whether you'd enjoy a golf sim, Mean 18 is a good place to start.



HardBall
Hit Squad
£12.99
(061) 832 6633

We used to call it rounders back in the good old days. Whatever its name, it's fair to say that baseball hasn't enjoyed much popularity in the UK, so it would take a spectacular computer game to change this sorry state of affairs. Sadly Hardball isn't it.

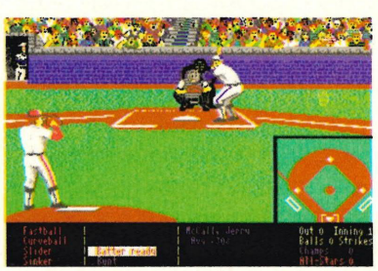
For a start, you're expected to combine the baseball skills of Babe Ruth and Joe diMaggio. But even with the advantage of foreknowledge, the game could still prove a let down.

There's no explanation of the labyrinthine scoring system. I still don't understand the difference between a change-up and a bunt. And as the pitcher, I couldn't even spit out my baccy and use rude gestures to communicate with the catcher.

The first thing to do is pick a team — the point being to create a balanced side, with a spread of capabilities. Then you're off to the ball park. As a pitcher you choose the type of ball to deliver and then let fly. As the hitter, you attempt to predict the path of the ball by altering your swing. Unfortunately, the EGA graphics make it almost impossible to see where the ball is coming from. Thankfully this is complemented by the incredible slowness of the animation, so at least you can miss in plenty of time.

Should you happen to make contact with the ball, you can attempt to steal bases. But instead of 'running' with the mouse or continually pressing an arrow key, you simply choose an option 'steal 2nd' and hope you make it.

The game can be set up for one or two players, if you can find anyone else willing to play, that is. The only



thing to be said in Hardball's favour is the state of the competition. Neither RBI Baseball 2 nor Tony La Russa 2 have that much to offer either. Baseball's low key status this side of the pond rests assured.



Zak McKracken and the Alien Mindbenders
Kixx/XL
£12.99
(021) 625 3366



Interactive storytelling has reached new heights with the likes of Monkey Island 2 and Day of The Tentacle. But the criteria for success hasn't changed much since the launch of early games like Leisure Suit Larry: an entertaining sub-text, humour, barmy characters and an objective which can be attained in more than one way. Great graphics are just the icing on the cake.

Being a few years old, Zak's graphics do not impress. But that's not the point. Right from the start you are sucked into one of the daftest stories ever created. Everyone on the planet is becoming more and more stupid. Aliens in the phone company are the likely suspects and as the intrepid reporter it's your job to find the villains and put an end to their evil plans.

In case you've never played an interactive game, the Zak format has several advantages. Instructions are built using only a few selectable verbs from lower part of the screen and combined with objects found in various parts of the picture.

You spend most of your time finding, walking to and picking up these various objects. You're endowed with incredibly deep pockets as you can and must pick up everything possible. After a tour around your neighbourhood, you set off for the airport and start scouring the planet for clues. Occasional animations tell you how the aliens are progressing.

If you like the format, this is a brilliant game. It is very funny, should last a long time and the puzzles are really challenging. Now where should I shove this stale loaf?



Maniac Mansion
Kixx/XL
£12.99
(021) 625 3366

The same set-up as Zak, just a different storyline and a new set of characters.

This time there's something hideous in the basement down at Maniac Mansion. You have to save cheerleader Sandy who is about to have her brains turned to gloop (should take all of three seconds) by the evil Dr Fred.

Unlike Zak, you immediately take control of three characters. These are selected from an allegedly typical cast of American adolescents; the game shows its age here because Razor is in a punk band and Syd wants to be in A Flock of Seagulls!

Essentially the game involves moving through the house, trying to avoid Dr Fred and friends, including some ravenous tentacle creatures. The jokes are just as good as in Zak McCracken, but perhaps the puzzles are a little more mundane. A good deal of progress relies on simply finding particular keys to open up various doors.

The really weird thing about Maniac Mansion is its recent resurrection within Day of The Tentacle (reviewed in Issue 23) which carries on where the Mansion left off and boasts all the graphics and sound capabilities of a state of the art game. But if you don't have a state of the art wallet, why not start with the budget version?





LHX
Hit Squad
£14.99
(061) 832 6633

When this chopper sim first came out, the detail, accuracy and gameplay were regarded as some of the best ever seen.

Today of course, flight sims such as Strike Commander are heading off to new dizzy graphical heights, with hardware requirements to match. However, while graphics certainly make an enormous difference to any simulation, they are obviously quite pointless if your PC shows them scrolling past at 10 frames per minute.

This bargain release of LHX shouldn't make too many demands on all but the oldest machines and what it lacks in the graphics department it more than makes up for in gameplay.

You start by choosing a theatre of operations, but the ludicrous gung-ho American world view is well out of step with the present real-life geo-political situation. For instance, you could help a defecting Soviet official through East Germany, but you'll first have to imagine a time machine.

When you're ready to start your tour, you'll find about a dozen missions to complete, all at a difficulty level of your choosing. Pick any one from four helicopters, load up with weapons and head for the way point.

If you're used to plane sims, rather than helicopters, you're in for a pleasant surprise. They're completely different and require a new set of skills. Best of all, you don't need a carefully planned approach path to obliterate the enemy. Simply hover in the distance and let rip.



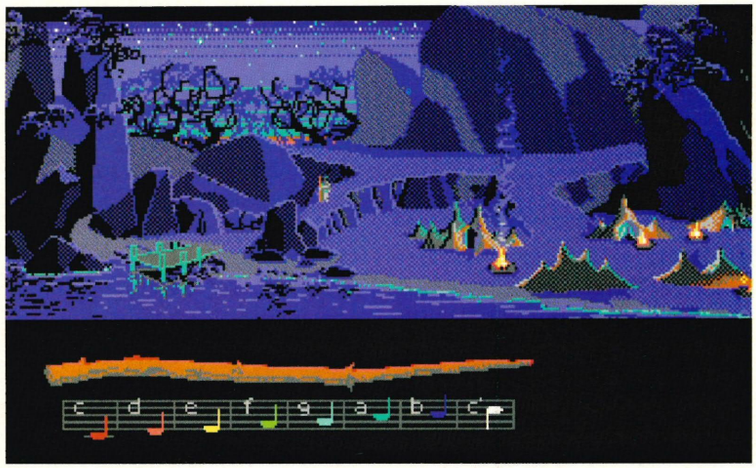
Handling and response are absolutely excellent in this particular sim. The missions are rather challenging without being impossible. The lack of terrain detail does mean a boring flight to your destination, but once the enemy radar has locked on and there's half a dozen missiles heading your way, the last thing you'll have either the time or inclination to worry about is the landscape.

There's not much to the storyline, though. Each mission is really a separate goal in itself, although you can make progress through the ranks by amassing those crucial mission points.

Alternatively, you could splash out on the excellent Gunship 2000 from MicroProse. But if you are after an exciting, explosive game which is easy to play, then LHX Attack Chopper hits the target every time.







Loom
Kixx XL
£14.99
(021) 625 3366

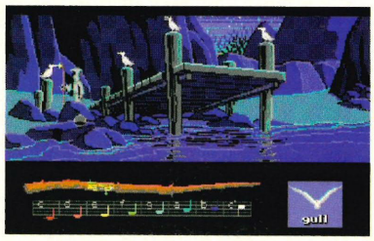
Having created Zak and Maniac, you have to wonder about LucasArts when you see Loom. It's another interactive story with two distinct advantages over its slightly older cousins. The graphics are much better, characters actually walk and the scenery is far more detailed.

The other advantage is much superior mouse support, there's no need whatsoever to use the keyboard to direct the characters.

The problem comes with the storyline. If you want to be the monk-like young Bobbin Threadbare, the weaver in a fantasy world, where the ancient guild members have all been turned into ducks and your magic distaff plays tunes when you touch things, do two things. Buy Loom, then get some therapy.

First you have to struggle to find the magic distaff (it's in the tent on the far left of the village), then walk up to various objects and hear them produce four notes (handily displayed on a scale).

Repeat the notes and if something happens you've discovered a draft (no, not a breeze under the door but a magic spell to use in your fantasy world). The humour is strained and it takes ages for Bobbin to get around the screen.



Loom has quite an impressive cult following; there's a CD-ROM version about in which the enhancements do add hugely to the atmosphere.

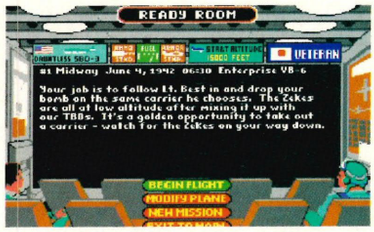
Fans swear that the plot develops into a fascinating story with decent gameplay, so if you like this kind of thing you might well be entertained.



Battlehawks 1942
£14.99
Kixx/XL
(021) 625 3366

Historical flight sims always hype the strategic nature of the game, probably because the planes are so ancient there are no gimmicks of the calibre of laser-guided missiles to play with. If you hanker after reality, this may be no bad thing. (Then again, if you hanker after reality, why are you playing computer games anyway?)

When you are flying a Grunman WildCat in the Battle of Midway, at



least you know that there's an authentic historical precedence.

The other 'advantage' cited by the game's designers is the human scale of World War II air combat; when you're flying an F-14, for example, destroyed targets are supposed to disappear from the radar. In practice, however, the five year old EGA graphics struggle to show the outline of a plane in the first place.

Once you're in the air, whatever aircraft you choose will handle like a brick. The missions are taken from Pacific battles but the objec-



tives are extremely simple. There's also a very annoying protection system which you must pass before every mission, rather than at the start of the game.

Impressive when it was first released, Battlehawks has unfortunately not stood the test of time. Consider virtually any other World War II flight sim, particularly Sierra's Aces of the Pacific at the full price.





BUDGET RATINGS

While the main reviewing criteria — gameplay, value for money and presentation — still apply, budget games are rated on a slightly different basis to full-time product. Here we also consider how well a re-released game has stood the test of time, and how well a title compares to full-price games, while taking the price difference into account.



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

Reviewed

LHX
★★★★

Maniac Mansion
★★★★

Zak McCracken
★★★★

Mean 18
★★★

Loom
★★

Battlehawks 1942
★★

Hardball
★

EXCELLENCE...





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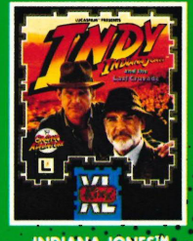
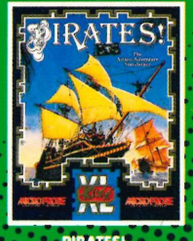


INDIANA JONES™ and the Last Crusade - The Graphic Adventure



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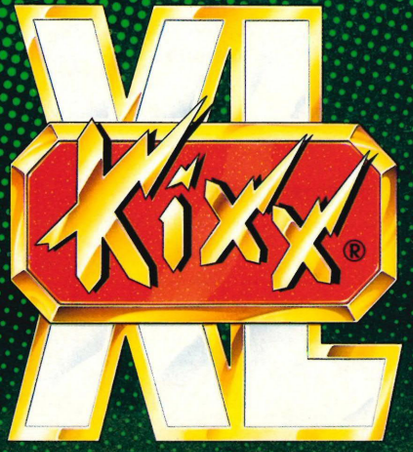

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PC review recommended

PC Review has long run its best buys recommendations on these pages, but from this issue, we're formalising the process, with our new PC Review Recommended awards. Games billed as PC Review Recommended will be few and far between, but they will be, in our opinion, outstanding. A PC Review Recommended award is a guarantee of excellence

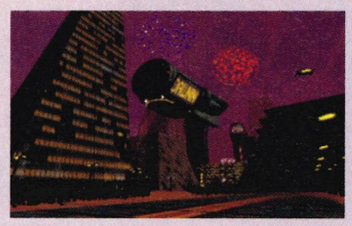
RECOMMENDS RECOMMENDS RECOMMENDS RECOMMENDS



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.



Sensible Soccer
Sensible Software, £34.99
The most playable soccer game to appear on the PC, Sensi has cost PC Review more lost working hours than the common cold. At its best in two player mode, even the most ardent football hater will enjoy it.



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.

PC Review Recommended

Answer only the question relating to the game you wish to win.

❑ Day of the Tentacle

Q: What is the name of the game within the game, which can be found in Day of the Tentacle?

A: .....

❑ Sensible Soccer

Q: Who is sponsoring the Football League Cup this season (1993-94)?

A: .....

❑ Syndicate

Q: What is the overall objective in Syndicate? Is it, a) world domination, b) to rescue the captured princess, or, c) to complete a season in charge without being sacked?

A: .....

❑ Tornado

Q: Is the Tornado IDS a ground attack or air defence aircraft?

A: .....

Name .....

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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 Recommended game to give away to the winners of this competition.

How to enter

Simply answer the question that applies to the game you wish to win, and tick the corresponding game from the list. You may reproduce the form in order to enter for more than game, but please don't send multiple entries for the same game. 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 September 30, 1993, and any entries received after that will not go into the prize draw.

Charts: *the PC Top 10*



1. Fields of Glory	*MicroProse*
2. Day of the Tentacle	*LucasArts/US Gold*
3. Imperial Pursuit	*LucasArts/US Gold*
4. X-Wing	*LucasArts/US Gold*
5. Syndicate	*Bullfrog/Electronic Arts*
6. Sensible Soccer 92/93	*Renegade*
7. Flashback	*Delphine/US Gold*
8. Links: The Belfry	*Access/US Gold*
9. Stronghold	*SSI/US Gold*
10. Tornado	*Digital Integration*

Charts courtesy of Virgin Retail.

Whatever happened to ...?

● The Aces saga still continues... and Aces over Europe is now pencilled in for November (this year). However, hot on the heels of AOE will come Aces over Korea, where you get to fly a number of different planes over, erm, Korea. Whatever next? Aces over the Falklands? Or Aces over Chiswick perhaps? Hey, what about a space sim called Aces over Orion?

● Ever noticed how the movie industry moves in generic trends? Once somebody has an idea it gets copied and emulated all over the place. There were the baby movies, the spate of teen movies, movies featuring torrid sex and even underwater movies.

Well, it looks like the games industry is no different. No, there isn't any torrid sex (at least not yet) but when it comes to underwater games there's definitely a bandwagon to be jumped on. Look out for Sub War 2050, Aces of the Deep (original title from Sierra there) and a submarine game from deepest Hungary. Ooh, I can't wait.

● Captive 2. Whatever happened to that one? Well, it seems that since the brand new, sparkling Commodore Amiga CD-32 came out, development has been shifted sideways and it's the conversion to this machine that taking up all the time. So, if you're desperately waiting for this one, you won't get to see it until March 1994.

● What has happened to originality these days? It seems that more and more companies are simply releasing back-catalogue games, jazzing up their old graphics, changing the box and tagging 'Deluxe' onto the title. A lack of fresh ideas perhaps? Or is it just a licence to print more money while doing less work?

● Dean Evans

REVIEWED THIS MONTH

NHL Hockey	**8**
Simon the Sorcerer	**8**
Clash of Steel	**7**
Fatty Bear's Birthday Surprise	**7**
MiG 29: Deadly Adversary of Falcon 3	**7**
Pinball Dreams	**7**
Stronghold	**7**
Troddlers	**7**
Where in Space is Carmen Sandiego Deluxe?	**7**
Seal Team	**6**
Lands of Lore	**5**
Wing Commander Academy	**5**
Solitaire's Journey	**4**
Take a Break Pinball	**4**
Conquered Kingdoms	**3**

CD-ROM GAMES

Dune	**8**
King's Quest VI	**7**
Ringworld	**6**
Eric the Unready	**5**
Lord of the Rings	**3**

The PC Review elite

In 24 issues and 317 reviews, only 11 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
Tornado
Ultima Underworld

Shareware reviews

Sam Mackenzie has been doing a bit of trainspotting, as well as some travelling in the fourth dimension, in this month's look at the latest shareware on offer

PC Railroad

PC Railroad is a good example of shareware that is being kept available to cater for users with limited hardware. It is a DOS program that you can use from a PC with just two floppy drives.

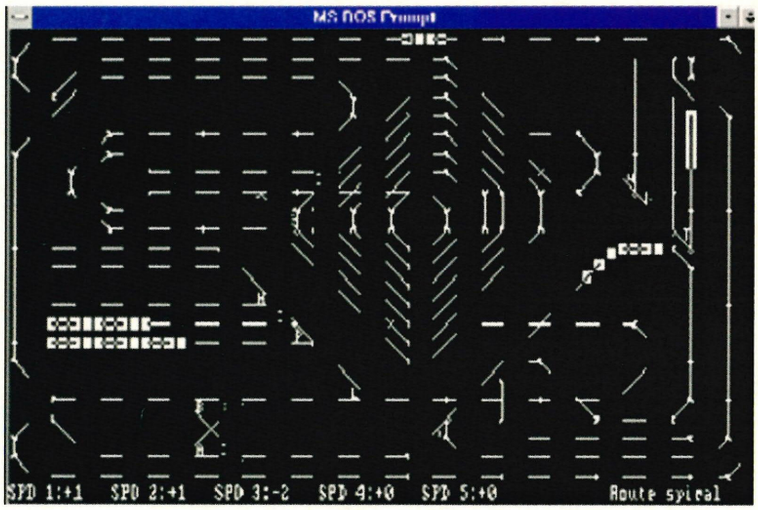
There is no mouse support, just a minimal set of commands issued via the function keys to move 'trains' – the white chains of squares – backwards and forwards.

PC Railroad already has a selection of train layouts — some simple and some more complex, involving multiple trains. One way of using the program is just to control trains moving around these layouts, switching tracks by hitting the letters indicated at each junction.

The program can also be used to create your own tracks, again with just a limited set of commands which permit the drawing of straight lines only. This program will not help model railway enthusiasts because it does not work in terms of sections of track: the lines you draw can be any length and there are no curves.

The instructions state that the cursor keys are for movement but the other keys on the numeric keypad, Home, PgUp, PgDn and End, also have a function, drawing diagonal lines. This is rather necessary as a train cannot turn at a 90 degree bend, oddly enough!

There are three fillers on this disk: Ships, a simple one-player version of Battleships, Golf, three courses where you select which club to play with and how hard to hit, and Football based on American football. None of these are graphics games and would be considered limited anywhere else but in the context of already limited PC hardware!



Supplier:	*Softcell Services Shareware*
Tel:	*(0443) 238630*
Product code:	*888/Y*
Price:	*£3 (3.5" disk), £2.50 (5.25")*
Registration Price:	*n/a*
Registration package:	*n/a*
Minimum Specification:	*any video modes, any PC*
Disk space	*160K*

Product
PC Railroad

shareware tech spec 1993

Reading Theme Clipart

With more and more people illustrating their own documents using DTP programs and Windows word processors, it is hardly surprising that more and more clip art is available as shareware.

I have been looking through a two-disk set containing 130 .PCX format files on the subject of reading. It may sound like a rather dull topic, but the pictures relate mainly to starting to read, so the characters depicted include cheerful looking animals intended to interest and encourage beginners. Other more general images are offered as well to illustrate genres of books such as sci fi or westerns.

I can imagine this collection being used by teachers to brighten up the library corner of a primary classroom or incorporated into stories and other motivational materials.

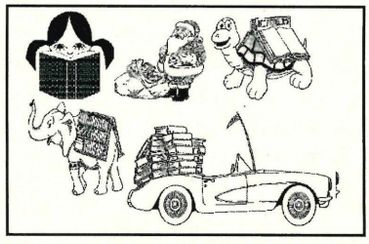
Supplier:	*Springsoft*
Tel:	*(0352) 770049*
Product code:	*n/a*
Price:	*£1.99 per disk*
Registration Price:	*n/a*
Registration package:	*n/a*
Minimum Specification:	*Windows*
Disk space:	*1.5 Mb*

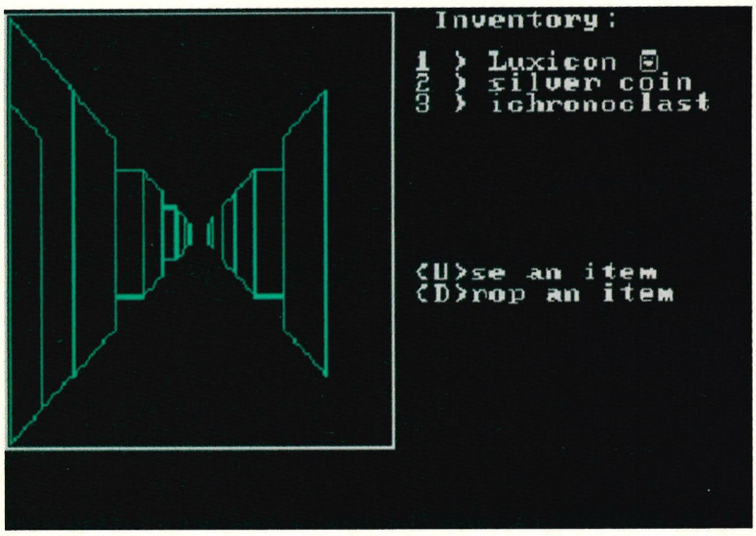
Product
Theme
Clipart

shareware tech spec 1993

With a little imagination, and some editing (easily done using Paintbrush), the cartoon characters could also be used for illustrating a variety of other topics. All these images were black and white PCXs but if you have the facility for using colour this could be added with Paintbrush or similar software.

The collection would be more usable if there was an explanatory list of images. I admit it would be difficult in some cases to capture the essence of the pictures – "car laden with books" doesn't really do justice to the collage below, which shows five pictures in the collection – but once you have seen a picture, a description would help you relocate it and at least you would be able to narrow down a search.





FUE 3D

This is a 3D maze adventure game, but before you imagine something along the lines of Wolfenstein you ought to know that it uses fairly low resolution CGA graphics. The maze is shown on-screen using nothing but lines which form the outlines of wall panels.

It's not particularly realistic or sophisticated, but you do get used to 'reading' what you are seeing after a few moments.

You can move through the maze by pressing the arrow keys. Movement is fast and responsive, but then you wouldn't really expect anything else, given that the graphics are so primitive. There are also doors in the walls that you can walk through to enter what appear to be small cubicles.

As you wander round the maze you will eventually find boxes that you can open to pick up their contents – assuming you want them. You have to go into the doorways to find such items; the maze is mostly clear of objects.

When you encounter other obstacles or machines in your path you can use the objects you have. For example, there is a vending machine in which you can use the coins you have found to buy things.

If you have ever played a traditional text-based adventure game you will recognise all the usual elements here, but it isn't wordy. You can also select options from a list by pressing a single key.

When you play the game for the first time it may come as a surprise just how little is going on, since you can wander down an awful lot of corridors before you find anything.

Another oddity is that you don't know what the objective of the game is – so wandering around is your only option to start with! As time goes on the purpose of the game becomes clearer and you get increasingly involved.

There are also random events that you can put down to luck. In other words, things don't always go the same way twice! You also meet strange creatures who will kill you off if you don't treat them right! Still, death is not the end; the afterlife itself is interesting in that you don't get a completely new start, but inherit instead whatever you did in an earlier life.

FUE 3D is only a good game if you like logical puzzles and are prone to curiosity! If you prefer fast action games then leave it well alone.

Supplier:	*Softcell*
Tel:	*(0443) 238630*
Product code:	*1051*
Price:	*£3 (3.5"), £2.50 (5.25")*
Registration price:	*n/a*
Registration package:	*n/a*
Minimum specification:	*CGA, any PC*
Disk space:	*200K*

Product
FUE 3D

shareware tech spec - 1993 -

Stellar Defense

Supplier:	*Transend*
Tel:	*(0274) 622228*
Product code:	*12130*
Price:	*£5.90 (2 disks)*
Registration price:	*£19.95*
Registration package:	*more levels*
Minimum specification:	*VGA, 286 AT or better, 565K free conventional memory, Sound Blaster, Disney Sound Source, Ditigal-Analog Converter, keyboard, joystick or mouse*
Disk space:	*1.3Mb*

Product
Stellar Defense

shareware tech spec - 1993 -

When I first saw this game on screen my immediate reaction was. "Oh no, not another version of Asteroids"; after all I'd just looked at a really good one, namely Solar Winds (see Issue 23). But my first impression turned out to be false. The basic animation, control and attack method may be that of the classic Asteroids game, but there is still enough extra to keep you playing the game.

Your ship is at the centre of the screen and you can rotate it using the left and right arrow keys. Asteroids drift past and you have to blast them by aiming and pressing the space bar.

Much more dangerous are the enemy ships which appear in later levels – they actually fire back at you! If you get panicked, you can always release a bomb and wipe out the entire area altogether, but bombs are in limited supply.

Rather than just sitting at a fixed point you can fire your thrusters and move around space. A small radar view in the corner of the screen lets you see a wider view. The animation is extremely good and you can quickly learn to dodge and target asteroids.

When you hit an asteroid it fragments in the usual way but if you hit the coloured fragments you can collect power-ups including money. Now what could a starship want with money?

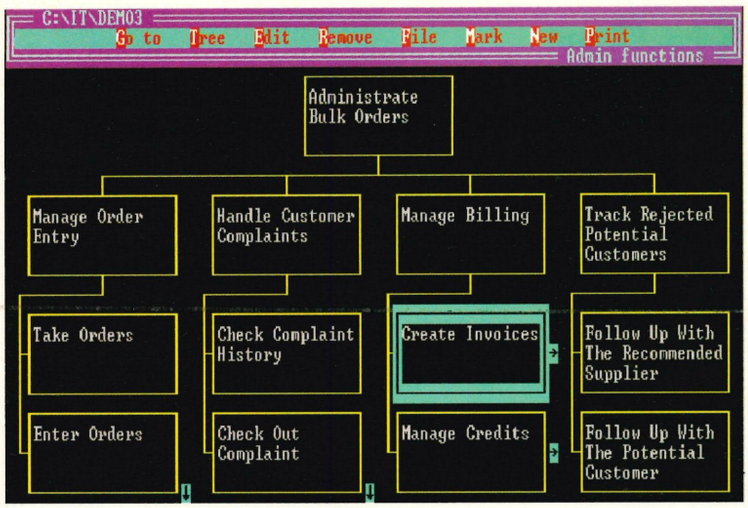
The answer is that as long as you destroy enough asteroids and enemy ships, you eventually warp to a starbase. At the starbase you can browse around a galactic supermarket and purchase such desirable items as extra shields, lives, exotic fire power and bombs.

Putting it all together you have to be able to control your ship and have a good selection of provisions. It is surprising how exciting and satisfying this simple development of a traditional game turns out to be. The sound track and effects are good and add to the excitement.

An unusual range of sound devices is supported, including the Disney Sound Source, but the game is also memory-hungry, requiring at least 565K of RAM available before it will even consider running. Notice that this is a VGA game and thus it needs a reasonably fast machine to get the adrenalin going and make the action frenetic.

If you enjoy action games of the shoot 'em up variety you should certainly consider adding Stellar Defense to your collection.





Idea Tree

The personal computer is supposed to be an aid to thinking but there are very few programs that actually do help with this most essential of tasks! Idea Tree is an example of a program that is specifically intended to help you organise your ideas via a tree diagram – hence its title.

Starting from a root idea, a tree can be built up by adding left and right siblings — ideas which come to you and are directly linked to their predecessors.

Each idea has a short label which forms part of the diagram and which can have a note of up to 1,200 words attached to it. The tree diagram is shown in the usual fashion starting from the top of the page until the third level when the boxes are stacked vertically.

This strange arrangement saves space while more levels can be viewed on screen without needing a very wide display, although it rather destroys the logical progression of the tree.

It works reasonably well once you get used to it but it makes moving through the tree is a bit more difficult, the reason being that you use the arrow keys to move up and down the levels and to left and right siblings. The hitch appears when you reach the third level, because the keys switch around, with left and right now moving you up and down the screen!

You do get used to it eventually, but on the whole I found the entire user interface less than perfect. It's the sort of program that beeps at you every time you hit a wrong key and at first that's all it ever seems to do! In a program designed to help you think and work things out, the interface should really be of a very high and intuitive standard, so that you can concentrate on the main brain work.

If you take the time and trouble to learn Idea Tree's set of commands so that you can create and edit a tree without too much difficulty, then this program could be useful to you. You can print a tree if you have a suitable printer but you can't print notes unless you register.

However, the biggest restriction is that the program forces you to organise your ideas into a hierarchy which may not suit what you're trying to organise, and sometimes relationships between ideas aren't strictly hierarchical, anyway. What this means is that Idea Tree will only help when the subject matter is appropriate.

This program really indicates the need for something better to be written; as it stands, there's little Idea Tree will that can't be done by jotting notes down in a text editor, and cutting and pasting!

Supplier:	*Transend*
Tel:	*(0274) 622228*
Product code:	*1400*
Price:	*£3*
Registration Price:	*$29.95*
Registration package: *exporting of notes*	*Printing/*
Minimum Specification: *Keyboard, any PC*	*CGA or better,*
Xxxxxxx xxxx xxxxxx:	*500K*

Product Idea Tree

shareware tech spec 1993

Hypergeo

Supplier:	*PDSL*
Tel:	*(0892) 663298*
Product code:	*3466*
Price:	*£4.65*
Registration Price:	*$25*
Registration package: *and updates*	*3D glasses*
Minimum Specification:	*Hercules,*
Disk Space:	*250K*

Product Hypergeo

shareware tech spec 1993

Ever wanted to travel in the fourth dimension? This is exactly what Hypergeo is designed for. OK, it isn't quite that good, but with it, you can look at almost any 4D object you can think of as it would appear in 3D. You can use the keyboard or a mouse to rotate the object in three or four dimensional space and so explore its shape.

There are two ways of viewing a 4D object in 3D. You can either opt to have the object projected down into 3D so that you can see all of its points and connecting lines. This gives you some idea of its overall shape, how many corners it has, etc.

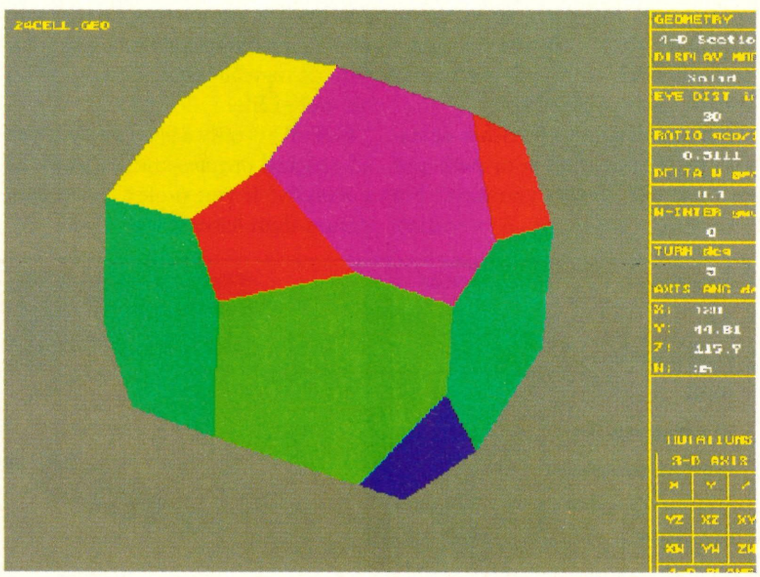
Alternatively you can opt to view the shape as an intersection with a 3D plane. In this case you don't see the whole object, just the part that 'pokes through' into 3D space. It gives you a feel for what a real 4D object would look like if encountered in 3D space.

By rotating the object it is interesting to see what strange 3D shapes are produced. Don't be fooled into thinking that a portion of a 4D cube which pokes though into 3D space always looks like a cube – it doesn't!

You can run Hypergeo on a very minimal machine but be warned – some of the objects take a lot of calculation. If you want to rotate them in real time to produce a smooth animated effect you really need a machine with a numeric coprocessor. The speed of rendering also varies according to the type of 3D representation you choose. You can opt for a wire frame with or without hidden line removal and a solid shaded view. You can also select perspective or orthographic projection. More interestingly you can display the wire frame in as a two colour stereograph. As long as you have a pair of red/green glasses you can see a true 3D image floating in front of the screen — it's really impressive! (You get a suitable pair of glasses when you register.)

A set of regular 4D and 3D shape definition files are included and these are quite enough to get you started. My guess is that most users will not go on to the next stage of defining their own shape files, but if you do, the documentation is excellent and you should find it easy, if a little tedious.

Hypergeo is the sort of program that most users will play with for a little while and then give up on. You are only likely to use it over a long period of time if you are interested in the geometry of 4D space and understand some of the theory. Still it's fun to play with.



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QED

Space Quest V
The Next Mutation

Continuing where last month's solution left off, PC Review guides you towards the cleanest and sweetest-smelling cosmic finale in adventuring

Last month we left you in the bar, enjoying a quiet drink with your crew at the Starcon Academy. Quirk now appears and after trading insults will challenge you to play Battle Cruiser. You don't have to win at this, but if you want a maximum score you must not only win, but win without losing any of your own ships.

There is a cheat here: since the ship positions seem to be fixed when the game starts, save your game and then try to find out the positions of Quirk's ships. After a number of games and with the positions noted, simply restore the game and destroy his ships accurately one by one.

After this, whether you win or lose, Cliffy gets beaten up in a bar brawl and put behind bars. To create a diversion, put the space monkeys in your drink, leave the room to the lower right and wait until the security guards leave. Now look at all the cells until you find the one holding Cliffy and then turn off the force field. Use Spike on the appropriate cell, free Cliffy, return to the main area and teleport back to the ship.

Next you will be directed to Klorox II. After establishing orbit around the planet, go down to the shuttle area and pick up the oxygen mask and the oxygen tank from the cupboards.

Beam down to Klorox II, enter the largest building and save the game. As soon as you examine the computer terminal in the ruins, you'll find yourself being attacked by a horrible mutant. Don't try to fight him, simply dodge his spit five times and Droole will heroically appear and shoot him. This might take you a couple of tries, hence the importance of saving the game.



You must beat Quirk at Battlecruisers.

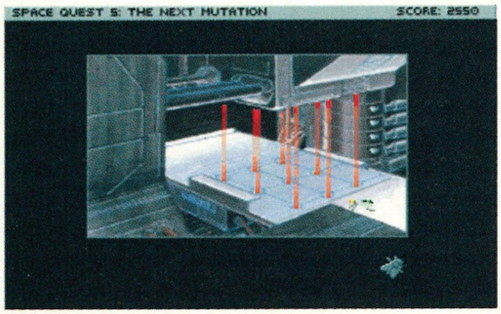
When the mutant is dead, pick up the paper he dropped and examine it. Access the computer terminal using the code on the paper and study all the records carefully. Now, leave the building and return to the ledge exit on the right. Look carefully and you'll find something in the cliff. Move left and leave to the top left. You'll find a canister here. Get the nav number from it.

Beam back up to the ship and listen to the message from the Goliath. Head for the Thrakus system at great speed and enter orbit using the standard procedure. Talk to all the crew and get WD-40 to scan the planet. Go down to the transporter room, put on the oxygen mask and oxygen tank and beam down to the planet. On arrival, walk to the west and through the opening to the crashed pod. Look inside, take the coat and turn off the beacon. Walk to the west again and you'll get attacked by Beatrice. Call Cliffy and throw the coat to Beatrice and grab the handy vine.

When you get back on to the Eureka, ask WD-40 for advice. Open the cryo-chamber and put Beatrice in it. Look at her and then the cryo control panel and freeze Beatrice for 10 seconds.



Heroic but stupid is our Cliffy. Rescue him in the shuttle pod.



Note where the beams fall, you'll need the knowledge later.

Meanwhile you have a ship to run, so return to the bridge. Tell Droole to raise the shields and when you're attacked take evasive manoeuvres and move into the asteroid field. Cliffy will then bravely go spacewalking to conduct repairs. But he gets into trouble and you have to save him.

Go down to the shuttle bay and use the control panel to turn the EVA pod around. Get in the pod and save the game. Rescuing Cliffy may take a number of attempts as the pod only has limited oxygen and fuel supplies. If you reach him with a reasonable amount of fuel and air remaining, save the game again and concentrate on returning to the ship. When you finally get back to the ship, go straight to the bridge.

Using the nav number you got from the canister on Klorox II, set a course for the space station and enter standard orbit. Beam down and you'll find that you've been struck by the old Jeff Goldblum syndrome – you are now a fly. To activate the communicator, move yourself close to it and hover near the place where the grass meets the water. A frog will jump out at you, miss, and land on the communicator instead. Now you can talk to Flo but don't expect any sympathy.

Next, head to the west and go through the tiny card slot. Examine the light beams carefully and notice how they affect the lock tumblers. Go into the room and look at the computer screen. Read all the files, in particular the project log and the accounting records. Leave the room and land on Cliffy who has just beamed down. He'll tell you how you may be reassembled. Move to the east and you should come across a dumpster.

When you're back to your old self, go to the card slot and carefully use the hole punch on the business card, punching holes where the lock beams earlier had no effect. Once inside, get the nitrogen tanks from the cabinet at the foot of the stairs. Exit the lab, talk to Cliffy and beam back to the ship. On board, look at the cryo-chamber, defrost Beatrice in the same time it took to freeze her and use the transporter to cure her. Head for the bridge and ask WD-40 to scan for ships: you'll find that the Goliath has been detected in the Gingivitis area. Set off for a rendezvous with it: as soon as it appears, cloak the ship using the first button on your comm panel. When you're close enough, look at the ship and pick a good spot to land – the engineering section near the engines is your best bet.

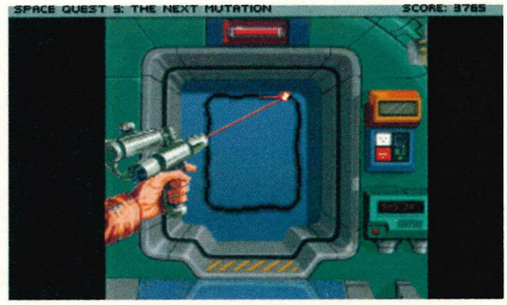
Go down to the shuttle bay and board the EVA pod. Use the pod as before and head towards the Goliath. The target is just to the right of the engines and when you connect with the hull, open the access hatch and use the laser to cut open a panel. After boarding the Goliath, dodge the security guard, replace the engine distributor cap and leave.

Lift up the floor panel in the corridor and enter the access ways. You start on level eight and must travel upwards. Go east, then north. In the elevator shaft, climb as far as you can and enter the topmost door. This takes you to level six. Go south, west, north, north, east and north to enter another shaft. Again climb to the top and enter the top door. This takes you to level four. Go south, west, west, north, north, west, west and north again. Climb up and enter a door. The switch to disable the Goliath's shields is on level two, so enter the door *below* the top door. On level two, go south, south, west, south, east and south to reach the switch. Click on the button and pull the switch to deactivate the shields.

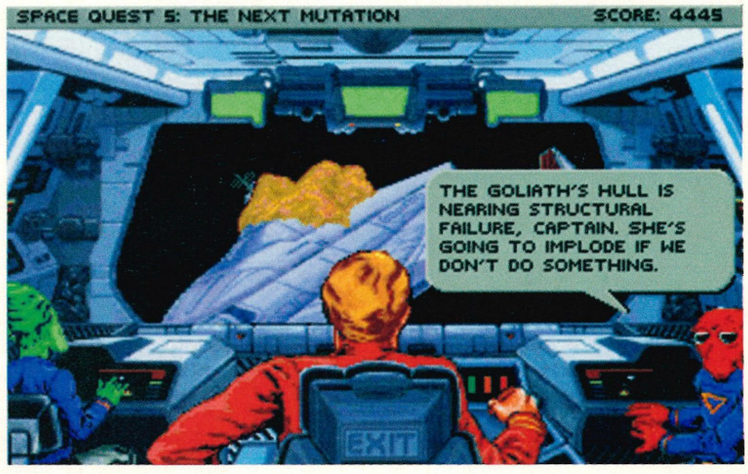
You will now be grabbed by a guard and there follows a short animated sequence. When everyone is in the transporter room, talk to Cliffy and go back to the Eureka. On the bridge, get Droole to fire at the blob and then activate the RRS. It's a good idea to save the game here.

Tell Flo to instruct the crew to abandon ship, return to your seat and set the self destruct sequence. Go to the transporter room and energise the transporter. It won't work, so go to the main corridor and replace the middle fuse in the fuse box. Dodge the blob by using your hand on the door and return to the transporter room. When Beatrice has beamed off, get Spike and stand on the transporter yourself. Last, but certainly not least, use the transporter.

And that's it. You've completed Space Quest V, so just sit back, relax and watch the end sequence. You've earned it!



Having reached the Goliath's hull, open the hatch and make a hole.



Fire at the blob before abandoning ship.

QED

Can't thwart purple Tentacle, huh? Why not delve for clues in PC Review's definitive objects guide?

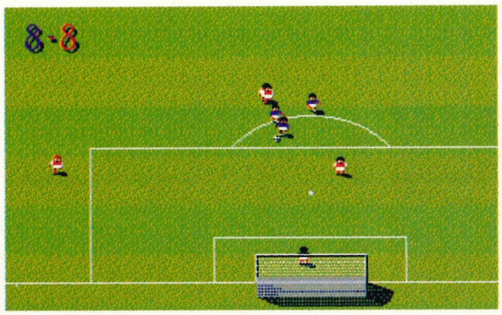


Day of the Tentacle

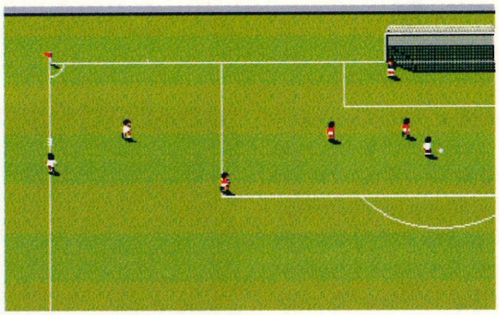
OBJECT	LOCATION	USE	OBJECT	LOCATION	USE
Textbook	Bernard	H: read book to horse	Crank	roof flagpole	L: lower tentacle flag
Dime	phone/lobby floor	B: put in Fickle Fingers	Can opener	Hoagie	L: use with time capsule
Bankbook	office desk	B: order diamond	Letter	mailbox	B: give to Dwayne
Booboo-b-gone	office drawer	L: paint fence near cat	Hammer	Red's workshop	H: swap hammer
Contract	the office safe	H: put in the mailbox	Lab coat	Red's workshop	H: material for kite
Vacuum flyer	lobby	H: in suggestion box	Blanket	hall	H: use with chimney
Help wanted sign	lobby window	H: give to Red Edison	Gold pen	hall	H: give to Red
Plastic barf	lobby	L: Harold in contest	Oil	kitchen	H: give to Red
Crowbar	parking lot	B: gum/candy machine	Spaghetti	kitchen	L: contest: use on Ted
Box-o-laughs	hall (in clown)	L: contest: use on Ted	Bucket	washroom	H: wash carriage
Cigar lighter	hall (salesman)	H: Washington's cigar	Soap	maid's cart	H: use with water
Exploding cigar	hall (salesman)	H: give to Washington	Brush	washroom	H: wash carriage
Chatter teeth	hall (chase to grate)	H: give to Washington	Wine	Franklin's room	H: put in time capsule
Decaf coffee	kitchen	B: put Dr Fred to sleep	Horse dentures	in hallway	L: contest: use on Ted
Regular coffee	kitchen	B: wake Dr Fred	Toy mouse	attic (swap mattress)	L: lure cat
Fork	kitchen	L: with spaghetti hair	Red paint	attic	H: paint tree/paint Ted
Funnel	laundry room	B: with Fred and coffee	Scalpel	Laverne	B: puncture Oozo
Car keys	honeymoon door	B: give to car thief	Small sweater	dryer	L: use with cold hamster
Sweater	honeymoon room	B: put in dryer	Human tag	registration desk	L: Ted in human show
Quarters	candy machine	B: in dryer coin slot	Cat	outside in yard	L: scare prisoners
Disappearing ink	Dwayne's room	B: on stamp album	Frozen hamster	ice machine	L: defrost in microwave
Flag gun	Dwayne's room	B: swap for gun lighter	Vinegar	time capsule	H: give to Red
Video tape	Tentacle's room	B: use with video	Roller skates	70's shrine	L: use on Ted/push
Stamp album	Weird Ed's room	B: give back to Ed	Extension cord	70's shrine	L: use with Chron-o-john
Stamp	stamp album	H: use to post contract	Dinner card	show prize	L: give to Kennel guard
Hamster	Weird Ed's room	B: put in ice machine	Tentacle chart	Dr. Tentacle's room	H: use with Betsy
Rope	attic	B: swap Ted and Dr Fred	Flag	roof	L: tentacle disguise

Sensible Soccer

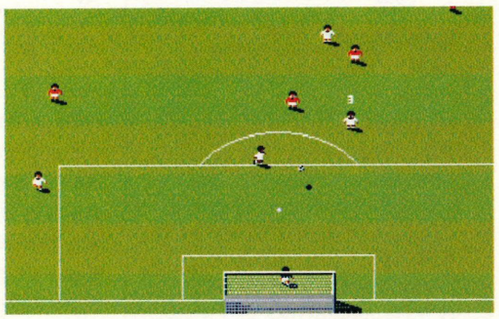
Sensible Soccer is without doubt the best football game around on the PC and this month the veteran PC Review XI get interviewed by Jim Rosenthal about their goalscoring tactics



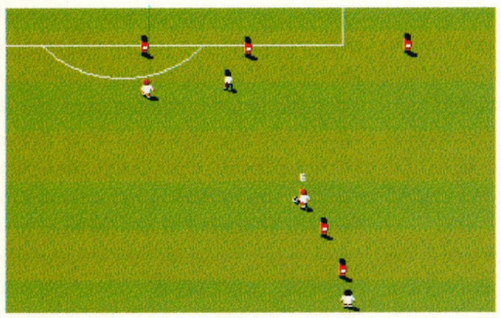
Named after The One magazine's prolific but formula goalscorer in our office, the Byron is the Sensi set piece. Quite simply you pass the ball around a couple of yards outside the box until the defence commits to the tackle. Lay the ball through to a player fractionally inside the post, and shoot dead straight but with a little lift. The ball will rocket past the keeper. Time after time.



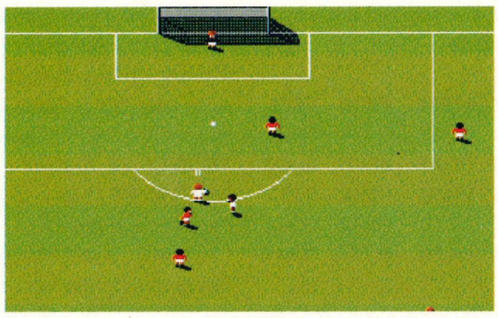
There isn't a football game known to man that doesn't allow in more goals from a diagonal shot than anywhere else. The trick in Sensi is to keep the shot straight and low. If you're on the right line the diagonal shot doesn't need any aftertouch and will just spin into the corner of the net. Shoot from just outside the box for this move, and make sure you follow up if there's a rebound.



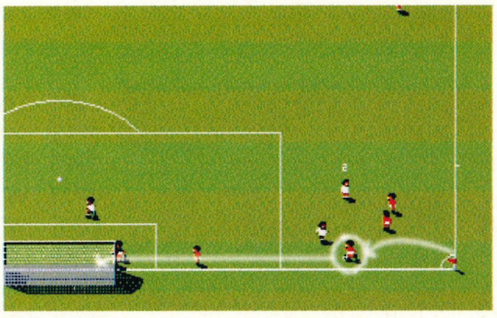
In Sensi the woodwork can sometimes be your best friend. Simply come in either on the diagonal line or straight at the post (as if lining up for a Byron) and shoot the ball. With perfect positioning and a little luck, the ball will rattle off the post and succeed in drawing the keeper into a desperate, lunging dive. The keeper will now be out of position so just tap the ball in the net. Goal!



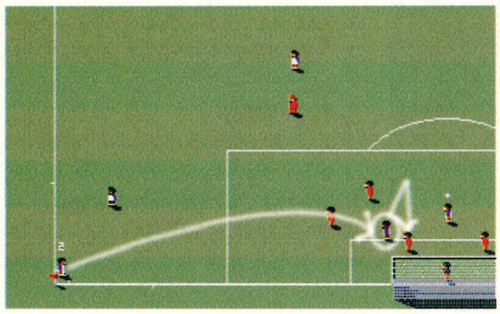
There's no better way to rub your opponent's nose in the dirt than hitting a huge 40 yard diagonal goal from the wing. From just inside your opponent's half, wide on the wing, run diagonally and hit a huge shot, first pulling back for height and towards the direction of the goal for bend.



Similar to the Byron in many ways, the curl is another close-in shot. Instead of approaching the post or on the diagonal, simply charge down field towards the penalty spot, shoot from just outside the box and curl it either left or right. The ball will dutifully thunder into the top corner of the net.



If you get a throw in right next to the corner flag, a straight long throw will give your player the chance to take the ball, walk along the byline and just when you get to the near post, turn rapidly and just walk the ball into the net. The keeper will sit like a lemon in the middle of the goal.



The easiest header to make from the corner is this one. Chip into the near post, pull the attacker back, then move him forward to dive and head the ball into the top corner. Some clever people claim they can curl the ball into the goal from the corner spot. We can't. We don't believe they can, either.

General tips

- From the centre spot playing against a 5-3-2 formation, with a 3-5-2 formation yourself, tap the ball wide to the right. Turn 360 degrees anti-clockwise to beat the player coming into the tackle, then fire the ball with maximum lift and left hand aftertouch and it will drop at the feet of your striker in a perfect position ... The defence has little chance against this move unless they get in a good header. Especially if you kick off while they aren't looking.

- The Mike Frey shimmy. Named after our illustrious publisher, this has been known to beat three, four players even at a time, but has rarely been known to produce a goal. Involves frantically waggling the joystick to dribble past players. Enough said?

- Play Benfica, they have four star players. Make sure your opponent plays Fram Rekjavik as they only have two.

- Take advantage of the pitch: pepper the goal from long range on an icy pitch, for example.

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.



Space Hulk

STAR TIP

Deep space is no place for the foolhardy and if Space Hulk from EA proves anything it's that no matter how big your gun is, it's useless against a million bloodthirsty alien genestealers. In short, Space Hulk gets very difficult very quickly and if you find your best-laid plans are failing, Andrew Johnson from Angus in Scotland has suited up, blessed his weapons and offers these pearls of imperial wisdom for the beleaguered marine commanders amongst you.

Your squad's efficiency will increase with experience, so if you're finding the missions tough you can hack the code to boost your squad's experience points – remember to back up the file Squadinf.dat in the dat_dir directory first! The experience points can be from 0 to 255 (0-FF) but only seven will show. Change the number in the address that corresponds to the terminator you want to improve.

First squad	0002
Second squad	0008
Third squad	000E
Fourth squad	0014
Fifth squad	001A

Here are the all-important addresses for the terminators.

CAPT	TER2	TER3	TER4	TER5
001E	0020	0022	0024	0026
0028	002A	002C	002E	0030
0032	0034	0036	0038	003A
003C	003E	0040	0042	0044
0046	0048	004A	004C	004E

Also if you happen to be stuck on a certain mission and want to make progress you can change your current level – of which there are 21 (0-14 in hex) – by altering hex address 0054 to the level you require.

Sometimes the early missions are that much easier if you are able to choose your own weapons. As this facility is not available at the start, changing the game code can alter the weapons you start off with.

For example, the weapons each terminator has are determined by the code below. The address to change is in the next table.

PG 8–	CF 2–	PS 4–
AC –4	FL –1	SB –2
TH 10	LC 08	

For example, PS and SB is 42.

In addition, if you replace the 0 in the code for TH (10) with the code for a long range weapon, ie, 14 (Assault Cannon and Thunder Hammer) – then you can have both. The same can be done with LC but the computer will not use the long range weapon automatically in overwatch mode.

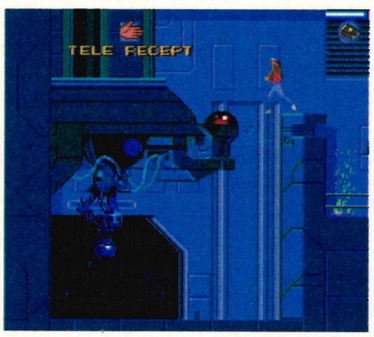
Also the following text files (again in the dat_dir directory) provide interesting reading; m_brf.dat, story_1.dat, story_2.dat, hulkname.dat.



Prince of Persia 2

From way down under in Oz, Leo Steiner has a nifty hex cheat for Broderbund's most energetic prince. Firstly, start a new game, and as soon as the prince jumps out of the window at the beginning, save your game. Now using a hex editor (Xtree Gold, PCTools, etc) edit the file Prince.sav and replace 4B 00 CF 04 01 03 FF with 4B 00 CF 04 01 75 FF. You will now have 75 lives/strength points.

To change levels, change the 01 in the above code to the level of your choice, eg, to go to level nine change 01 to 09.



Flashback

Stuck on an alien planet? Keep getting killed by those Terminator 2 style blobs that crawl on ceilings? Well, now you need worry no longer because the trigger-happy Eamonn Flood from Dublin proudly presents for your gaming pleasure the complete, yes the complete, set of level codes for Delphine's superbly animated platform puzzler.

LEVEL	EASY	NORMAL	EXPERT
1	JAGUAR	BANTHA	TOHOLD
2	COMBEL	SHIVA	PICOLO
3	ANTIC	KASYYK	FUGU
4	NOLAN	SARLAC	CAPSUL
5	ARTHUR	MAENOC	ZZZAP
6	SHIRYU	SULUST	MANIAC
7	RENDER	NEPTUN	NO WAY

Type BELUGA for the end sequence.



Formula 1 Grand Prix

Driving a F1 racing car is a high-tech business. Where Damon Hill has a whole host of engineers to set up his car for optimum performance, you've been left with a manual and you've got to do it yourself. But now veteran driver and mechanic Gary Bartram sidesteps Murray Walker and wanders into the pit-lane to share the benefit of his automotive experience. The following car set-ups for Formula 1 Grand Prix are labelled fast, medium and street for their corresponding tracks, so before you start, take a little time before you start to sort out which type of track is which.

Fast set-up
Front wing: 25; rear wing 20; brake balance 02; tyre compound (dry race start) D. The gear ratios are as follows:
1st – 25.64, 2nd – 33.64, 3rd – 41.64, 4th – 49.64, 5th – 58.64, 6th – 67.64.

Medium set-up
Front wing: 40; rear wing 40; brake balance 00; tyre compound (dry race start) D. The gear ratios are as follows:
1st 24.64, 2nd – 32.64, 3rd – 39.64, 4th – 46.64, 5th – 54.64, 6th – 63.64.

Street set-up
Front wing: 60; rear wing 55; brake balance 02; tyre compound (dry race start) D. The gear ratios are as follows:
1st 23.64, 2nd – 29.64, 3rd – 36.64, 4th 43.64, 5th – 50.64, 6th – 57.64.

CD-ROM DRIVES

CD-ROM EXPLAINED

WHAT IS CD-ROM?
CD-ROM is a storage technology for large amounts of information, which can be accessed from a PC via a CD-ROM drive. CD-ROM technology uses Compact Discs (CDs) as its information storage medium. These disks can store high resolution colour images, millions of words, full audio sound tracks and much, much more.

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There are numerous advantages in having a CD-ROM drive. CDs can hold the equivalent of up to 600 floppy disks and software developers can design more sophisticated and complex programs to take advantage of this large storage capacity. Cheap production costs, compact design and the practically indestructible nature of CDs also makes them ideal for software storage.

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Kodak have recently introduced a new technology called Kodak PhotoCD. This allows normal photographs from a camera to be stored on CD discs, which can then be viewed on your PC. Photographs can be enhanced or manipulated using KODAK ACCESS or GRAPHICS WORKS software, to give you the results you need for your business presentations or the "family album".

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Some applications require that the information written to a CD-ROM is updated on more than one occasion. This involves several or 'multi' sessions of writing to the disc. Both the Mitsumi and Panasonic CD-ROM drives are multi-session compatible, which means that they can read all of the information which has been written to a CD in this way. Inferior, single-session drives can only read what was originally written on the first session, not the information added on subsequent sessions. Applications such as Kodak's PhotoCD use multi-session technology to update CDs with additional photographs. Other users of multi-session technology will include hospitals, updating medical records, plus many other users whose reference information is constantly being updated.

MULTIMEDIA (MPC) COMPATIBLE
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Philips 462M	£349	350	175	✓	✓	32k	-	✓
Toshiba 3401B	£499	200	375	✓	✓	64k	✓	✓
Nec Multispin 84	£409	280	300	✓	✓	256k	✓	✓
Panasonic CR562B	£334	320	300	✓	✓	64k	✓	✓
Philips 215	£329	360	175	✓	✓	64k	✓	✓
Sony CDU 31A	£395	550	150	✓	✓	64k	-	✓

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Import From Other Applications	–	✓
Special Visual Effects: Blur, Emboss Etc	–	✓
Text Handling	–	✓
Bitmap Drawing Tools	–	✓
Vector Drawing Tools	–	✓
Logo Creation	–	✓
Painting Tools - Brush etc.	–	✓
Also Supplied:		
Presentation Package Included	–	✓
Wipe And Fade Between Images	–	✓
Windows Draw Package Included	–	✓
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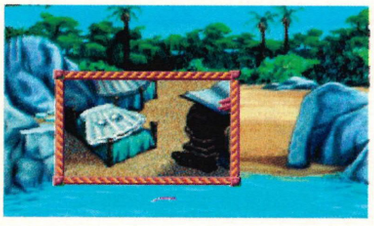
Martian Dreams

In Issue 22, Charles Jordan was stuck with empty canals and a whole lot of ice that just refused to melt. This month Kris Clark from Liverpool leaps boldly to the rescue. Next to the tower there is a room with a control panel in it. Look at your pocket watch and then use the panel. Enter the time in 24 hour format at the coordinates prompt. This will give you a graphical scene and melt the ice.

Eye of the Beholder II

In the same issue, Charles Jordan was also stuck in the silver tower in Eye of the Beholder II. The answer comes from explorer extraordinaire Kevin Brown from Carlisle, who says: the mouth that says the riddle "Items born of greed..." requires five rocks. You can get the rocks from a triangular niche which turns a small item into a rock. To get there from the mouth, head north and turn right. Follow the corridor, turn right at a T-junction, continue forward at the end. Sidestep once to the left (don't turn), walk on and take the first right. Carry on until you see an alcove to your right: then stop. Turn to face south, walk through the wall – which is an illusion – and you will find yourself in a small room with the triangular niche.

A final warning: only use items in the niche that you don't need, such as daggers, arrows, etc.



Kings Quest VI

Padraic Daly of County Cork in Ireland is hopelessly stuck on the Isle of Wonder in this 'nice' Sierra adventure. How do you get the hole in the wall and how do you get past the archer on the Isle of the Beast he asks?

QED replies: when you try to pick up the hole-in-the-wall it hides behind the wall flowers and you can't get it. Simply playing the flute (swapped in the pawn shop for the Nightingale) allows you to get the hole.

As for the archer, you can get through the stone archway when you use the shield. The shield can be found when you climb the cliffs on the Isle of the Sacred Mountain.



Wizardry VII

Two months back Peter Doherty helped out with the cries for help in this huge Sir Tech RPG. This month he gets a mention once again (is there no end to this man's knowledge?) for a small cheat that might help the less patient adventurers in the land.

In the Rattkin Ruins find Barlone. When you meet him he will offer you a deal and it's a good idea to accept it. When you return with the information he requires, he tells you some news. What the cluebook doesn't mention is that if you return to see him a third time he offers you a treasure room for 40,000 gold coins. Take it and head for the room behind him. The door is locked and cannot be forced but there is a secret switch hidden behind the lamp. Once inside there are four chests in the room and the items you don't want can be sold to recoup some of your cash outlay. Mr Doherty says that he raised 30,000 gold coins at Arms of Argus in New City and the items he kept were very useful later in the game.

The Wizardry VII crusaders amongst you may also be interested to know that QED has since received a full solution to the game. As I haven't played the game I don't know how thorough the tips are. For further information about this and a whole host of other solutions, take a peek at the newly installed QED Guides feature (right).

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 your'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

Rex Nebular

Can somebody tell me what else I need after building the time bomb in Rex Nebular?

Andrew Tarbatt
Manchester

Prince of Persia

I am on level 12, with tonnes of strength and time and I have come to the final screen with my reflection who is armed with a sword. No matter what I do I can't defeat him without dying. I have found no other way off of the level. What must I do?

Philip Bull
Leeds

Eternam

After crossing the water and travelling to the city ruled by two brothers I find myself stuck at the tavern, unable to ascertain the information needed to arrange passage on the nearby ferry.

Jim Meadows
Australia

QED guides

A new QED feature starts this month which aims to provide all you questing adventurers with a helping hand over the tall, slippery wall of frustration. From this month onwards QED will include a list of all the complete solutions that are currently gathering dust in our 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 Sherlock 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
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, simply drop a quick line with an SAE to: QED Guides, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. Remember, we're not sending out complete solutions, just solving your individual queries and we can only reply to queries on the aforementioned games.

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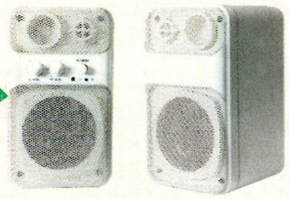

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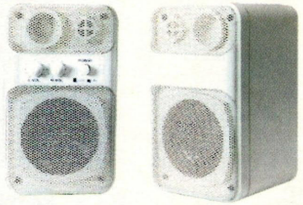

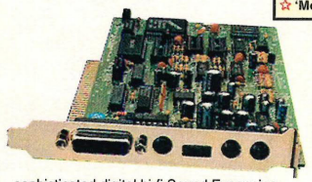





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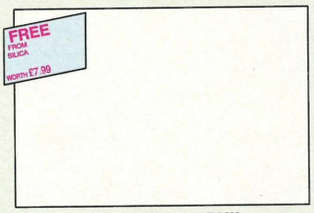
8-bit COMPARISON

	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



SOUND GALAXY BXII

- *8-bit Mono Sound Card*
- *2 Sound Standards*
  AdLib, Sound Blaster v.2
- *FREE Speakers*
- *Dynamic Filtering:*
  For Better Sound Reproduction
- *CD Audio In:*
  Direct Audio Connection from your CD-ROM into the Card
- *Mixer Support:*
  Recording and Playback from Multiple Sources
- *Built-In Amplifier*
- *MIDI Interface*
- *FREE Dynamic Microphone from Silica*

FREE! SPEAKERS

8-bit MONO **£59**

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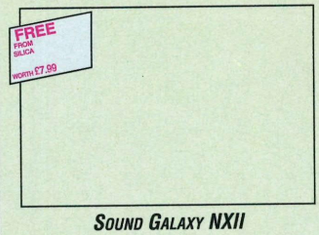
8-bit MONO
4 SOUND STANDARDS



SOUND GALAXY NXII

- *8-bit Mono Sound Card with CD ROM Interface*
- *4 Sound Standards*
  AdLib, Sound Blaster v.2, Covox Speech Thing, Disney Sound Source
- *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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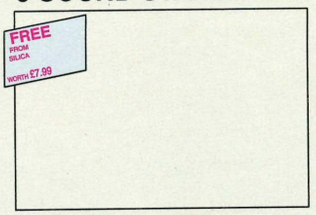
8-bit STEREO
5 SOUND STANDARDS



SOUND GALAXY NX PRO EXTRA

- *8-bit Stereo Sound Card with CD ROM Interface*
- *5 Sound Standards*
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  Card Doesn't Reset on 'Power-Off'
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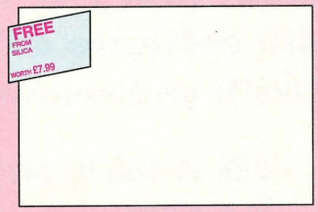
16-bit STEREO
2 SOUND STANDARDS



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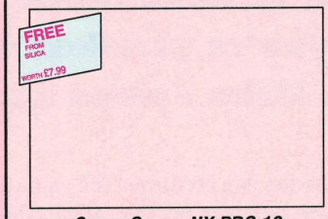
16-bit STEREO
6 SOUND STANDARDS



SOUND GALAXY NX PRO 16

- *16-bit Stereo Sound Card with CD ROM Interface*
- *6 Sound Standards*
  AdLib, Sound Blaster v.2, Sound Blaster Pro II, MS Windows Sound System, Covox Speech Thing, Disney Sound Source
- *FREE Headphones & Personal Microphone*
- *CD-ROM Interfaces (Built-In) For:*
  Panasonic, Mitsumi & Sony Drives - Optional Upgrade to SCSI
- *Software Configuration Settings in Eeprom:*
  Card Doesn't Reset on 'Power-Off'
- *Software Control of Volume, Bass & Treble*
- *Built-In Amplifier & MIDI Interface*
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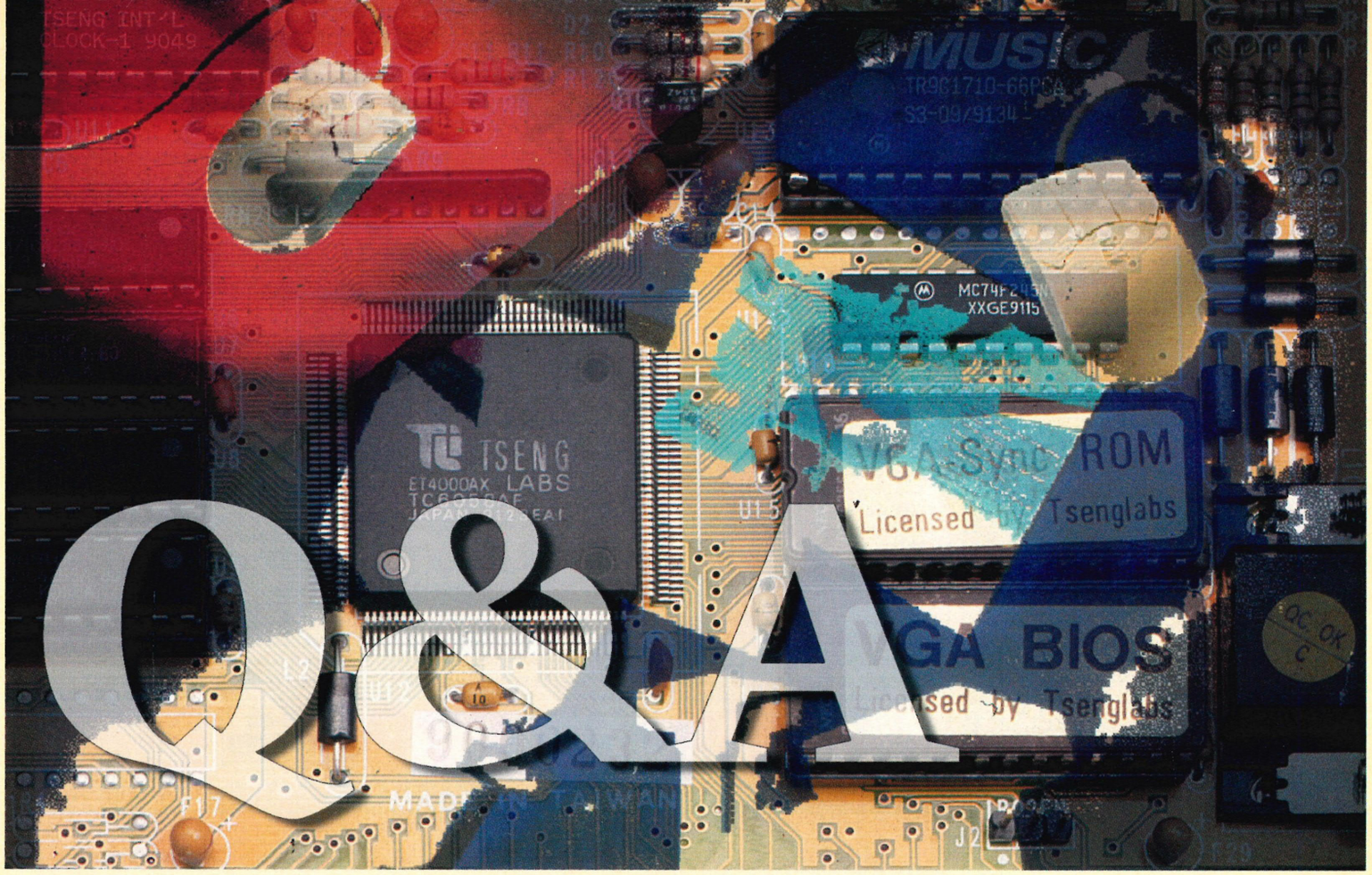

Bemused, befuddled, or bewildered about your PC? If your hardware gives you headaches and you're stricken with software seize-ups, share your problem with Q&A's Mike James and he'll endeavour to help

That's no way to treat a disk error

Q Please help me! I recently purchased the supposedly excellent Strike Commander by Origin but have not been able to install it successfully. First, disk five gave a DOS error message when the installation procedure prompted for it to be inserted into the drive. "No problem," I thought. I made a back-up of the defective disk on to a blank floppy using the Diskcopy command (it reported that the first three tracks were bad, but otherwise made a perfect copy of the disk). This back-up was now happily accepted by the install program. I waited. After nearly one hour the map generation was complete and I typed "SC" to begin the game, but yet another error occurred – Error #1941.

I phoned Electronic Arts/Origin and was put through to a helpful technician who told me that the error was to do with shadow RAM. I tried to disable my machine's shadow RAM but it didn't help. The following day I returned the game and was refunded my £50. Have I deleted 35Mb of data for nothing?

Mark Williams
Cambridge

A *I think you did the right thing in returning the game but for the wrong reason. The cause of your problem was almost certainly the faulty fifth disk. When you used Diskcopy you certainly got rid of the disk error but you did it by copying the faulty data as good data. That is, the disk copy no longer gave an error message but it contained the same bad data that the original disk did. Given that the disk copy reported three bad tracks I think that the degree of corruption was pretty bad and would certainly account for any error messages that you saw. There may also be a real problem but you'd need a good copy of the program to find out. The moral is that you cannot get rid of a disk error by copying the disk with the error – unless the copying process manages to read the disk and reports no errors.*

386 to 486 by plugging in a chip?

Q Recently my brother told me that it is possible to buy a 386-DX computer and upgrade it to a 486 simply by changing the chip on the motherboard and not the board itself. I thought that this was impossible, because I thought the shapes of the connectors were different. If this *is* possible could you tell me how much it costs and where I can buy such a chip upgrade from.

Matthew Davis
Surrey

A *Until very recently there were comparatively few different types of processor chips and if you wanted to change from one to another a complete motherboard replacement was the only hope. Now the number of chips is increasing faster than anyone can keep track of! There is now a 386 processor chip that goes faster than a conventional 386 and shares many of the design features of the 486. Because of its similarity to a real 486 the manufacturers have given it the designation 486SLC – but you can spend hours arguing over whether or not it is a 386 or a 486. What I can say is that when you measure its performance it is much closer to a 486SX than a 386DX at the same clock speed.*

Now we come to the difficult part. In principle you should be able to plug a 486SLC in place of an existing 386 chip and so perform the magic upgrade. However, the makers of the 486SLC chip don't say that you can do this, don't advise you to do it and at the moment they are making enough cash by selling the chip to motherboard makers not to worry about the upgrade market.

I suspect that in the near future, though, you will see 486 class processors designed specifically for chip-change upgrades. In the mean time it is worth looking out for 486 upgrade cards. These are a bit more than a single chip but plug into the chip socket that the 386 processor normally occupies. At the moment such cards are only available for specific

machines such as the IBM PS/2 range but this situation should improve.

486SX-25 v 386DX-40

Q I am currently running a 25MHz 386SX PC and am thinking of upgrading the board to a 486. However, I'm not sure whether or not there is such a great speed difference between a 40MHz 386DX and a 25MHz 486SX. Which one would you recommend? Also, is the speed of a board significantly increased by having on onboard cache of, say, 128K? I can spend around £200-£250 and as I am not particularly interested in having a maths co-processor, I do not require a full 486DX. Could you recommend a specific manufacturer of a processor to look for?

A Fung
Wigan

A *Choosing between a 386DX-40 and a 486SX-25 is difficult as their theoretical performance is very close. For example, Intel rates the 386DX-40 as 82 and the 486SX-25 as 100 – (to give you an idea of the scale, the 386SX-25 rates 39). In this case the 486SX wins but you must remember they are trying to get you to buy 486s in preference to the 386! Even so, most benchmarks do put the 486SX-25 ahead by between 10% and 20%. At the moment the price difference between a 386DX-40 and a 486SX-25 motherboard is something like 60% (but it is falling) – in simple terms you pay 60% more for 20% more performance.*

This is where it gets complicated. This advantage is small enough to be easily lost by a deficiency in some aspect of the design of the motherboard or the machine. In particular the size of cache provided makes a difference. A 486 has an 8K cache anyway, so cache design has less impact than in the case of a 386. A 128K cache is a reasonable size, but for Windows a 256K cache is slightly better. Another factor in the choice is whether the 486SX motherboard has facilities for an Overdrive chip which can boost performance to 231. At the moment the Overdrive chip is a bit too expensive but prices may fall to make upgrade an economic proposition.

Memory at fault?

Q After reading the faulty memory problem reported by Andrew Prangley in the Q & A column some months ago, I remembered my own memory problem of several months ago which was caused by an expanded memory manager clashing with shadow RAM allocation. Once I turned off the shadow RAM the fault vanished completely.

Before anybody who experiences a similar problem decides to replace memory chips, they might like to consider the way that the PC check/counts memory and 'ticks' after each block of memory that it has checked.

The ticks are synchronous if all chips are OK. If the ticks are not synchronous or you hear different sounds then the memory contains one or more faulty chips.

If I boot my PC then it counts to 2,048K. If I enable shadow RAM in the set-up then my PC counts to 1,920K. In the beginning my PC contained a misplaced chip and counted to 1,792K.

Norman Hurkens
Netherlands

A *The situation with respect to the memory check at start-up is more complicated than you might think. The memory check is part of the POST – Power On Self Test – routine run by the system BIOS. The problem is that not all system BIOSs actually test the memory very well. Indeed, some don't bother at all! Even those that do will often check only the first 640K adequately and just count any extended memory that is present in the system.*

As a result, it is quite possible for the memory check to appear to have worked perfectly and for the memory still to have faults that are serious enough to crash the system later on when you're not looking! In most cases, you can't tell anything at all from the regularity of the ticks – just that the memory is present.

About the only time the POST memory test is certain to find an error is if an entire chip is faulty because then a whole block of memory will be missing and the memory count will stop. So if your machine suddenly seems to lose a largish chunk of memory when it starts up it could be that a memory chip has just stopped working.

If you want to have nightmares about memory faults, consider this one. In nearly all cases, the main memory is parity checked and so any problem that does develop is likely to be picked up. However, the cache RAM that every single instruction and every item of data has to pass through to reach the processor isn't. And I have encountered a machine that was behaving oddly because of a faulty RAM cache that was undetected for months until it got so bad that the machine stopped working altogether.

Faster flight sims

Q I have a 12MHz 286 and a recently acquired Cyrix Fasmath 287 co-processor. I was most impressed with the review you gave of the Falcon 3.0 flight simulator but had resigned myself to not buying it because of the jerky graphics my "limited" hardware would produce with such a power hungry program. Since buying my co-processor and running an extremely maths intensive program, Fractint, it seems to be capable of speeding it up in some cases up to 20 times, especially 3D transformations.

Now my question is, by how much would the maths co-processor speed up Falcon 3.0 on my machine? For instance, would it be comparable to running the program on a 286 16MHz or a 386SX 16MHz machine without a co-processor? I know it won't make any difference to the prepared screens and animation, but to what extent would the screen refresh rate for the actual flight model be improved?

Dr Paul Alan
Wimbledon

A *A difficult question to answer exactly but the general idea is simple enough. A numeric co-processor speeds up arithmetic and nothing else. If a program needs to do a lot of arithmetic then a co-processor will speed it up. If a program doesn't do any arithmetic then a co-processor will have no effect at all. Also, notice that the co-processor only speeds up a program when it is actually doing arithmetic and the arithmetic has to be of a particular type known as floating point. Most games don't need to do much arithmetic and what they do need is generally integer arithmetic, ie, 243*124 rather than 0.243*1.283, which a co-processor doesn't help with. Simulations are the one group of games where floating point arithmetic is natural but even here programmers can avoid it, if they wish, by multiplying everything by a suitable factor that converts everything to whole numbers – so called fixed point arithmetic.*

Now we come to the problem of how much a co-processor would speed up a 286? What matters is what exactly is holding the machine up. If the machine is actually spending most of its time moving graphics data from one place to another then speeding up the calculations needed to get the graphics data will not make much impact. It's all a question of dealing with the limiting factors. For example, if you are driving a car down a congested road then adding a more powerful engine will not make any difference to the actual speed itself.

I haven't made any measurements of the speed increase produced by a 287 (because my old 12MHz 286 doesn't have a 287!) with Falcon but I wouldn't expect it to be more than 5% or so – most of the program's time is spent in screen updates rather than calculation. If any readers know the exact figures please let me know but also remember that the effect is likely to be different according to the exact configuration of the machine – graphics card, RAM speed, etc.

Gods and the joystick

Q I am writing to you because I have experienced problems running Gods on my PC. I am using a Sound Blaster V2.0 sound card and its internal games port with a Quickshot Warrior 5 joystick. This system operates fine with all of my other software, although I have experienced problems with The Immortal, but at least this can be solved by hitting the joystick recalibration button. This is a feature that almost all of the current software, including the majority of shareware, that

can be expected to use joysticks has. But somewhat unfortunately it is missing from Gods.

This is an excellent game which is sadly difficult to appreciate fully when it is required to run and quit from the game numerous times before it runs up with the joystick in a usable state. I also ensure the joystick is upright throughout the loading procedure of the game so this is not the problem. I'm not entirely sure this problem is the fault of the software but am fairly confident this is the case since so much other software works correctly.

Mark Bennett
Hants

A I contacted Renegade and they said that there was a joystick calibration utility of sorts included with Gods but the information they provided was very vague. So I tried Gods out with a range of joysticks and, yes, I have to agree it doesn't seem to work very well and I couldn't find a calibration routine.

The trick seems to be to make sure that the trim controls on your joystick are set to centre it before you start to run the game – if your joystick hasn't got trim controls, however, then this advice will be not only useless but meaningless!

I had most success with the strategy of setting the trim controls so that I could select the initial three menu options with the joystick at the top, middle and bottom of its range. Next, I set the horizontal trims so that the warrior is motionless with the stick in the centre. Restarting the program and repeating the trim setting eventually produces something that works – but some joysticks refused to work no matter what. I contacted Renegade asked again about the calibration problem but they haven't responded as yet.

Alone and in the dark?

Q On the strength of a review in Issue 14 of PC Review (December 1992), I bought a copy of Infogrames' Alone in the Dark. I agree with your reviewer that this is one of the best games available for the PC, and I and my family have spent many hours trying to come to grips with its complexity.

Unfortunately, in late January, I bought some software that was infected with a virus. After clearing up the resultant mess, I bought and installed a copy of Dr. Solomon's Anti-Virus Toolkit for DOS. Since that time I have been unable to use Alone in the Dark without what appear to be various memory problems. My PC has re-booted itself a few times, it has hung up with a loud screech coming from the speakers, it has become impossible to pick up visible objects in the game, and we cannot run saved games.

Can you help me with this problem? I have asked Infogrames' technical department but they have not replied. Do you have any readers that have had similar problems? I assume it must be a question of organising the memory in my PC differently, but I am loath to change things just in case it causes any other problems.

Any help you can give would be greatly appreciated.

C Jones
Cambridgeshire

A I checked with Infogrames to see if they knew of any problems – they didn't, but made two observations. The first was that the memory-resident part of Dr Solomon's virus checker might be using too much conventional memory. The second was that the built-in virus checker that Alone in the Dark incorporates might be having problems with the memory-resident part of Dr Solomon's virus checker.

In either case, the simplest solution is to remove Dr Solomon's virus checker by using a special boot floppy – format a blank disk using Format A: /S and copy on the Config.sys and Autoexec.bat files that used to work. You can use this to start your machine without the Dr Solomon virus checker and run Alone in the Dark safe in the knowledge that you are still virus-protected.

Non-DOS DOS

Q I have a 386SX-16 with a 44Mb Fujitsu Hard Drive. Although it runs fine in every other way, whenever I run DOS's Chkdsk command on it I get the reply "Probable non

Q&A update

MPC level 2

The standard set by the PC Marketing Council for a multimedia PC – MPC – is important as it defines the minimum hardware multimedia software can expect. If you have a PC that meets the MPC standard you can expect multimedia software to work on it and to run without irritating pauses. That's the theory. The problem with MPC is that the people involved in defining it have an interest in making sure that as many people as possible believe they can run multimedia software. The very first MPC standard was so ridiculously underpowered that IBM refused to have anything to do with it.

To meet the first MPC specification, now to be called level 1, all you need is a 386SX-16, with 2Mb of RAM and a 30Mb hard disk, a CD-ROM drive that can transfer data at 150K/s and an 8-bit sound card. The specification for the PC quickly became easy to meet. A 386SX-16 was the entry point machine at the time MPC level 1 was introduced and more usually had 4Mb of RAM. Nearly all CD-ROM drives meet the 150K/s: nearly all sound cards were 8-bit any way! MPC level 1 was so feeble, even a machine that met its specification could turn in a poor performance with some multimedia software.

The PC Marketing Council has now moved the goalposts a bit in an effort to make the game a bit more difficult. The new MPC level 2 is, at last, a more realistic specification. To meet level 2 a machine has to be based on a 486SX-25 or better with 4Mb of RAM (8Mb recommended) and 160Mb hard disk. The CD-ROM now has to be a 300K/s double speed multi-session device and it has to be upgradable to XA. The sound card also has to be 16-bit. The upgraded machine specification makes sense as it represents that minimum machine that any one would consider buying new at the moment. The real shocks come in the specification for the CD-ROM and the sound card. If you have bought what seemed like a good quality CD-ROM only a few days ago it probably wouldn't meet the MPC level 2 requirement. CD-ROM drives that spin at double speed are still the exception rather than the rule. The requirement for multi-session is also a shock as most existing drives are not multi-session nor are they upgradable to the XA standard. At the moment, most installed sound cards, Sound Blaster, Ad Lib, etc, are 8-bit cards as are nearly all of the low priced models. What this means is that the majority of machines in use today do not meet MPC level 2!

Other requirements of MPC level 2 are more difficult to measure. For example, for real time video the specification suggests that an ability to paint the screen at 1.2 megapixels per second using only 40% CPU time at a resolution of 320 x 240 is needed. These extra specifications are not requirements because of the difficulty in making accurate measurements. MPC level 2 will run concurrently with level 1 and there will be new logos manufacturers can stick on their machines. As well as seeing MPC certified machines by the end of the year you will also see software saying things like "an MPC level 1 machine required (level 2 recommended)". As with all such recommendations you just know it really means, "We wrote this software to work with MPC level 2. If you're silly enough to want to run it using a level 1 machine, well, good luck!" If you're about to buy a multimedia machine or upgrade, you have been warned ...

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dos disk drive continue y/n". Why? Once I press "Y" to continue, the program works OK. I am running DOS 5.0 and the command had always had the same response ever since I bought the computer.

On a different note, I have had two joysticks, a Quickshot Warrior 5 and a Suncom Analogue Sabre. The Warrior 5 broke after a fortnight, as did its replacement, so I paid extra and got a Suncom Analogue Sabre that the shop owner said was very good. However, this has also gone wrong in that moving the joystick to the left causes the cursor on the screen to jerk off to the right. Therefore, could you recommend a good joystick that is very hard wearing and has good functionality and won't break after a few weeks like all my others have done? I don't think I treat the joystick badly and I am careful not to slam it about even in my death throes on certain games. Can you suggest anything?

Raphael Edwards
Cheshire

A The only reason I can think of for the disk message that you report is that you are using some sort of non-standard disk manager. These used to be common a short while ago because MS-DOS version 3 and earlier couldn't work with disks bigger than 32Mb. MS-DOS 4 could, but this had other problems and wasn't popular.

If you have upgraded from an earlier version to DOS 5 then this is almost certainly the problem. The cure is to back up the data from the disk, partition the drive using Fdisk (warning – this step erases the entire disk) and reformat it. You may not want to go to this much trouble just to get Chkdsk to stop moaning at you! However don't allow Chkdsk to make any changes to repair the disk – it may not understand it well enough to do it properly.

As to the joystick problem you mention, all I can say is that we have printed letters about Suncom joysticks in the past and the problem appears to be inherent in the way that they are made. I cannot recommend particular brands but if you are looking for a low cost joystick, try Quickshot and if you are looking for excellence, try Gravis.



Disk repair

Q I have a 386SX SVGA with 4Mb of RAM, MS-DOS 5 and a 40Mb hard drive. I am looking for a piece of software that will mark damaged areas of a hard disk or floppy disk, so that information will not be written to the damaged sectors. The disk must then be usable even though it has reduced capacity.

Matthew Phillips
London

A When you first initialise a disk the format command removes damaged areas from the free area. If you want to guard against damaged areas that have developed since the disk was formatted then you need a utility that will test the entire disk and remove any new damaged areas. There is also the question of what should happen if a damaged area is found within an existing file. Most of the disk recovery programs will deal with all of these problems. You will find details of possible candidates for the job in last months buyer's guide. My own favourite is Mace but it's a bit on the technical side. Perhaps the easiest to use is part of the Norton utilities. If you want a shareware package then try HDTEST (disk 3242 from PDSL).

Which Comms package?



Q I am looking for some comms software and have found several shareware programs at a reasonable price. Could you help me decide on the right program? It needs to be able to upload and download software. I have got a Pace Linnet Plus card which can store 33 numbers, is V.22 baud rate, Hayes compatible and the rest. I would prefer it to be a shareware program and fairly cheap.

Andrew Hollingwood
Kings Lynn

A The choice of comms package is a very personal one because most of them do the same job. What tends to impress one user leaves another cold. My favourite comms package is Procomm (Disk 1554 from PDSL) but I have to admit that Odyssey (Disk C015 from Shareware Marketing) has rather more features. In particular, it has an MNP error correction option implemented in software. However, neither of these two is particularly cheap to register.

A program that is almost as capable and about half the price to register is Telix (disk 2180 from PDSL). Slightly more expensive is Telemate (disk H097 from PDSL). This is also slightly more difficult to set up initially but I think it is a better and more capable package. One problem you are very likely to encounter with almost any comms package is modem installation. You have to tell the package what type of modem you have and most of them will not list the Pace Linnet – partly because it's a bit old but mostly because it is a UK modem. The solution is to select the nearest Hayes model from the list. You might have to do this by trial and error. If you are particularly interested in CompuServe then it is worth mentioning that there are special comms packages designed to work just with it. All of the programs mentioned are general purpose comms packages and should work with any bulletin board or comms service.

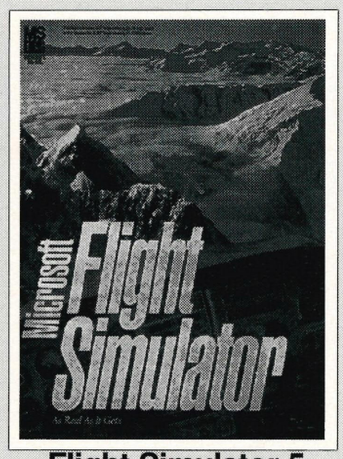
Emulating a laser

Q I need help finding a laser printer emulator for my Citizen GSX-140 colour printer also known as Citizen 200c in the United Kingdom. I have heard of two such programs: Laser Twin 5.0 (by Metro) and Emulaser. Do you have any info on these two or on any other laser printer emulators?

Lincol Lin
Canada

A The idea of driving a printer as if it was a laser printer may sound silly but it is in fact a very sensible way to get laser printer flexibility if not speed. If you drive a dot matrix printer as if it was a laser generally you can make use of a wide range of fonts in all sizes and print graphics. Of course, you cannot do better than the resolution the physical printer is capable of. The problem with emulators is checking that they work with the dot matrix printer you have. I can't comment on Emulaser but I got hold of a copy of Laser Twin and check that it does support the Citizen GSX-140. The manual mentioned the GSX-140 by name and it is in the installation list – so it should work, but not having the printer to try it out I can't say how well it works. Laser Twin is easy to use and supports a good range of printers. It emulates an HP LaserJet III and applications that make use of it have to be set up with an appropriate LaserJet III driver – but most have one. (Metro Software is on (0491) 579857 in the UK or (0602) 292 0313 in the USA).

No.1 for PC Games



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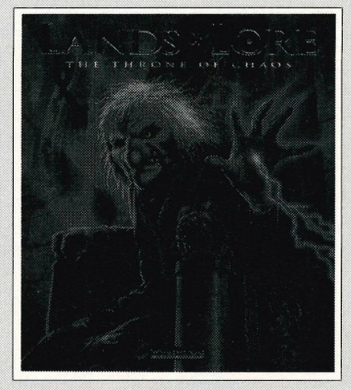

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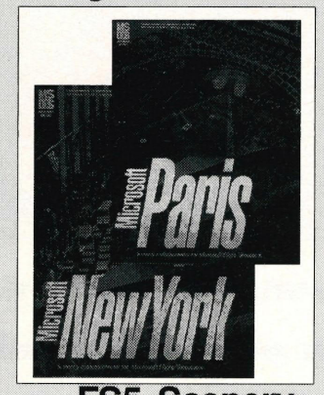

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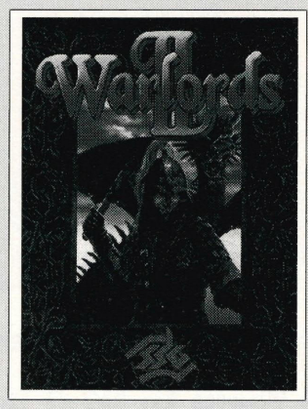

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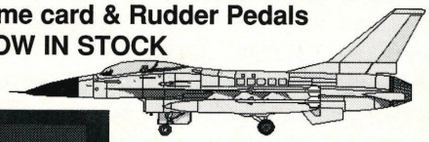

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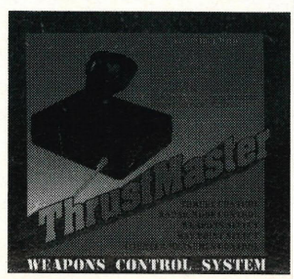

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Letters

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!

Never mind the length

This isn't so much a letter as an epic, pictured left, from Frank Hermann of Montreal, Canada — surely a candidate for the longest reader's letter ever. Mr Hermann had many interesting things to say, but space forbids us from printing his 17-page missive in full, so we've taken those lines which were directly related to PCs and the PC market. I think this is what is meant by "chopping to fit", as detailed above.

Desperately seeking Titus

Can you please supply me with the address for the company which makes Titus the Fox, so that I can clear up the matter of my faulty disk?

Frank J Hermann
Montreal, Quebec

Certainly. In North America, Titus can be reached on (818) 709 3692. The address is Titus Software Corp, 20432 Corisco St, Chatsworth, California 91311.

Odds stacked against drives

As a user of a 386SX running at 16 MHz with only a paltry 40Mb hard disk 'stacked' to 80 Mb, the task of picking out which game I shall choose from the excellent crop of software to spend my hard earned cash on, a task which is hard enough, becomes extremely difficult. Previously I only had to worry about whether the game would run a decent rate on my humble computer (how many 386 owners would have called them humble five years ago?) and, as I have mentioned, this task is simplified by your reviews. But now, I have to worry about whether they will work with my stacked drive or not!

And so, to this end, I, the reader, ask you, the editor, to have something done about this. There is no mention anywhere about compression compatibility in reviews, and as so many games have gone before, even if you do start to include a compatibility test, there are others which I still won't know about.

I realise it is a near impossible task for you to install all the games that have been reviewed on to a number of hard disks, each with different compression routines upon them, but how about a smaller list of the more popular games, those which have achieved the coveted 9 mark in reviews so far?

Perhaps the software houses could even spend some of their time testing this out and reporting it, if they could possibly find the time between producing games like Wacky Funsters. Ahem.

Christian Conroy
Northumberland

You are right about the logistic difficulties involved in testing all games for disk compression compatibility, especially since there are games that appear to work sometimes, and not at others (see last month's Letters for more details on this), but we are trying to give some guidance in this area in the TechSpec section, and to set up a system where we can give advice on disk compression with particular games on a regular basis.

Your memory

I have a solution which enables anyone with a shortage of conventional memory, to use an Upper

Memory Area, big enough to store lots of Memory Resident Programs, such as the drivers for disk compression programs like Superstor Pro and Stacker.

To use this Upper Memory Area, you need Himem.sys and Emm386.exe which either come with MS-DOS 5 and above or Windows 3.1. You should add these lines as the first three in your config.sys file:

```
Device=himem.sys
Device=emm.386.exe I=E000-EFFF
Dos-high, umb
```

or

```
Device=himem.sys
Device=emm386.exe I=B000-B7FF
Dos=high, umb
```

The reason why there are two ways of doing this is because these are the special memory areas for PS2 computers and for monochrome computers. So if you have a PS2, take the *second* example and if you have a monochrome computer, take the *first* example. If your computer is neither a PS2 or monochrome, then use whichever example you want to. If you have a monochrome PS2, then do not attempt it.

If you do use this method of gaining a special Upper Memory Area, it does mean that a portion of your extended memory and access to expanded memory will have to be sacrificed.

If you want to save most of your extended memory and only want to use an Upper Memory Area of about 95K, then add these lines instead:

```
Device=himem.sys
Device-emm386.exe noems ram
Dos=high, umb
```

To use any of these Upper Memory Areas for loading drivers instead of using conventional memory, you have to load your drivers high by using commands such as Loadhigh and Devicehigh.

To give an example of how good these methods are, I managed to get a staggering 614K of conventional memory free with Superstor Pro, a mouse driver and other drivers installed. Before I used these methods I only had 550K free.

Marc Owen
Kent

Star Letter

Racing ahead of the game?

Imagine the scene. The latest Arnie blockbuster movie is being premiered on satellite TV. You've paid your money for a dish and subscribed to the correct channel, with a few tinnies by your side and a bucket of microwave popcorn at the ready you settle down in the comfy chair, feet up, sound channelled through the stereo system for that full movie experience.

The film starts, and takes you on a journey through its storylines and plots. You get carried along with the emotions of the film as your senses are gradually heightened, building toward the climaxas our hero stalks his prey in a lonely house. There is only one room where the enemy can be, Arnie pushes the door, and the hinges creak as the door slowly opens, then ...

Screen goes blank.

A message appears from the TV company. "To continue watching please call (081) 123 4567 with your credit card number and pay £5.00".

Now imagine my feelings having just read an item in Issue 22 of PC Review. Papyrus/Virgin have in development an Indycar Racing simulator, so being a motor racing enthusiast I instantly think this is a must for my collection. I read on: all 16 courses will be programmed – great, a full season, this is now a definite title to buy when it appears.

The next couple of lines in the item are to me the most infuriating set of words I have ever had the displeasure of reading. Only eight courses will be included with the initial product, to have the complete game I will have to buy an add-on data disk with the other eight courses on it!

Come on, guys, what is this all about? Sell us half the game on the first go at full price (probably about £40), then take us for another wad of cash (£20?) under the disguise of add-on data disk!

I'm sure there have been enough letters on the subject of software pricing to fill the Albert Hall twice over, but this latest revelation has to be the most blatant attempt at profiteering I have ever seen! Do these people think we are daft or what? Can you imagine what comes next if this practice goes on unchecked? Adventure games with the end locations on a data disk. Flight simulators with weapon data on an add-on disk. Add-on disks should be what they say they are, additional missions, scenery disks, speech packs, etc. Do not try to sell us part of what should be in the original game as an add-on. We can see it coming a mile away and we will just not buy the product in the first place.

Russell Parker
Milton Keynes

Game difficulty reviewed

I would first like to say how much I enjoy your magazine. However, I think that certain sections could do with a little 'fine tuning'. You are missing one very important section in your reviews: difficulty. I realise that it is a very subjective thing, but it is vital to me when I am considering a game to know how hard it is. Games could be compared to other similar games to indicate how hard they are: widely played 'benchmarks' that have been around for a while could be used as points for comparison.

Examples could be the ubiquitous Monkey Island 2 and, say, King's Quest V for adventures, Ultima Underworld 1, 2 and EOTB2 for Dungeon Master clones, Strike Commander, Falcon 3.0 and Aces of the Pacific for flight sims, etc. At least give us some indication please, if only in the Alternatively... section.

Another feature that you are missing is a second opinion on a game. Although reviews are by their nature one person's opinion, I feel that another reviewer's point of view could highlight points that the other person missed.

Lastly, on the subject of Strike Commander (well, everyone else seems to be) – what a game. On my 486SX 25 it played very nicely thank you. My only gripe is the longevity of the game: I made the mistake of playing it on "rookie" level and it was all over far too quickly. Not a waste of money by any means – all PC owners should be forced to play this to see what their machines can really do – but rather annoying.

Are there any plans to do any mission disks, and, if so, have you any other details on them? I hate to think what Chris Roberts will do as an encore: he has probably done more to up the specification of the average home PC than anyone else. One more thing: for all of you out there running Strike Commander on a four meg machine creating a smartdrv cache of 480K leaves enough memory for the program to run while speeding it up a fair amount.

Gavin Anderson
Surrey

Well, yes, difficulty is subjective, and it's one area we do always try to cover in the main body of the review. For example, our reviewer Cal Jones completed Return of the Phantom (Issue 23) in a matter of a few hours, so we had it tested by a less experienced adventurer as well, who found it more of a struggle. I'm interested in your idea, but I'm not sure what makes your "benchmarked" games true indicators, other than being well-known and comparable games.

As for second opinions, just about every game reviewed in the magazine has been seen and played by more than one person and everyone's views are taken into account, but we think that making one writer responsible for delivering the verdict is more direct and less confusing. After all, if, say, the main reviewer says, "Great, buy it", and the second opinion says, "I hate it", where does this leave you? What we try to do is give reasons and mention any violent differences of opinion, also with reasons.

As ever, though, we're open to suggestions. What do other readers think? Many of the improvements and extra information we've added to PC Review have come from your suggestions, so do let us know if you think we're missing something.

Sensible specifications

I have recently bought Sensible Soccer and was very pleased that it gained a massive rating of 9, but the Tech Spec part was totally different to what my Sensible Soccer said. You said it needed at least 620K of memory, but on my PC it says just 586K needed.

The game I have got came on a 3.5" 720K disk and does not need a high density disk drive or take up 800K. You can also play it from floppy when you said it could only be played from hard disk. The game also supports the Roland sound card but on the Tech Spec area you put a cross next to it denoting that it didn't support it.

Have I got a different version to what you reviewed or is there a mistake on the review? I am sure other readers would like to know because some person out there with only a 720K disk drive may have been looking forward to it but their hopes being dashed when the review said high density only.

Chris Williams
Manchester

No, you don't have a different version, and yes, there is a mistake on the review. I think the excitement of finally seeing Sensi on the PC must have affected our ability to compile a TechSpec panel.

Sensi is packaged on low density disks, and can be played from the floppy disk. It requires 586K of free RAM to run, which, while it's quite a lot, isn't quite as restricting as the 620K we quoted.

Our apologies for that, and I hope no-one has been put off buying the game just because of the error.

Game reviewing difficulty

Having just read my August copy of PC Review, may I say congratulations on yet another fine issue (particularly as QED got me moving again on Wizardry V11), but your opening pages prompt me to put a question to you that I've wanted to ask for ages.

On page 8, there is an advertisement for Blade of Destiny. Part of the ad reads, "over 400 hours of gameplay".

My question is this – do your staff actually play these games to completion, or merely sample them to give an opinion?

If it is the former, are they supplied with hints and cheats to reduce playing time, so they can crack through them in three or four days and 400 hours refers to us mere mortals? If it is the latter, my next question of course would be, "can they give an accurate opinion?"

Having already spent weeks on Wizardry V11, months on MM 111, and still fighting through Ultima Underworld, you certainly could not depend on me to play a RPG and review it, not unless PC Review was annual instead of monthly. So, what is the secret?

Also, on page 118, the letters page, I read the plea from Mr Watmough of Wigan for a copy of Bard's Tale.

I am lucky enough to have two copies of Bard's Tale Trilogy, so should Mr Watmough be unlucky in obtaining a copy, I would be more than happy to send him one of mine (no charge of course).

Malcolm Reader
Kent

In games which have a distinct beginning, middle and end (the majority), the intention, on PC Review, at any rate, is to complete the game before reviewing it, and we're not above asking the developers for help to do so. However, we also try to be sparing about this: playing the game with ready access to help is a different experience to getting genuinely stuck and frustrated. Our main aim is to convey something of the playing experience and whether the game is worth its asking price. The three you mention, for example, have all been completed.

We also have a strong policy that the reviewers should always be experienced and proficient in the genre they're reviewing (ie, RPGs aren't reviewed by flight sim enthusiasts who wouldn't know a hit point from a magic spell). By the nature of our jobs we inevitably sample and play most of the relevant games that come out on the PC, and they do get easier the more you play!

If Mr Watmough is reading this, contact us re Bard's Tale, and we'll be happy to act as middleman in the transaction.

Competition winners

Ready Freddy Go (Issue 21)

Lots of winners, and practically an all-correct entry as well, so without any more ado, let's award the prizes. Copies of the game Freddy Pharkas go to Mrs Lesley Jones, of Truro, Cornwall; D Van Gool, of Wijndrecht, Holland, Tim Phillips, of Reading, Berks; Peter Wright, of Leeds; A J MacNaught, of Wansford, E Yorkshire; Peter Coates, of Sheffield; Nicola Miller, of Bolton, Lancs; M Gardiner, of London SE21; Darren Mansell, of Barwell, Leics; Paul Seymour, of Brentford, Middx; Paul Parker, of Hoddesdon, Herts, and Kirk Ingram, of Stevenage, Herts.

Freddy T-shirts are on their way to Davison Bullock, of Luton, Beds; H Nagy, of Orpington, Kent; Joe Gladney, of Carlow, Ireland; Linda Orr, of Edinburgh; R Lloyd, of Newport, Gwent; Ørjan Løkaas, of Bodø, Norway; Sangeeta Lal, of Bradford, W Yorks; Charles Williams, of Coventry; Jane Skinner, of Dorking, Surrey; Diane Harris, of Norwich; David Moran, of Wilmslow, Cheshire, and Lars Olav Gjora, of Hamar, Norway.

The answers were, 1) C — physiotherapy, 2) A — pharmacology, and 3) C — photosynthesis. But then, you all knew that anyway.

Strike Commander (Issue 21)

Chris Roberts is the designer of the Wing Commander and Strike Commander programs, and the following six people were first out of the hat who correctly spotted the answer: Jack Edmondson, of Barnwood, Gloucester; Nick Kerigan, of Kilmalcolm, Renfrewshire; Mel Dennison, of Bradford, W Yorks; David Sharp, of Lamberhurst, Kent; Garry Hilton, of Warrington, and Myke Evangelista, of Oswaldtwistle, Lancs. Congratulations, and we hope you like the jackets!

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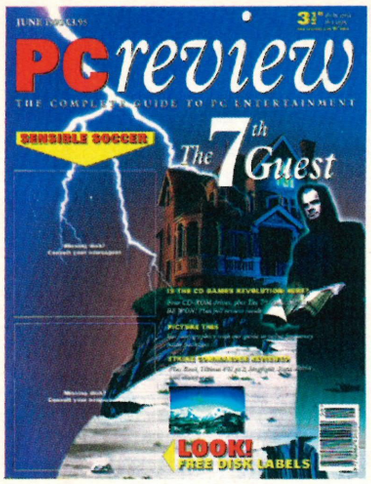



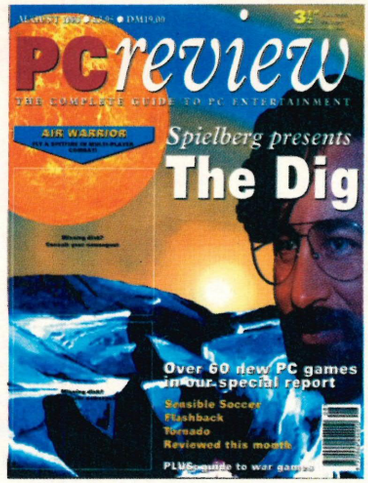

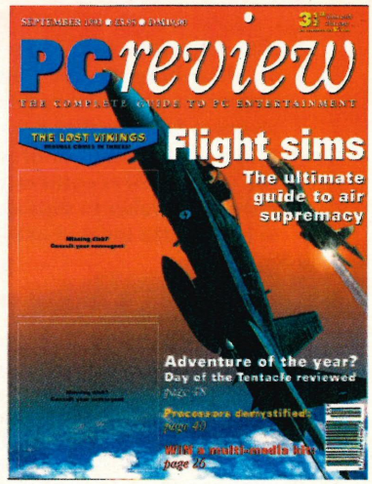

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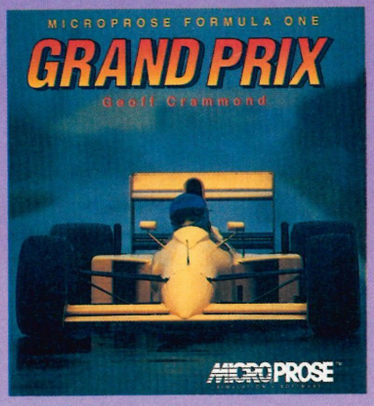

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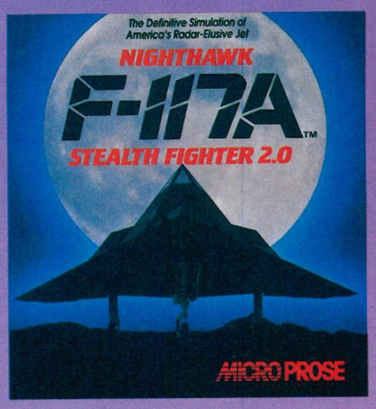

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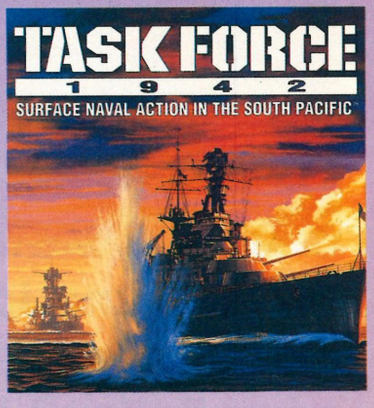

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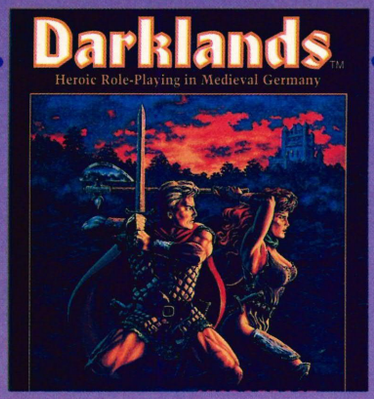

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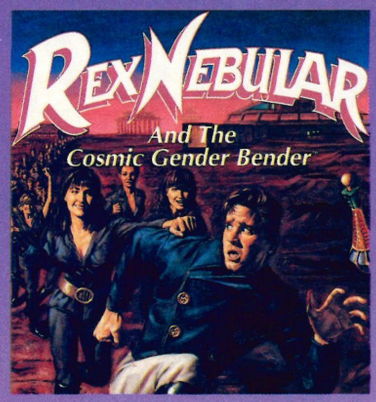

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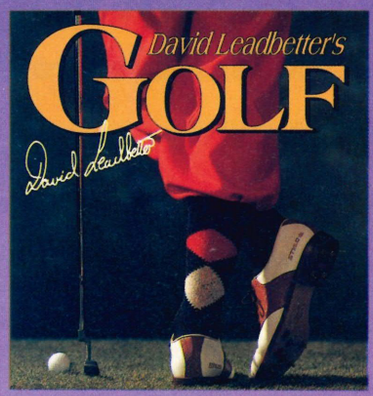

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Graphic adventures

Some of the very first games written for the PC were adventures, and these days they represent some of the best titles available. We chart the progress of adventures from Colossal Cave to Day of the Tentacle, with a buyers' guide to the best in the genre

If you want to track the development of PC games from crude, text-based affairs to the sumptious mini-movies of today, the progress made in adventures would be a good place to start. The first adventure to make a name for itself was Colossal Cave, originally written on a mainframe computer and involving two word input typed in by the player: 'Go north', 'go down' were about the limit of Colossal Cave's understanding. The game was set inside an underground labyrinth, and many of the rooms contained objects to be collected and used to surmount obstacles — a key to open a locked door, for example.

Colossal Cave was much copied when home computers such as the Apple II, Commodore 64, and ZX81 came out, which is why so many of them today still seem to rely on caves, labyrinths and dungeons, and locked doors.

The basic ingredients for an adventure game are a series of locations to explore, objects to collect and use intelligently to overcome obstacles and an overall quest to be achieved. The Tolkienesque fantasy land may dominate as a setting, but successful adventures have also been concocted around Caribbean pirates, the Indiana Jones films, present day political chicanery, or the bumbling efforts of 40-something Larry Laffer to impress the girls.

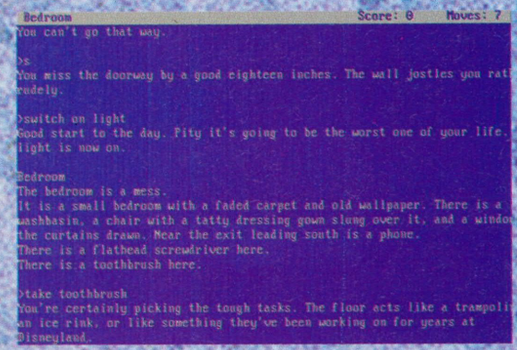
The PC's ability to portray stunning graphics and ear-tingling sound has put paid to the text adventure, which had its heyday in the mid 80s when PCs were less well-specified and when the masters of plot and fiendish puzzles, Infocom, were writing some stupendous text-only games. You can't fault the richness of story and atmosphere in titles such as Suspect, Lurking Horror, the Zork trilogy, Leather Goddesses, or Hitchhiker's Guide to the Galaxy, but eventually Infocom had to succumb to the inevitable as adventurers turned to the immediacy of illustrated and animated adventures.

Infocom purists clung on grimly to the notion that by providing textual descriptions of locations and characters, Infocom were increasing your involvement in the story, because, as with a book, you had to imagine the settings for yourself; unfortunately, the price of computing progress has been that now the PC will provide the pictures and voices for you.

Roberta Williams' Mystery House was the first adventure to include graphics in the form of line drawings, and her King's Quest I one of the first to use animated four-colour CGA graphics, but The Hobbit, by Melbourne House deserves credit for bringing adventures to a wider audience in the UK, and for the idea of separating illustrating each new location — although these were illustrations of locations rather than animations showing the development of the story. The Hobbit was bugged throughout its life, but players didn't care — documenting the bugs and working out ways around them became as much a part of the game as actually playing it!

Illustrated adventures still needed commands to be typed in to create any action, but by the end of the 80s, developers were working on adventures in which typing was reduced to a minimum and your playing character would actually move and perform actions on-screen. Again, Roberta Williams and Sierra On-Line were in the forefront of this development, not just with the King's Quest series, but also Police Quests and Space Quests — adventures lend themselves very nicely to sequels, so that Sierra now have a ver-

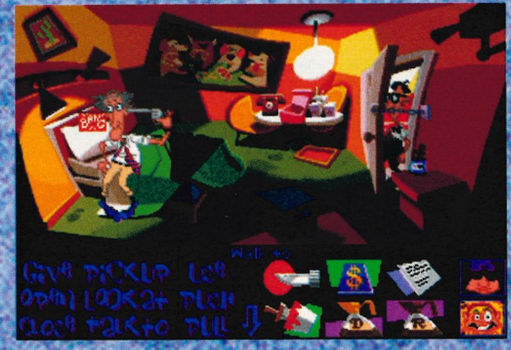
From all-text to no text ...



This is the start of that doughty veteran, Douglas Adams' Hitchhikers' Guide to the Galaxy. All playing commands must be typed in at the command line, and the program responds with descriptions of each new location.



Steve Meretzky is one of the very few people still writing adventures requiring text input. In Spellcasting 301: Spring Break, above, the words you may wish to use are listed on the left, and can be selected for automatic input on the command line.



LucasArts' SCUMM system negates the need to type in any text to perform actions. Click on the words in the strip, bottom left, to 'pick up', 'look at' things, etc, and check the icons, bottom right to see the contents of your inventory.

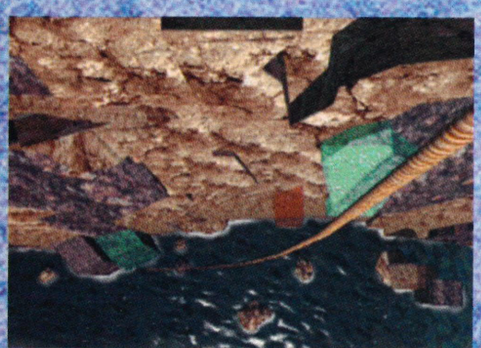
itable collection of soap operas. In the meantime, LucasArts first tried out its SCUMM system with Maniac Mansion, and has since refined it for the two Monkey Island games, two Indiana Joneses, and, of course, Day of the Tentacle.

These days, adventures in which your character is controlled entirely with the mouse and all actions are shown on screen rule the roost — only ex-Infocom writer Steve Meretzky is still pushing on with illustrated text-based games. LucasArts has not only improved SCUMM, but also its iMuse system for incidental music, Roberta Williams is working on an advanced haunted house mystery, Phantasmagoria, while her colleague Jane Jensen has written the complex and moody Gabriel Knight, and Infogrames is concentrating on the mix of adventure atmosphere and arcade style combat in the Alone in the Dark series (see page 30).

Less specialised than role-playing games, less technical than flight sims, adventures are proving a natural for multimedia treatment. The genre lends itself to using actors, sampled speech, and a mix of graphic styles, as well as being readily accessible to a wider audience.

Virgin has cracked open the mould here, with 7th Guest, a true multimedia game using computer-drawn graphics, actors, and sampled speech throughout in a way that takes presentation to a new level. Despite Guest's conventional setting — haunted house and something nasty, if not in the woodshed, then lurking around every corner, the puzzles rely more on logic and wordplay than the usual collection of objects for piecing together later.

From textual input and output, we've moved on to adventures in development where text simply won't appear at all: graphics good enough to need no explanation, and all dialogue spoken. It should make that all-important suspension of disbelief even easier.



And what of the future? Well, this is Return to Zork, Activision's 'revision' of the famous Infocom text-only trilogy. Return is an all-singing, all-dancing affair with digitised actors and speech, due out this year on CD-ROM.

Glossary

Auto-mapping
In most adventures, progress is made easier if you make a map of the locations with pen and paper; a few make life even easier by tracking the route you've taken so far. This can then be called up on a separate screen to help you find your way around the game.

Cinématique
Delphine's proprietary system for designing adventures, used in Cruise for a Corpse.

CLI
Stands for command line interface; used to describe those adventures which require you to type in commands to make your character move or perform actions.

Command line
The part of the screen with the flashing cursor and/or '>' symbol familiar from DOS, where the word you type in, and also any responses made by the program, will appear.

Inventory
Nearly all adventures require you to pick up objects found lying around and carry them around with you; often, they'll be used as props to help you solve puzzles later in the game. These objects are usually carried in a notional sack or about your person (although some adventures let you cart around so much stuff you'd need a removal van in real life), which is referred to as your inventory. In text adventures, typing Inv, or even just 'I' at the command line should give you a list of items currently carried.

Labyrinth
See maze.

Linear
An adventure in which you have to follow a set path of locations in the right order to complete the game. In multiple branching adventures, you can solve puzzles in different ways or approach them in a different order without jeopardising your chances of completing the game successfully.

Location, locations
The action in text adventures takes place in a series of locations, eg, from dining room, you go north to the stairs, and then up to the landing — three locations. In graphic adventures, this idea is maintained, which aids mapping — each screen representing a separate location. Even in adventures which use scrolling rather than flip screens, they are sometimes captioned under the picture as you move from place to place.

Mapping
As you move through locations, you will find it much easier to keep track of your progress if you make a map, noting the names of the locations, where the available exits are and any objects you have found.

Maze
A standard item in any self-respecting adventure. This is a set of locations, which either have such similar descriptions that careful mapping is required if you are not to lose track of how far you've come, or those in which the logical sequence of locations is deliberately scrambled. Thus, going north from point A, and then south, doesn't necessarily take you back to point A again. Often, essential objects, or particularly difficult puzzles, are tucked into mazes.

NPC
Non-playing character: a character generated by the program. May be instrumental to your quest, but isn't directly under your control.

Parser
That part of the program which deals with the words the program 'understands' and can act upon when they are typed in or selected from a menu. In the mid 80s, much work was done on improving parsers, so that the program would know how to respond to a near-English sentence such as, "Go north, look at the gemstone, collect it, say hello to the blue goose, and return to the mouth of the cavern". Still used to describe the range of options or actions that your character can perform.

SCI
Sierra Control Interface: the system of changing icons to indicate the action desired. In Leisure Suit Larry, for example, clicking on the right mouse button will activate the cursor to pick things up, talk, and, erm, 'grope'.

SCUMM
Script Creation Utility for Maniac Mansion: LucasArts' adventure interface, originally written for Maniac Mansion and hence the name, in which actions are selectable from a list in the bottom half of the screen.

Vocabulary
The number of words understood by the program (text adventures only).

Classic adventure games


Alone in the Dark


Dagger of Amon Ra


Day of the Tentacle


Fate of Atlantis


King's Quest VI


Le Chuck's Revenge


Leisure Suit Larry


Lost Files of Sherlock Holmes

Title	Publisher	Contact	PCR rating
Alone in the Dark	**Infogrames**	**(071) 738 8199**	**9**

Disk £44.99/CD TBA

'Inspired' by H P Lovecraft's Cthulhu mythos, you play either Emily or Edward investigating the suspicious death of Jeremy Hartwood in his creepy mansion. You'll need quick reflexes, rather than puzzle-solving ability, to see off the assorted baddies.

Dagger of Amon Ra:	**Sierra**	**(0734) 303322**	**8**

Disk £39.99/CD £44.99

Intrepid detective Laura Bow — in another 1920s setting, this time in New York, investigates the theft of a Egyptian artefact — the dagger of the title. Success in this game calls for careful observation and timing — some of the puzzles are quite subtle.

Day of the Tentacle	**LucasArts/US Gold**	**(021) 625 3366**	**9**

Disk £42.99/CD £45.99

Set all over the place, you control Laverne, Hoagie and Bernard, skipping from past to present to future in your attempt to thwart the purple tentacle from world domination. Very clever, very funny, highly absorbing (and not that difficult), and with some of the most successfully quirky graphics we've ever seen. Also includes its forerunner Maniac Mansion as a game within the game. An instant classic (we nearly rated it a 10).

Indiana Jones/Fate of Atlantis	**LucasArts/US Gold**	**(021) 625 3366**	**9**

Disk £37.99/CD £54.99

Still officially PC Review's number one PC game (although our Top 100 games is currently undergoing revision for publication shortly), with Indy and his assistant Sophia Hapgood against the Nazis in search of the lost city of Atlantis.

King's Quest (vols I-VI)	**Sierra**	**(0734) 303322**	**—**

Disk £39.99/CD (vols V and VI only) £44.99

The adventures of King Graham of Daventry have pioneered adventure development over the years. The various Quests have relatively 'gentle', even romantic themes, so may not be for the more macho games player.

LeChuck's Revenge	**LucasArts/US Gold**	**(021) 625 3366**	**9**

Disk £37.99

Or Secret of Monkey Island 2. A superbly crafted, very entertaining tale of buccaneering on the high seas, with you as apprentice pirate Guybrush Threepwood, out to thwart your adversary LeChuck once and for all.

Leisure Suit Larry (vols I-V)	**Sierra**	**(0734) 303322**	**—**

Disk £39.99

Series of adventures starring the hopelessly naff Larry Laffer and his equally hopeless attempts to score with numerous 'babes'. Tongue firmly in cheek and full of nudge-nudge innuendo, this is the nearest thing in computer games to the Carry On films.

Lost Files of Sherlock Holmes	**Electronic Arts**	**(0753) 549442**	**8**

Disk £39.99

Very similar interface to Lucasarts' SCUMM system. You play Holmes on the trail of the murderer of the actress Sarah Calloway. Dr Watson is of course on hand to help, and athough the program does a lot of the deducing for you, the scenario is absorbing.

Lost Treasures of Infocom	**Activision**	**(010 33) 1 47 33 99 64**	**8**

Giant compilation of 20 original Infocom titles, which most regard as the text adventure at its zenith. Includes the best: Hitchhikers is here, so are all the Zorks, Suspect, Deadline and Lurking Horror.

Police Quest (vols I-III)	**Sierra**	**(0734) 303322**	**—**

Interesting series of 'police procedurals', which aim to simulate life on the beat as well as quest-solving. Writer Jim Walls has now defected to Tsunami; Police Quest IV is being designed by controversial ex-LA police chief Daryl Gates.

The 7th Guest	**Virgin Interactive**	**(081) 960 2255**	**7**

CD £45.99

Trilobyte's massive CD-only game scores hugely for technical achievement ... those graphics, the animation, that sound ... and delivers an adventure with the emphasis on standalone logic puzzles. You must solve the mystery of Stauf mansion and the disappearance of six dinner guests from the house.

CD = CD-ROM. Prices quoted are recommended retail prices; you may well find older full-price titles discounted in the shops.

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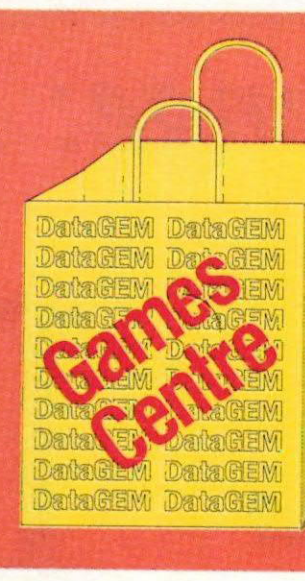



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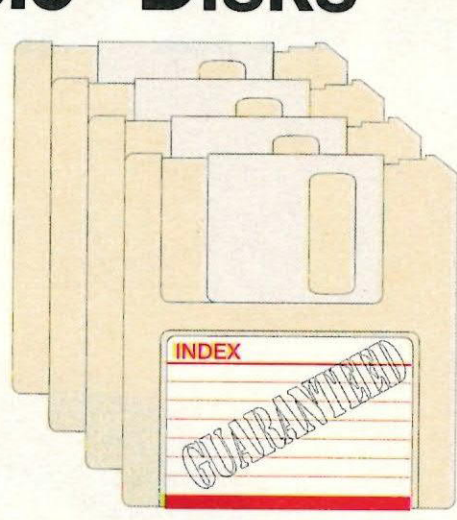

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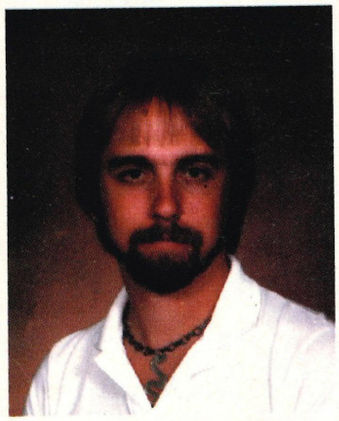
Richard Garriott's *Classic* GAME OF THE MONTH



LeChuck's Revenge: Monkey Island 2



"I liked this game for its combination of pacing and cinematic presentation. There are a lot of logic puzzles that I found difficult enough to be challenging, but not so hard that nobody ever gets them. Just the right amount of effort was done for just the right amount of reward. Actually, the humour was one of the few things I didn't like: I found it slightly sophomoric."

LeChuck's Revenge has appeared on this page before (it was Kevin Bulmer's Classic game in Issue 13, and honourably mentioned by Archer Maclean in Issue 21). The main character, Guybrush Threepwood, is an apprentice pirate, out to defeat Largo LeGrande and escape from Scabb Island. While the plot of Monkey Island 2 follows on from the original Monkey Island, it can be enjoyed by those who don't know the first game. However, a knowledge of other computer adventures will enhance your appreciation of the game, since it includes many in-jokes referring to other titles.

The game plays as a graphic adventure using LucasArts' SCUMM system, so that actions can be controlled with the mouse and selected from a menu in the bottom third of the screen. The graphics and sound add hugely to the atmosphere, and Richard Garriott is probably in a minority when he says he didn't enjoy the humour: the combination of off-the-wall puzzles, derring-do and gags has won the game a devoted following on both sides of the Atlantic.

PROFILE

Richard Garriott is the co-founder and creative director of Origin Systems, and designer of the long-running Ultima series of role-playing games. His first computer game, however, was Akalabeth, written in 1979. This and the first Ultima game were hand-duplicated and distributed in zip-lock polythene bags — a far cry from the sophisticated packaging of today.

Garriott is also known as Lord British to Ultima fans (the games are set around a fictitious world named Britannia), who number millions in the USA, Europe and Japan alone. Since the takeover of Origin by Electronic Arts, Richard Garriott also serves as executive producer for the parent company.

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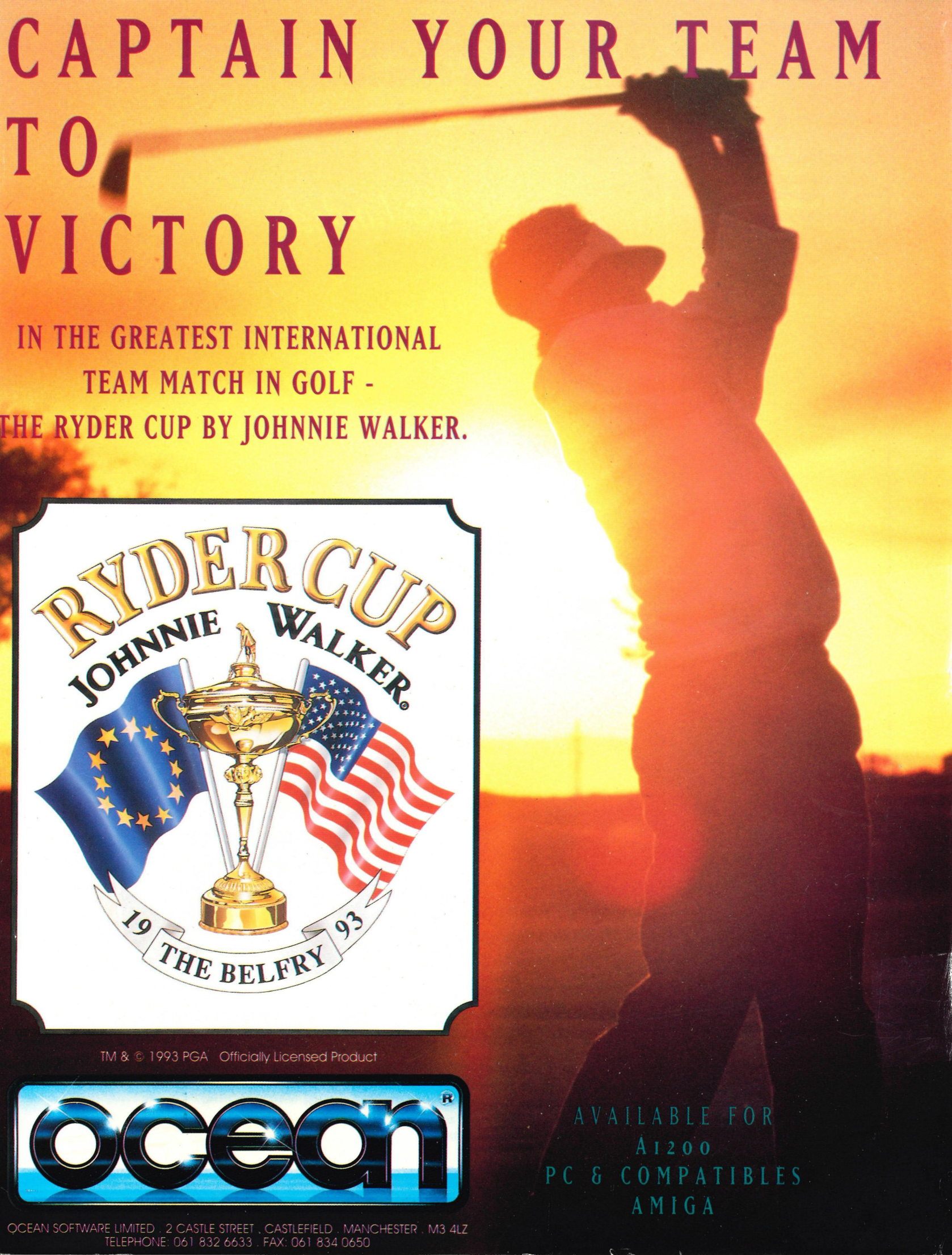

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