YOUR COMPLETE GUIDE TO PC LEISURE

PC REVIEW

DECEMBER 1994 • £4.95 21.95 HFI

PC REVIEW • Issue 38

MAGIC CARPET • MOVIES ON YOUR PC

DECEMBER 1994



MAGIC CARPET

Bullfrog's turban-charged odyssey

Save up to £25 when you buy Inferno!
Details inside

CD-ROM EDITION
Also available with 2 HD disks

IF YOUR CD-ROM IS MISSING, CONSULT YOUR NEWSAGENT

- Get full-screen full motion video with MPEG
- Watch blockbuster films on your PC
- Four MPEG cards tested

MOVIES ON YOUR PC

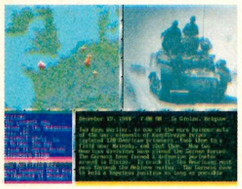
PLUS: Win a Pentium PC • Why CD-ROM is big in the music business • Transport Tycoon, Cyclemania, Space Simulator reviewed • Colonization player's guide


HAMMER OF THE GODS
HEROES OF MIGHT & MAGIC
ZEPHYR
IRON CROSS









IRON CROSS

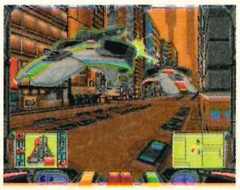
Re-create the pivotal battles of World War II, from the Battle of the Bulge to Hitler's Bunker. Command either the Axis or Allied troops and test your skills and tactics against the computer in this challenging game.

• IBM 386 or greater • Double speed CD-ROM drive • SVGA monitor • 4Mb RAM • MS DOS 5.0 or greater

ZEPHYR

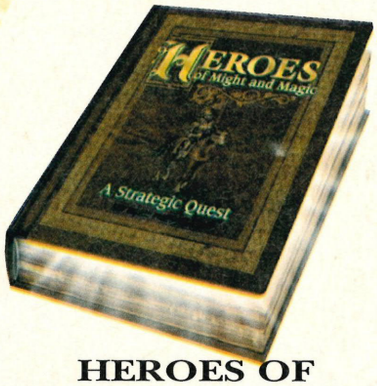
Take command of the Zephyr hover-tank. In the year 2365 you'll need the most sophisticated weapon system ever assembled to take on your opponents, in the wildest, most intense combat experience on PC.

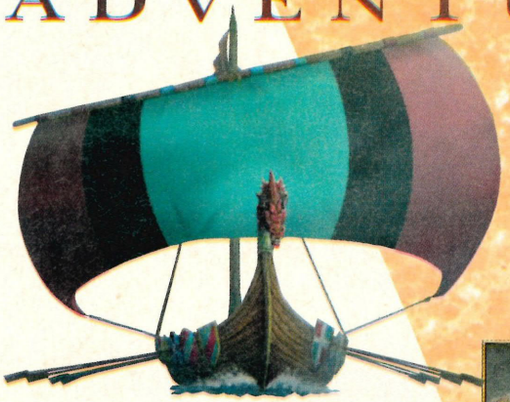
• IBM 386 or greater • Double speed CD-ROM drive • VGA monitor • 4Mb RAM • MS DOS 5.0 or greater • VR headset and Cybermen mouse supported





WORLD OF ADVENTURE









HEROES OF MIGHT AND MAGIC

Fantasy fanatics have had the gauntlet thrown down to conquer the world. Take on three computer-controlled devious warlords, manage your resources and win the Artifact of the Ancients.

• IBM 386 or greater • Hard drive • VGA monitor • 4Mb RAM • Mouse

HAMMER OF THE GODS

Explore, raid, pillage and plunder as you carve out your empire. Through cunning exploits, heroic deeds and sheer courage, the surviving hero will win the right to become "Hammer of the Gods". If you are up to the challenge your position beside Odin awaits!

• IBM 386 or greater • CD-ROM drive • VGA monitor • 4Mb RAM • MS DOS 5.0 or greater

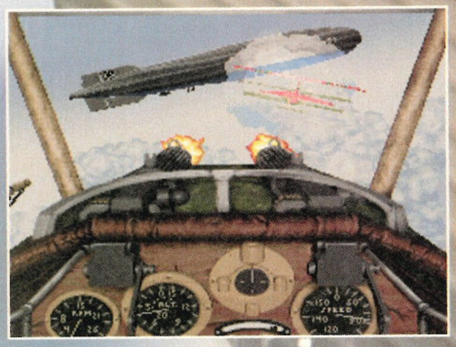




U.S. GOLD

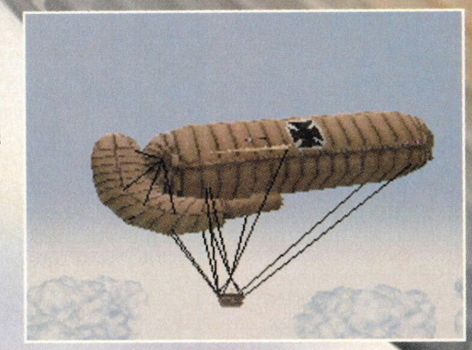
NEW WORLD COMPUTING®

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- This Camel spits lead! Fly five superbly crafted Allied and German WWI fighters. Learn to handle everything from the Sopwith Camel to the Fokker Dr. 1.

- Dogfight with enemy aces, take on two-seaters, bombers, balloons and zeppelins in any combination using the Instant Mission Generator.





- Hear the conflict just as the heroes did. 4-channel digital sound recreates the rush of the wind, the rapid fire of machine guns and the roar of exploding fighters.
- Re-live your greatest glories from any angle with the Mission Recorder.

- Wings of Glory improves on the glorious Strike Commander game engine with strikingly enhanced plane detail. Burst through clouds and shake the leaves from the trees.



Actual PC screens shown

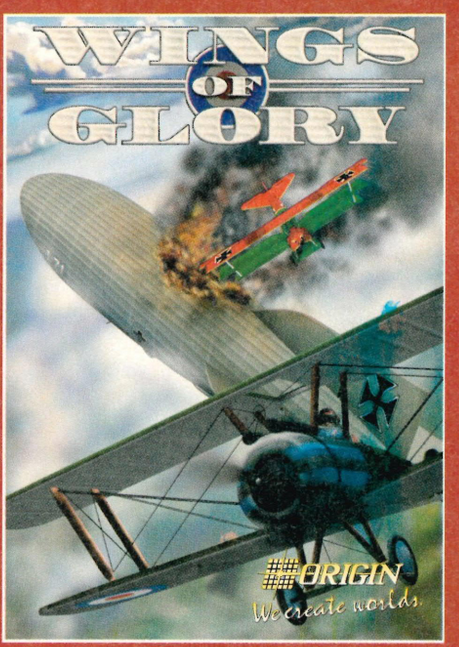


WINGS OF GLORY™

Gasoline, canvas and raw courage.

It's not only angels that have wings. When you're duelling at dawn and the enemy's close enough to smell, it takes an unshakeable nerve to bring your canvas crate back home.

With no radar to guide you, radio communication or missiles, one slip and you'll be trading your flying helmet for a halo. But then no guts, no Wings of Glory.



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Intel486™ DX2 Recommended

EA DIRECT

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Issue 38

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EDITORIAL

Editor Christina Erskine
Deputy editor John Bennett
Staff writer Cal Jones
CD-ROM editor Tony Dillon
Production editor Jackie Ryan
Contributors David Bradwell, Alan Clark, Steve Cooke, Paul Glancey, Mike James, Martin Klimes, Simon Shaw, Herbert Wright

DESIGN

Art editor Mark Edwards
Deputy art editor Aileen O'Donnell
Cover Illustration Fred Gambino
Illustrations Steve McFarlane
Photography Terrence Beddis

ADVERTISING

Group advertisement manager Mel Roberts
Advertisement manager Maria Clarke
Senior sales executive Keira Roche
Advertising production Tina Gynn, Ian Thompson

MANAGEMENT

Systems manager Sarah Jane Leavey
Head of marketing and circulation Marc Swallow
Marketing manager Karen Williams
Marketing assistant Fiona Malloch
Editorial director David Kelly
Publishing director Graham Taylor
Promotions publisher Nigel Taylor
Director's assistant Jo Briar
Managing director Terry Pratt
Page output and colour origination by Sarah Jane Leavey, EMAP Images, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU *Colour scans by* Team Graphics and The Scanning House
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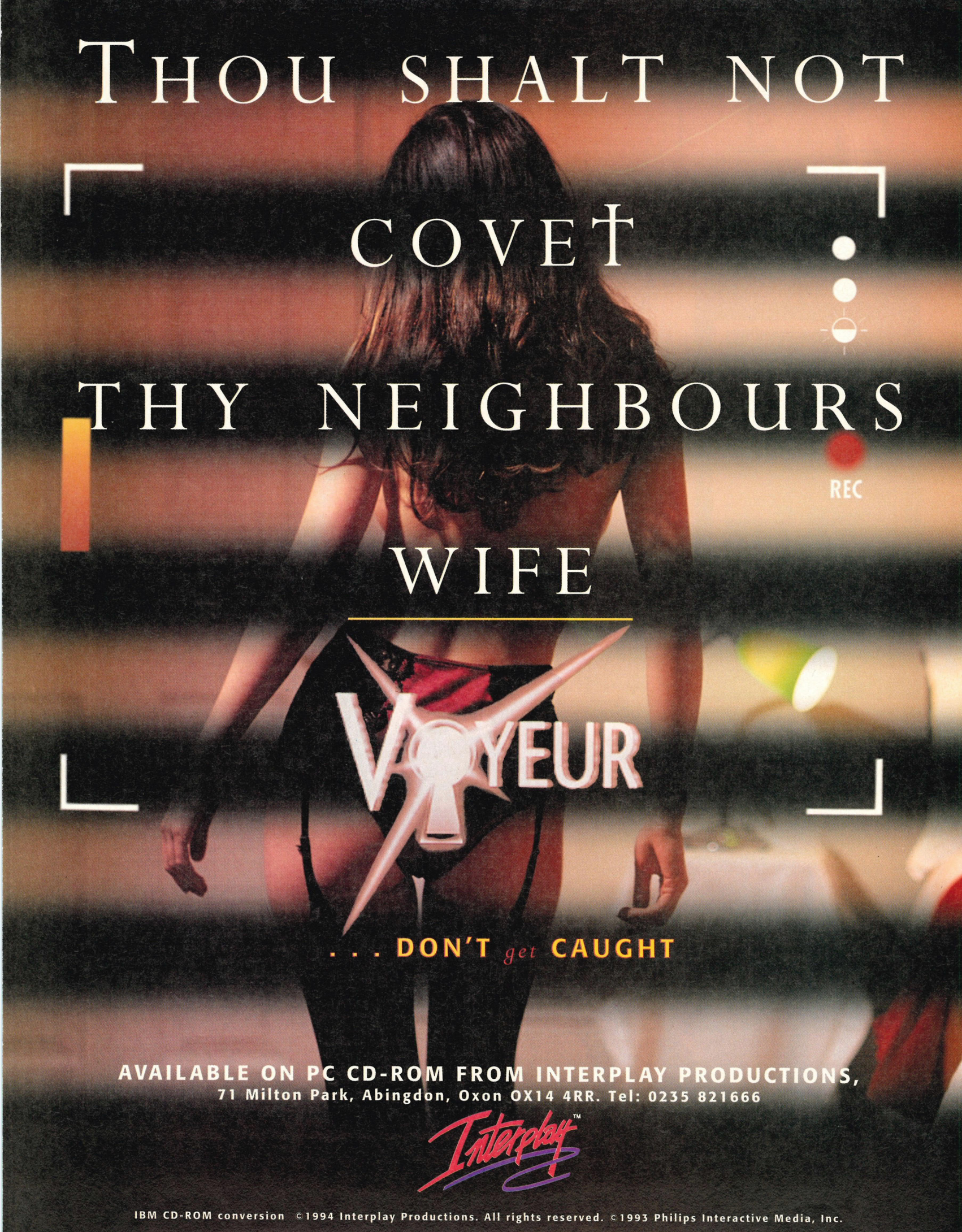
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COVER DISKS



AVAILABLE ON PC CD-ROM FROM INTERPLAY PRODUCTIONS,
71 Milton Park, Abingdon, Oxon OX14 4RR. Tel: 0235 821666

Interplay™

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Cover Disks



The PC Review cover disks are packed. Alongside exclusive demos of Tchaikovsky 1812 and Total Distortion we've got Warcraft, Novastorm and much more.

WARCRAFT



It looks like Interplay may have come up with the ultimate fantasy strategy game this month. To see what we mean, try out this exclusive demo of Warcraft for yourself.

How To Load

Log on to your floppy disk or CD-ROM drive, and then type

PCR [Enter]

to load the menu. Now all you need to do is select Warcraft from the menu, and the installer will copy the relevant game files to your hard disk.

Once Warcraft has been installed, type Setup [Enter] to select the correct soundcard for the music and sound effects, and then War [Enter] to play the game. You should note that Warcraft uses the DOS 4GW memory manager, so you will need a PC with at least 4Mb RAM free . One way of getting a good balance between conventional and high memory is to make sure the expanded memory line in Config,sys reads as follows:

DEVICE = C:\DOS\EMM386.EXE NOEMS

See this month's Technical Help pages for more on editing your Config.sys files if you don't understand the above.

How To Play

The game is played with the mouse, and is easy as falling off a log.

Clicking on an object on screen will bring up a series of icons on the left of the screen. All the icons are labelled, and all you need to do is explore the landscape, and try to get your army to war.

How To Quit

Press ESCape to bring up the quit requester, and then select Exit To DOS.

Hardware Requirements

486, 4Mb RAM, VGA graphics. Most sound cards supported.

How to use your free disk or CD-ROM

HOW TO LOAD YOUR PC REVIEW COVER CD

1. Take the PC Review cover CD out of its plastic case.
2. Insert it into your CD-ROM drive and close the drive tray.
3. Wait for the light on the front of the CD-ROM drive to go out.
4. Type D:> [Enter]
5. Now type PCR [Enter] to load the menu screen and select the program you want to load from these pages. This will either run the installation program required, in the case of games that need to copy files from the CD-ROM to your hard disk, or run the program directly from the CD-ROM.
8. Make sure you have around 15Mb free on your hard disk. Even those programs which run directly from the CD may need to create a directory on your hard disk to hold installation files.

Help! my cover disk/CD-ROM disc won't work

If you're having problems finding your way round the cover disks or CD-ROM disc, or making them work with your PC, then try the PC Review cover disks/CD-ROM disc helpline on (0451) 810788. The helpline operates between 3.00pm and 5.00pm weekdays.

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Out of the thousands of cover disks and CD-ROM discs we duplicate every month, a very small number may get damaged during transit. If you think your cover disks or CD-ROM disc might be faulty, we'll replace it. Just pop the cover disk or CD-ROM disc in a jiffy bag with a self-addressed envelope and postage to the value of 28p (55p from overseas) and the form below (filled in), and send the package to the following address:

DiskXpress, Unit 7, Willow Court, Bourton Industrial Park, Bourton-on-the-Water Gloucestershire GL54 2HQ

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The cover disk/CD-ROM disc (delete as applicable) on my copy of PC Review was damaged. Please send me a replacement — I enclose return postage to the value of 28p (55p if overseas) and the original cover disk/CD-ROM.

TCHAIKOVSKY 1812

Classical music is a natural for CD-ROM. Mindscape has created Tchaikovsky 1812, a feast of multimedia. And here's the exclusive demo.

How To Start
The demo only runs under Windows, so start up Windows and run the SETUP.EXE program from the cover CD to create a program group on your desktop. Now just run the main program by clicking on the icon.

How To Use
The program is controlled with the mouse. All you need to do is click on the relevant buttons, sit back and enjoy the music.

How To Quit
Select Close from the drop down menu to leave the demo.

Hardware Required
486 PC, 4Mb, VGA 256 colour display Windows 3.1, most sound cards.



DREAMWEB

Creative Reality has been working on the floppy and CD versions of this for quite a while. This month we bring you a look at the soon to be released CD-ROM version. You play Ryan, a young man employed to kill the seven who threaten the Dreamweb. Join us as he enters the hotel lobby where his first victim is staying . . .

How To Start
Log onto your CD-ROM directory, and then type

PCR [Enter]

to load the menu. Use the cursor keys to select Dreamweb, and then press return to load and run the game.

How To Play
The game is controlled with the mouse, and clicking with the left mouse button anywhere gives you a description of the selected object. Clicking on the large picture of Ryan on the left of the screen gives you the inventory, and clicking on items in the inventory will make relevant icons appear at the top of the screen.

How To Quit
To leave the demo, just press ESCape.

Hardware Required
386 PC, 4Mb RAM, at least 590K of base memory and most sound cards.

SYSTEM SHOCK

What do you get if you mix Doom with William Gibson? E A's System Shock.

How To Start
Log onto your CD-ROM directory, type

PCR [Enter]

to load the PC Review menu. Using the cursor keys, highlight System Shock, and then press Enter to load the demo.

How To Play
The game can be controlled from either the mouse or the keyboard. As you move the mouse, the cursor will change to reflect an action. Just click the left mouse button to perform the action.

Keyboard Commands

Walk Forward:	S
Turn Left:	A
Turn Right:	D
Move Backwards:	X
Run Forwards:	Shift S
Fast turn left	Shift A
Fast turn right:	Shift D
Sidestep left:	Z
Sidestep right:	C
Lean Left:	Q
Lean right:	E
Negate Leaning:	W
Jump:	Space
Stand Up:	T
Crouch:	G
Lie Down:	B
Look Up:	R
Look Down:	V
Centre View:	F
Use Left Side Icons:	1-5
Use Right Side Icons:	6-0
Select Left MFD:	F1-F5
Select Right MFD:	F6-F10
Change weapon:	TAB
Fire weapon:	ENTER
Clear Displays:	Backspace
Toggle Full screen:	ALT-V
Change Inventory Page:	Page Up/Page Down
Change HUD Colours:	CTRL H
Full screen map:	CTRL A
On-Line Help:	ALT H
Screen Help Overlay:	ALT O
Save Game:	CTRL S
Load Game:	CTRL L
Pause:	P
Options Panel:	ESC

How To Quit
Press ESCape to bring up the options panel, and then select Quit to leave.

Hardware Required
386, 4MB, VGA, most major sound cards supported.

NOVASTORM

Microcosm was one of the first arcade shoot 'em ups to take advantage of the storage power of the CD. Novastorm, the unofficial follow up, looks like it's going to be even bigger as you zoom over alien landscapes, taking out everything you can, building up your weapons and generally sitting back and going 'Wow!'.

How To Start
Log onto your CD-ROM directory, type

PCR [Enter]



at the MS-DOS prompt to load and run the PC Review menu. Select Novastorm with the cursor keys and then press Enter to load and run the demo.

How To Play
The controls are completely definable from the opening menu, but if you want to get straight in to the game, then the controls are:

A = Up
Z = Down
< = Left
> = Right
SPACE = Fire weapon
ENTER = Select weapon

How To Quit
Just press ESCape to leave the demo.

Hardware Required
386 PC or better, 4Mb RAM, VGA, most sound cards supported.

LITTLE BIG ADVENTURE

EA brings you a fully playable demo of the incredible Little Big Adventure.

How To Start
Log onto your CD-ROM drive, type
PCR [Enter]
Select LBA with the cursor keys, and the presenter to load.

How To Play
Use keyboard control . Up and down cursor keys to walk forward or backward, and left and right to rotate. Pressing space activates special move and character mode,which can be changed by pressing CTRL and then highlighting your choice.

How To Quit
Press ESCape to return to the main menu, and then select Exit to quit.

Hardware Required
486 PC, 4Mb RAM, SVGA, most sound cards supported.

HARDBALL 4

Check out this fully playable demo of Hardball 4, the most realistic baseball game ever!

How To Load
Log onto your floppy disk and type
H4DEMO [Enter]
to run the installation program. This will create a directory on your hard disk and then inflate all the relevant files. Log onto that directory and type ***HB4DEMO***

How To Play
Change your game options with the Options screen, set your controls, select each play from the menu, and press selector to perform move.

Hardware Required
386, VGA 256, 4Mb , mouse, most sound cards.

ECSTATICA

It's been described as one of the most gory and disgusting adventure games ever, but also as one of the best looking games to grace the PC.

It is, of course, the adult only 3D festival Ecstatica, and Psygnosis is mighty proud of it.

So proud, in fact, that it's given us this slideshow, so you and your friends can experience the buzz for yourself.

How To Start
Log onto the CD drive, type

PCR [Enter]

and then select Ecstatica from the list. The slide show will load and run automatically.

How To Quit
Just press the ESCape key.

Hardware Required
386, 1 Mb and a 256 colour display card.

GET TO GRIPS WITH



"A refreshing new approach to the genre... a great real driving game... we like it!"
NMS

"It's fast, furious and most of all, fun!"
SEGA PRO

"U.S. Gold looks to get into top gear with Power Drive"
MEAN MACHINE

"A unique blend of speed and strategy make this a rally game to beat all others. Definitely no stick-in-the-mud!"
PC ZONE

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CD-ROM

AMIGA

S.NES

MEGA DRIVE

GAME GEAR

Rage Software

U.S. GOLD

YOU'LL KNOW WHEN IT'S TIME...

U.S. GOLD

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WRATH OF THE GODS

Maxis makes its entry into the interactive movie foray with Wrath Of The Gods.



How To Start
This only runs under Windows, so load Windows, and then run the SETUP.EXE program in the DEMO50 directory. This will create an icon on screen, from which you double click to run the demo.

How To Play
The game is mouse controlled. Clicking anywhere on screen moves the main character, and all object manipulation and conversation is controlled with the icons in the bottom right of the screen.

Hardware Required
386 PC, VGA 256 colour display, 4Mb RAM and a mouse, most major sound cards supported.

PROCALC

If there is one thing that Windows is really missing at the moment, it's a good solid calculator. Never fear, PC Review is here, with this fully functioning shareware adding device.

How To Start
Boot up Windows, and then run the SETUP.EXE program in the PROCALC directory to create an object group on your desktop. Then just click on the Pro-CALC icon to load and run.

How To Use
It's a calculator! Just click on the on screen buttons to enter your sums, and watch the result print out on the ticker tape at the side of the screen.

How To Quit
To quit out of the program just select Close from the drop down menu. And do remember to register for the program after 30 days!

Hardware Required
386 PC, 1Mb RAM, mouse, Windows.

SIMON THE SORCERER

We ran this superb demo last month, but due to a fault on the installer, some people had a little trouble in getting it to run. So here is the demo again, in completely working form. If you did get it to run, then here's another chance to hear the tones of Chris Barrie and co. in one of the funniest adventures around.

How To Start
Log onto your CD drive, and then type

PCR [Enter]

to load and run the PC Review menu. Use the cursor keys to highlight Simon The Sorcerer, and press return to load and run the installer.

How To Play
Like most other adventures these days, Simon the Sorcerer is a game that is viewed from the side, with a control panel along the bottom of the screen.

To play, simply click with the left mouse button to select any of the icons, and then click anywhere on the screen to use them.

How To Quit
To leave the demo, select the Use icon, and then click on the postcard.

The options screen will appear, and all you need to do is click on Quit to leave the demo.

Hardware Required
386 PC, 4Mb RAM, VGA or better, mouse, most sound cards supported..

BUREAU 13

In the future, crime is rife. The police will no longer be able to cope, and will have to call in equally well equipped crime fighters to handle the mess. Or so says Gametek's Bureau 13, as this rolling demo shows.

How To Start
Log onto your CD-ROM drive, and type
PCR [Enter]
to load the menu. Select Bureau 13 with the cursor keys, and then simply press Enter to load.

How To Quit
Press ESCape to leave the demo at any point.

Hardware Required
386 PC, 4Mb RAM, VGA, Sound Blaster and compatibles supported.

TOTAL DISTORTION



Grunge returns with a vengeance this month with Total Distortion, your chance to do battle in the rock music world by creating music videos. Or something along those lines anyway. A feast of aural and visual noise, this is something no CD owner should miss.

How To Start
The demo runs under Windows, so run Windows and then run the SETUP.EXE program from the TD Demo directory to create a program group on your desktop.

How To Play
It's all controlled with the mouse, so you should have no problem moving around at all. To tell you any more would just spoil the fun.

How To Quit
Press ESCape to leave the demo at any point.

Hardware Required
486, 4Mb RAM, VGA, Windows, mouse, most sound cards supported.

HELL

Cyberpunk has always been a bleak topic, but never has it been seen to be so bleak as in Gametek's up and coming 3D thriller. This rolling demo should give you some idea of what we mean.

How To Start
Log onto your CD-ROM directory, and then type
PCR [Enter]
to run the PC Review menu. Select Hell from the menu and the installer will run. NOTE: You will need 26Mb of hard disk space free to run the demo.

How To Quit
Press ESCape to leave the demo.

Hardware Required
386, VGA, 4 Mb RAM, 26 Mb of free hard disk space.

DISCWORLD

Terry Pratchett's Discworld series of books have made him a household name.

Psygnosis leapt at the chance to publish a computer game of the same 'world on the back of a turtle', and here is a slideshow of that very game, featuring all your favourite characters.

How To Start
Log onto your CD ROM drive, type
PCR [Enter]
to load and run the PC Review menu.

Use the cursor keys and the Enter key to highlight and select the Discworld demo, and then sit back and enjoy.

How To Quit
To leave the demo, just press ESCape.

Hardware Required
386, 1Mb RAM and a 256 colour display.

SIMON THE SORCERER 2

In February of next year, PC owners will be rushing out to their local software shops to buy Adventuresoft's sequel to the stunning Simon The Sorcerer. Featuring an even bigger map than the original game, more characters and a starring role from the Swampling, it looks like it's going to be incredible, as you will see for yourself in this exclusive slideshow.

How To Start
Load the PC Review menu by logging onto your CD drive and typing
PCR [Enter]
and then select Simon The Sorcerer 2 from the list. The slideshow will load and run automatically.

How To Quit
To leave the slideshow at any point, just hit your ESCape key.

Hardware Required
386 PC, 1 Mb of memory and a 256 colour display card is all you need!

DOMINUS™

YOU'LL NEVER PLAY THIS GAME AGAIN!

THE NEW STRATEGY GAME THAT'S DIFFERENT EVERY TIME YOU PLAY.

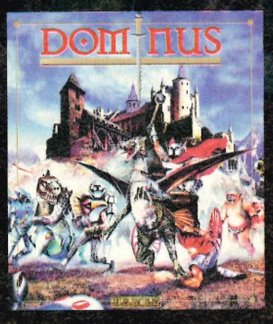
Dominus is a new genre of strategic war game. A real time simulation that blends the best elements of fantasy role playing and hand to hand combat, Dominus allows you to stand back and run the war from above, or grab a weapon and join the fray. So you can fight the way you want. And with four difficulty levels, Dominus is fun for first-time players and war game veterans alike. Defend your domain from invading clans by deploying monsters, casting spells, setting traps, capturing your enemies and interrogating them in the dungeon. Then combine your helpless prisoners with your hideous monsters to create your own more powerful hybrids. Each of your decisions causes different strategies and reactions in your enemies, so every game is unique. Grab your sword and leap into Dominus.











It's a whole new breed of gameplay!

CD-ROM & IBM PC

386 or higher
25 MHz or above (33 MHz recommended)
VGA videocard
DOS 5.0 or higher

CD Drive – single speed
(double speed recommended)
SoundBlaster™ and 100% compatibles
Mouse or Keyboard interface
Hard-drive space required, 35Mb

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

U.S. GOLD®

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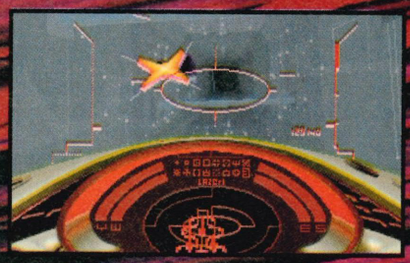
CD-ROM MAGAZINE Recommended

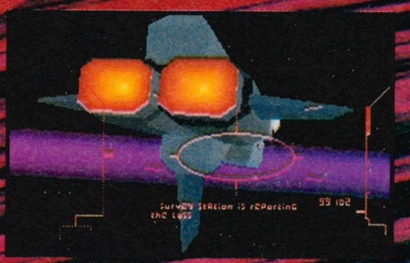
"Inferno is a huge game, encompassing deep-space & planetary combat, with all the features of a top notch flight sim, but the feel & playability of an arcade game." C&VG 93%

" Innovative, engrossing and massively huge!" PC Review

INFERNO

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AGE DESIGN

"Inferno is an Epic! - perfect game structure combine with fast action & amazing attention to detail." PC Home 91%

"In the end Inferno does turn out to be the scorcher of a game that has been promised... the graphics are just superb." CD-ROM User

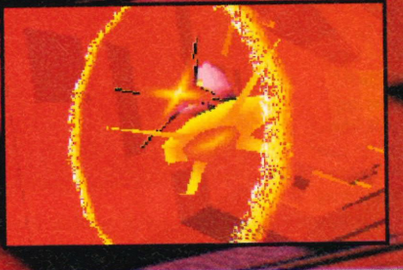
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INFERNO

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News

Mindscape acquires SSI

Software publisher Mindscape has bought Strategic Simulations Incorporated (SSI), the California-based games developer and specialist in wargames, sports simulations and fantasy role-playing games.

The company will become a subsidiary of Mindscape, which will distribute current and future games software titles designed and produced by SSI.

The move follows Mindscape's acquisition earlier this week of French games software developer Atreid Concept, and the company sees the acquisition of SSI, with its experience in strategy and role-playing simulations, as "a cornerstone in our efforts to establish Mindscape as a major player in the field of entertainment software", according to Mindscape chairman and Chief Executive Officer, Bob Lloyd.

SSI has published over 150 games to date, but is probably best known for AD&D-style role-playing games like Dark Sun and the classic Eye of the Beholder series. However the company recently lost the rights to use the official AD&D tag with its new games, now that TSR has decided to publish its own range of fantasy computer games.

Mindscape, was itself recently bought lock, stock and barrel by international media group Pearson (with interests in Penguin Books, the Financial Times and Thames Television, among others).



SSI's Dark Sun is now part of the Mindscape catalogue.

IBM looking for Leonardo



Computer giant IBM has just launched a new scheme (well competition, really) to "stimulate, encourage and reward the creative use of PC's in the home and in business". In other words, come up with a bright idea about ways to use PCs and PC software designs and you could win a prize. Don't they have an R&DE department for this sort of thing?

Anyway, the IBM Leonardo Da Vinci award is aimed at computer enthusiasts, students, gamesplayers and home PC users generally. Entries are divided into five categories. These are: multimedia, programming, essay, creative freestyle (nothing whatsoever to do with swimming) and slogan. Entries will be judged in mid-January.

Prizes consist of 25 high-powered IBM Thinkpad notebooks, plus a trip to IBMs Florida research labs for the overall winner. Entry forms and brochures are available by writing to Leonardo Da Vinci Competition, Freepost (SW 5198) London SW5 1YY, or by calling (071) 381 0780.

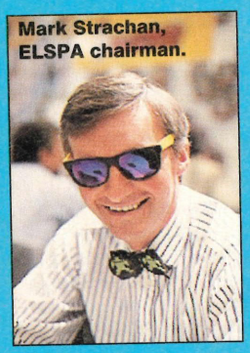
Wearnes goes for eighty megahertz 486 chip

Asian computer manufacturer Wearnes has set up shop in the UK as Wearnes Thakral. The West Drayton-based operation has set itself an ambitious sales target of 1,000 systems per month aimed at both the home and office user.

The most interesting feature of the Wearnes home and office PC range is that it is one of the first to feature the new 80MHz AMD 486 processor, which the company claims offers something in the region of a 12 per cent performance improvement on the conventional 66MHz Intel DX2 chip. Earlier this year, Compaq was one of the first major PC manufacturers to sign up with Intel's big processor rival.



ELSPA launches players charter


Mark Strachan, ELSPA chairman.

Games industry watchdog ELSPA has unveiled the Games Players' Charter a series of guidelines and commitments for parents and gamers, designed to coincide with the peak Christmas sales period. The Charter is being distributed in conjunction with 2,000,000 leaflets entitled A parents' guide to computer and video games.

The charter confirms that as from last September, all members of ELSPA will include an age suitability sticker on the packaging of their games. Not surprisingly, Doom 2 was one of the first games to award itself an 18 rating.

This is part of ELSPA's commitment to inform parents of the content of video games. The charter also includes a commitment from the membership to fight against pornographic and illegal software.

According to Mark Strachan, chairman of ELSPA, "Unlike previous generations' toys, such as model trains or dolls, parents tend to find computer and video games complex and inaccessible. As a consequence, they have tended to view them with a certain amount of unwarranted suspicion. This is why we are introducing the Charter and the Parents' Guide as further reassurances to parents."

ELSPA also points out in the charter that as much of the responsibility for the material viewed by children in computer games rests with the parents — in the same way that it does with television — as it does with the games developers.

Games players are recommended to follow a series of ELSPA guidelines for healthy gaming . . .

● Not content with being the first 18 rated game (Doom 2), Doom now plans to take on Hollywood with Doom-the-movie. Ethos Films has bought an option on rights for the film, and is working on the project with Universal Pictures and Northern Lights Entertainment. Any takers on Big Arnie for the starring role?



Doom 2 gets an ELSPA 18 rating.

Manchester United's CD Dream team

Budget software specialist VCI has the perfect Christmas present for every United fan who feels the need to gloat indefinitely — Manchester United Interactive, aka 'everything you ever wanted to know about Manchester United's 1993-94 double-winning season, on a CD-ROM'.

The £34.99 CD is VCI's first venture into full price CD-ROM software. It has been produced by Fit Vision in conjunction with the Manchester United FC, of course, and Zone Publishing. It features video clips, full-colour photos, music and action from every match of the season, and every player, as well as the obligatory selection of trivia questions for football know-it-alls.

For more info, contact VCI on, (0923) 255558.

EDITOR'S COMMENT

Games for grown-ups

As you peer through the window, you can see a man tied to the bed. A woman in a tight red dress and a revolver in her hand approaches him, climbs on to the bed and straddles him. He's not complaining . . .

Excuse me for sounding like a Jackie Collins novel, but this is the opening to Voyeur, one of the current crop of PC games that demonstrates that a number of mainstream games publishers are taking the PC's 'adult' image to heart with their forthcoming releases.

There are several mainstream commercial games coming out over the next few months which will carry an 18-rated sticker, and which will contain 'adult' material. Ecstatica, 11th Hour (the follow-up to 7th Guest) and Voyeur are three that spring immediately to mind. Ecstatica and 11th Hour are both supernatural mystery stories, Voyeur is a more straightforward modern-day detective game. Voyeur has a bit of sex, Ecstatica a lot of violence and 11th Hour quite a bit of gore.

Hang on a second, though, what's the big deal with violence and a bit of gore? Haven't we all spent the better part of a year cheerfully splattering opponents in Doom? So Mortal Kombat isn't violent?

It seems to be that the main difference between the three I've picked as an example and the other four is in graphic presentation and treatment. Doom may have been praised for its graphics and for the graphic techniques used but it's still cartoon violence, as is Mortal Kombat. The argument here is that no-one's mind ever got warped by Tom & Jerry.

Ecstatica, on the other hand, uses modelled polygons and dwells lovingly on the more nasty aspects of fiendish goings-on in its village setting. Moreover, we've had it in the office for a couple of days as I write this, and it's utterly absorbing — very cleverly portrayed, very atmospheric and satisfyingly scary. I'm not sure how comfortable I'd feel about young children playing Ecstatica, but I wonder how long they'd stick it, given that the storyline about demonic possession is quite complex. Similarly, after that bit of slinky femme fatalism at the beginning, my bet is that most small kids would find the detective work needed in Voyeur plain boring.

The distinction between direct, cartoon-like violence being OK, and indirect, more sinister and more sexual violence involving more realistic graphics being restricted is borne out by current legislation.

Games publishers who are members of ELSPA, the European Leisure Software Publishers Association (which is the vast majority) all carry the voluntary age range stickers on the games boxes (see story left). Under the current Video Recordings Act, however, computer and video games are exempt from classification unless they depict, to a significant extent, scenes of violence or mutilation towards humans or animals, violence in a sexual connotation, or sexual activity. If they do, they have to go to the British Board of Film Classification to be rated. And where the digitised characters in Voyeur are recognisably people — you'd recognise them in the street — those in, say, Syndicate, which is certainly a violent game, could be considered indeterminate — just 'on-screen pixels'.

This strikes me as being sensible. Over 70% of PC Review's readers are 20 or older, according to our latest survey, and if you extrapolate from that that the majority of PC games players are adults, it seems unfair to restrict us to a diet of games based on fairy tales (achieve the quest and marry the princess/get the girl) or a modern day equivalent of cowboys and Indians, as in orcs versus cyborgs, ninjas versus aliens. If we can cope with complex plots in novels, psychological thrillers in the cinema, raunchy scenes in the theatre and hard-boiled detectives on the TV, then why not on our PCs too?



■ Christina Erskine

PC CHARTS FULL PRICE

This week/Title (last week in brackets)	Publisher/developer
1 (1) Doom 2	Virgin/Id
2 (2) Colonization	MicroProse
3 (3) Sim City 2000	Mindscape/Maxis
4 (5) Tie Fighter	Virgin/LucasArts
5 (6) Krusty's Super Fun House	Virgin
6 (8) System Shock	EA/Origin
7 (4) Theme Park	EA/Bullfrog
8 (7) Space Simulator	Microsoft
9 (10) Daemonsgate	Gametek
10 (15) Fifa	EA
11 (9) Cool Spot	Virgin
12 (12) X-Wing	US Gold/LucasArts
13 (14) Lemmings 2	Psygnosis
14 (19) Premier Manager 2	Gremlin
15 (11) Flight Simulator 5	Microsoft
16 (13) IndyCar Racing	Virgin/Papyrus
17 (17) TFX	Ocean/DID
18 (18) Overlord	Virgin/Rowan
19 - Ryder Cup Golf	Ocean
20 - Award Winners	Empire

PC CHARTS CD-ROM

This week/Title (last week in brackets)	Publisher/developer
1 (1) Doom2	Virgin/Id
2 (5) Theme Park	EA/Bullfrog
3 (6) Rebel Assault	US Gold/LucasArts
4 (4) Encarta	Microsoft
5 (3) Privateer/Strike Commander	EA/Origin
6 (2) PGA Tour Golf 486	EA
7 — Sam & Max	US Gold/LucasArts
8 (8) Day of the Tentacle	US Gold/LucasArts
9 (7) TFX	Ocean/DID
10 — Desert Strike	Gremlin

PC CHARTS BUDGET

This week/Title (last week in brackets)	Publisher
1 - Championship Manager 94	Domark
2 (1) Doom (TS)	Titanium Seal/Id
3 (2) F1GP	DI/MicroProse
4 (3) Doom	Crystal Vision/Id
5 (6) Eye of the Beholder 3	Kixx/US Gold
6 (4) The Premiership	Codemasters
7 - Police Quest 3	Kixx/US Gold
8 (7) Arcade Pool	Team 17
9 (8) Easy to Learn Computing	VCI
10 - Place Your Bets	VCI

Charts compiled by Gallup. Copyright of ELSPA

In Brief

● CompuServe, the huge commercial BBS has added another option to its extensive list of services — a Time-Out-style guide to entertainment and events

Updated weekly, the "UK What's on Guide" (for which you simply type GO UKWO) includes details on everything from films, plays, concerts and operas, to dance, art, exhibitions and all sorts of other events.

It can be searched according to location, type of event, time and so on, and gives all the necessary information for booking seats and buying tickets.

For more information, contact CompuServe on (0800) 289378

● The Rugby Football Union (RFU) joins the 20th Century with the launch of a CD-based rugby coaching aide for 11-14 year olds. Free copies have already been sent out by the RFU to schools, and there is a sliding scale for extra copies for schools and clubs. Individual copies can be bought from Supercoach, telephone (0121) 585 1301 priced £39.95

● Windows Chicago has gone through yet another name change — it's now going to be released under the name Windows '95. At least that ties Microsoft down to a specific date, well, year anyway for the 32-bit operating system and front-end. When it does finally arrive, Windows '95 is expected to sell between 20 and 30 million copies in the first year alone.

● Virgin is continuing development of the 'world's largest entertainment store' at a rate of knots. Over the past five months, the Oxford Street Virgin Megastore has had a £10 million spend on it, and final plans include a videodrome and a dedicated PC centre on the first floor.

● LucasArts is putting X-Wing, Imperial Pursuit and B-Wing on one collector's edition CD-ROM, complete with a whole new set of missions and enhanced graphics. Published by Virgin Interactive Entertainment, the disc will cost £49.99 and is due out this month.

● Where will it end, we ask? A new compilation album called Sea of Tranquility on the Echo label features — as well as its normal quotient of ambient-techno-rave musical meanderings — a demo of Virgin's forthcoming 3D adventure game Creature Shock. Apparently it's a first time for this kind of cross promotion, but we're betting it won't be the last.

Sign of the Times

One Year Ago

David Braben finally decided enough was enough and unleashed Frontier: Elite 2 on an unsuspecting public — after a five year wait. An almost unheard of game, Doom, got its first, tentative preview . And the entry level PC suddenly became a 486/25SX.

Two years ago

Alone in the Dark was the big smash hit horror game that catapulted French software publisher Infogrames from relative obscurity to the top flight. MicroProse surpassed itself with the truly dreadful Mantis XF700. US Gold launched its Kixx/XL budget label and the CD-ROM bandwagon was just getting rolling, with encyclopaedias and almanacs a-plenty..

Three years ago

Top selling game was the LucasArts WW2 flight simulator Their Finest Hour, and top rated games were Rick Dangerous and Sim Earth. Disney was just getting in on the software biz, with projects like Donald's Alphabet Quiz. And software publisher Renegade came into being as a joint deal between the Bitmap Brothers and Rhythm King: first game in the pipeline? Gods.

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THE COOKE REPORT

I've been playing Theme Park quite a bit recently. This game has received a great deal of attention and rightly so. It's full of graphic and musical detail, with a wonderfully rich set of relationships between what you do and how the little people in your park react.

Unfortunately, it also has a wonderfully rich set of bugs, which is why the game features so prominently in this last instalment of our mini-series on the Ten Most Gag-Making Design Features of All Time. You might argue that bugs aren't design features, but when Theme Park fails to fit its messages into the box provided, and just overprints them across the border and on to the display, I think we're entitled to call it a feature, even if it is unintentional.

Most of you who wrote in with your list of Gag-Making Features mentioned bugs, which I guess is understandable. A game that doesn't work is pretty sickening. My personal favourite was a game called Legionnaire, which I think was put out by Software Projects in 1983. This little adventure started with a puzzle where you had to GO UP in to an attic. Unfortunately, the programmer had forgotten to include the word DOWN in the game's vocabulary, so the attic was where you stayed for the rest of the game.

Bugs are pretty obvious, but James Solla (I hope I've spelt the name right, James) got all wound up about games that ask you to make a decision. I'd never thought about this one, but on reflection I have to agree. Games which keep interrupting the storyline or action to ask you whether you will, (a) Say you've had enough of the Yeti, (b) Kiss the Yeti, (c) Kill the Yeti have a certain je ne sais quoi mais c'est naff about them, do they not?

Will Philips complained about games that had pretentious intros. "Take Dune, for example", writes Will. "If you have the CD version, you get this endless flowing panorama of deserts and mega-graphics, then the program suddenly dumps you in interactive mode with a stupid little figure to move around. Ugh!"

And while we're on the subject of intros, several people complained about poor endings. This subject has also been debated recently on some of the games groups on the Internet, with System Shock getting particularly bad marks. People seem divided between those who think that the game's the point, and the ending merely a full-stop. Others see the ending as a reward and want it to be as lavish as possible.

Jonathan Sinclair was brief and to the point. "There's only one thing I can't forgive in a game," he wrote, "and that's boredom." At first I was inclined to ignore this comment, but then the spectre of Ultima 8 came to hand. I don't know what the rest of you think, but after hours of struggling, I've decided that this game is boring. I like extraneous detail in an environment, but U8 has got so much that you spend ages fiddling with irrelevancies, without actually getting very far in the game itself. Do I really have to look behind a thousand clocks, barrels, jackets, and lumps of cheese to find a single key? And what's it all for? To open a chest that has yet another selection of scrolls and potions.



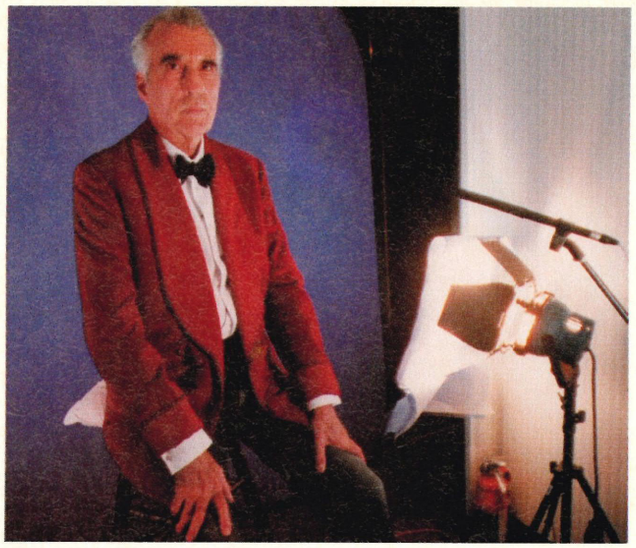
One of the most common comments concerned something we've mentioned before: sudden and senseless death. However, I didn't agree with Justin Abrahams, who seemed to think that the death of your character was always wrong! Justin complained specifically about Ultima 7, in which his character was already getting killed. Methinks, Justin, that it's not the game that's deficient, but your Avatar.

We've already listed Ten Things That Make A Great Game. I suppose that in some ways you could simply put "...NOT" at the end of each of those points for a definitive list of Gag Making Features. But after reading your letters, I think the best thing is to lay the sorry subject to rest with an example.

After an intro that failed to reach four frames a second, in which the camera flies over the Alps (silently, because your sound-card wasn't supported), you are dumped into interactive mode in an Alpine village where all the houses are the same. Suddenly a Yeti appears. You are asked whether you want to (a) Fight or (b) Run. You select (b). Your character is instantly killed. The message 'End of Game' flashes up and the PC resets, erasing several valuable files.

I'm sure most of you can come up with an even worse scenario than that. I look forward to receiving them, and will print the worst. You have been warned . . .

■ **Steve Cooke**



Ghost stories

MDI's latest CD-ROM release 'Ghosts' stars none other than arch horror movie actor (no he's not dead yet, that's Peter Cushing) Christopher Lee.

In the CD, Lee plays Marcus Grimalkin, a Doctor who has 'devoted his life to the study of ghosts and the paranormal' (and there we were, thinking they were one and the same . . .).

Lee is your guide and narrator on the CD, which takes you through the secrets of Hobbs Manor and dramatised reconstructions of famous ghost stories.

Ghosts was released at the beginning of this month, priced £34.99. For more information, contact MDI on (0252) 737630.

Time Computer goes a bundle on software

The hype surrounding the Internet is all very well, provided you have a means to get at this global network. Time Computers has put together a complete kit designed to make that as simple — and cheap — as possible. The £199 package comprises a US Robotics 14.4 fax and data modem, Quicklink 2 comms software, and a month's free subscription to the popular commercial BBS, CompuServe.

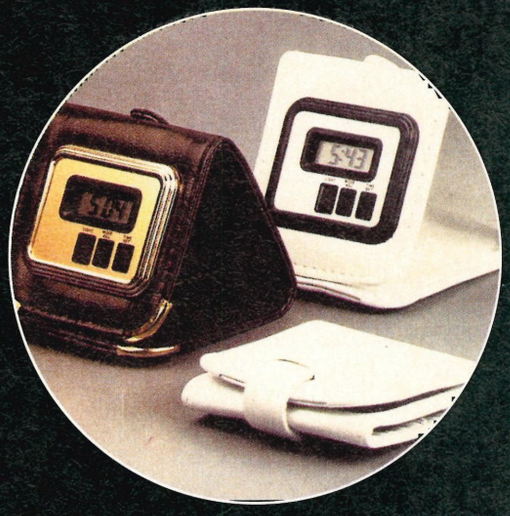
The company has also put together a special software bundle to complement its PC range this Christmas. The hefty package includes over 25 titles ranging from business and DTP applications to education and games software. The Time PCs start at £899 (plus VAT) for a 486 SX/25, rising to £1,799 for a full-blooded Pentium PC.



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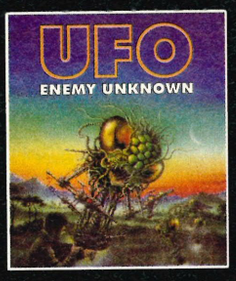
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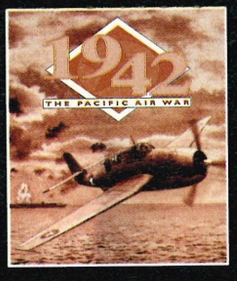
MICROPROSE TRAVEL ALARM CLOCK

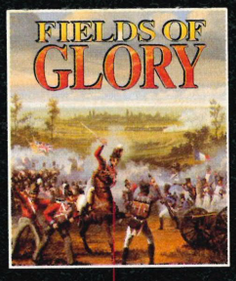


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PC Review is proud to offer you a stupendous deal on DID's superb space opera Inferno. We've joined forces with the high street retailer Dixons to bring you Inferno — at half price!

Now this is one offer *not* to be sniffed at. We reviewed Inferno in Issue 37, and among other things, reviewer Dean Evans, fully paid up member of the Inferno fan club, said:

"If you liked TFX, but wished it could have been a bit simpler, then Inferno is the game for you. With deep-space combat, flight sim-style ground assaults and lots of flying through twisty corridors . . . Inferno justly deserves the attention it's been getting."

Normally, Inferno costs £49.99 on CD-ROM. But with this special introductory offer, you can just walk into Dixons and walk out again moments later, clutching your copy of Inferno and only £25 lighter in your pocket.

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3. Locate the copies of Inferno conveniently stacked in the games display area.

4. Pick out one Inferno box, take it to the sales counter, and present the voucher to the sales assistant along with the copy of the game.

5. Then pay just half price for Inferno!

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This offer is applicable from November 14 until December 24, 1994. Not before, and not after. Also note: while we usually take competition entries on photocopies from the magazine, photocopies are not acceptable for this special offer. You must present the original voucher to claim your half price copy of Inferno.

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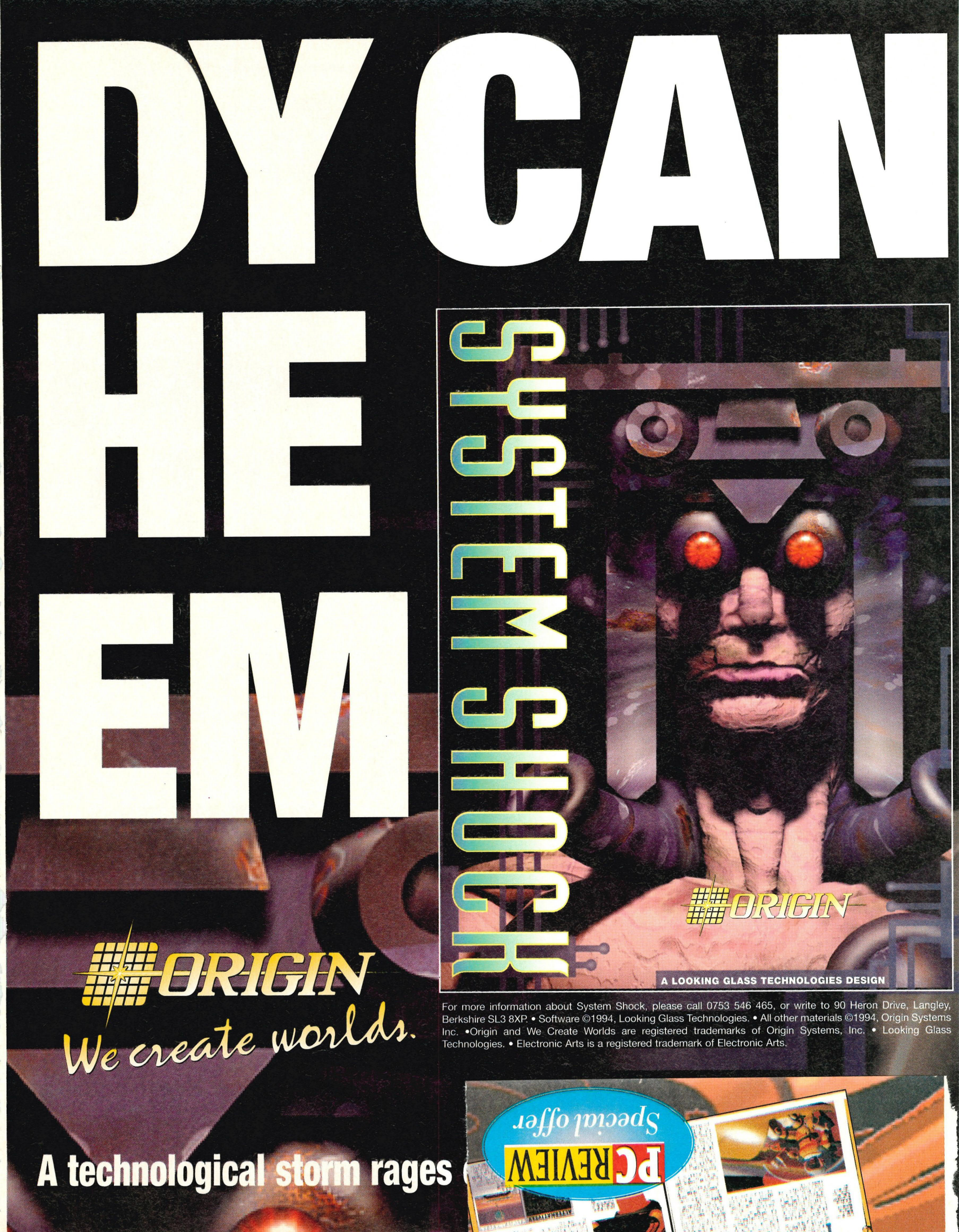








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A technological storm rages

COVER STORY



Right: the difference between MPEG and software compression is clear in these screens from the MPEG (below) and non-MPEG (above) versions of The Horde.

MPEG technology gives you full-screen, full-motion video on your PC. It looks set to become the standard for video on the PC within the next year. Martin Klimes explains what MPEG can do for you, and test-drives a selection of the latest MPEG boards.

The big picture

So, you loved that bit where the Star Destroyer roars overhead for at least a minute at the beginning of Star Wars. In the cinema it looks as though you could actually reach up and touch the hull. On your TV it's still big and menacing, and at least a mile long. But what happens if you transfer that piece of video history to your PC? You run into all sorts of trouble.

Why can't we easily play videos on our computers? The main problem has been the amount of data it takes to make up a graphics image. A high resolution picture of photo quality takes up several megabytes of space. To animate that at even 24 frames per second would put even short clips out of reach of anybody without a humungous hard disk. And even then, how do you transfer files around from one PC to another?

The answers to those questions are two-fold. The emergence of CD-ROM means that 600Mb or more can be stored on a single CD-ROM disc. That's a lot better than a 1.44Mb floppy, but it's still not enough to cover video playback. The solution is to compress, or shrink the data to a manageable size, and there are two ways to go about it.

"You can fit a whole movie on two CD-ROMs and an increasing choice of video CDs."

One method is to compress data using software technology, the other using hardware. Looking back on those pioneering days of computer video, hardware proved a powerful route, with better compression on offer without too much degradation of image quality, and giving quicker decompression than could be achieved with software.

Not that software compression hasn't become popular. Far from it. See the panel to the right for the software viewpoint. However, as the software routines became more accepted, one particular design of hardware turned into the first true standard for home computing video compression — MPEG (which stands for Moving Picture Experts Group — a modest bunch). It has just taken this long to emerge.

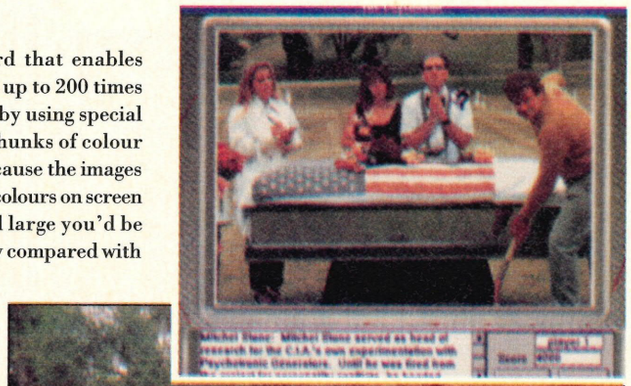
MPEG and RealMagic

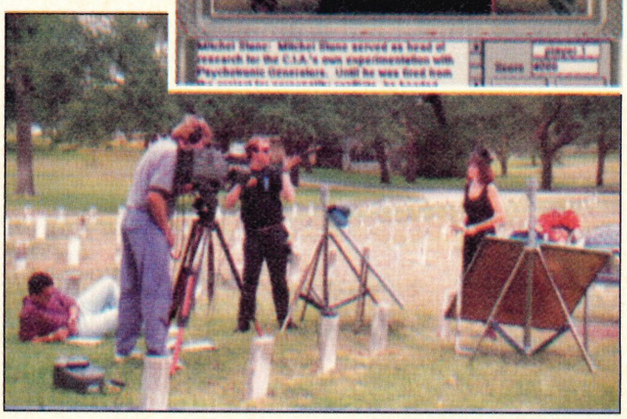
MPEG is an encoding standard that enables graphics data to be compressed up to 200 times with minimal loss of resolution, by using special hardware. Occasionally solid chunks of colour look a bit blocky at the edges because the images aren't in True Colour (64 million colours on screen at a time, as on TV), but by and large you'd be hard pushed to fault it, especially compared with standard 256-colour VGA.

The algorithms have since been used outside the PC field in 3DO, CD-i and VideoCD players. You can fit a whole movie on two CD-ROMs, and indeed there's an ever-increasing choice of video CDs available, including box-office films and music videos.

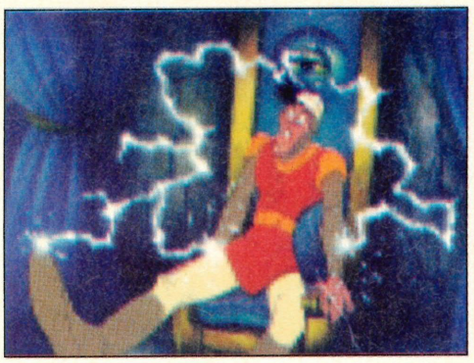
More importantly, you get full screen playback instead of the quarter screen that most software compression offers.

As nice as it is to play movies on your computer at full-screen size, there are more uses for the technology than that alone. This was something that Sigma Designs realised when it brought out the RealMagic card, the first major commercial card in the PC market. It promoted Sigma Designs as synonymous with MPEG, and MPEG as the biggest advance in graphics technology since cave paintings. Back in those days they had little competition, but had to scale the huge hurdle of





Right: to get a final result of suitable quality for games and multimedia programs you need to get proper film crews and actors in, a fact that slowed the rise of video on computers originally.





Above: these two shots from Dragon's Lair clearly show the difference between the quality of a standard 256 colour VGA screen (left) compared with MPEG (right).

popularising this new technology.

Since then Sigma Designs has struck some deals to get developers producing a range of products from games (such as Activision's Return to Zork) to interactive multimedia experiences (like the recent 'Squiggle' — or Artist Formerly Known as Prince — CD-ROM). MPEG has also spread into the realm of education software as well as reference software.

The fact remains, though, that Sigma simply didn't have the clout to make its voice heard by the masses, and MPEG by and large remained the sole preserve of the techies and some businesses who saw the value in producing training videos and full screen, full motion video presentations.

For us mortals in the home market, MPEG has remained expensive and badly supported. The MPEG card costs lots, the CD-ROMs cost lots, and there weren't many of them. Those of us who predicted that MPEG hardware would find its way on to graphics cards instead of having a slot to themselves, thereby reducing overall costs, found that no such move took place.

As it stands

Now, however, things are beginning to move. Sigma has renamed the original ReelMagic as RealMagic — although inside the box little has changed. And in the rest of the industry, things have also moved on.

For the first time there is now a choice of MPEG cards on offer. Each hits the shelves at a different price, with different software options, and different technology on board, so you can choose the one which suits your needs best. On the next three pages, our group test of MPEG cards clearly shows the assets and drawbacks of each card.

It's not just the MPEG hardware that's changing. You can now buy a number of software titles which will run under MPEG. In the last six months, the number of titles using the technology has risen substantially.

There are more movies available on video CD now than ever before. Many come from large and reputable companies like Philips, but — as in the early days of CD-ROM — there is a disturbing rise in the number of rapidly assembled re-issues of old back catalogue titles. This will continue as the price of the kit needed to encode MPEG format video goes on dropping. Any Tom, Dick or Harriet can cut an MPEG movie nowadays without getting a second mortgage for the house.

As it stands it's worth being a bit careful about getting all those oldies you love on MPEG. Because the copyright is relatively inexpensive, there are lots of these titles popping up, and they surely don't look anything as good as the TV originals.

There's probably nothing wrong with your MPEG card; if you get poor resolution then it's odds-on that it's the disc product you shelled out for that's to blame.

On the games front things are looking up too. Return to Zork has long been used as a standard piece of PR for RealMagic, showing the difference between MPEG and non-MPEG versions. Expect to see more and more of this sort of thing in the year ahead, as MPEG technology enters more and more homes.

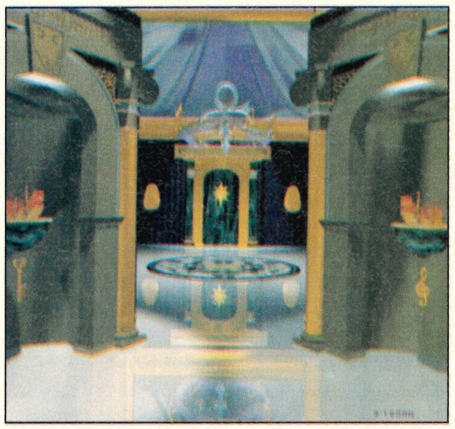
Where to next?

MPEG finally looks like exploding on to our monitors in a significant way over the coming half year or so. Realistic prices and more products that support the standard will lure the technology away from the 'office use only' mentality, and we'll all be the better for it.

However, no sooner has one standard made itself seen, than another comes along. Enter MPEG 2, the standard that's almost official. MPEG 2 is a far tighter and higher level standard, and in hardware terms that means far more expensive. Don't expect it to be a reality for the home market for a long time yet, if ever. However, the quality is good enough that it scrapes in to the bottom specification necessary for TV and video companies to consider it professionally. Indeed, MPEG 2 could be just the ticket for movies on demand via cable networks, depending on where the networks take the technology — and if the decoder in your PC can be brought down to a realistic price.

Either way, it'll be some time before the quality of video on your PC matches the quality on the TV screen. Until then, that Star Destroyer in the Star Wars opening sequence can use the MPEG 1 route to give you a full-screen thrill, albeit a bit of a blocky thrill at times. If MPEG hardware makes it onto graphics cards as standard, then the days of software compression may yet be numbered.

Below: full of full-screen video as well as CD quality music, it's easy to see why Warner Brothers got seduced by the MPEG format.



Below: yes, even Prince is at it — producing an interactive CD-ROM called simply Interactive and boasting a new song. The song's also called Interactive, but is more about the interaction of men and women in the bedroom. Now there's a surprise.



SOFTWARE VS HARDWARE

If you were a software developer planning to create a game or multimedia reference library with video which would you choose, the hard or soft option?

This was the very dilemma faced by multimedia company MDI recently with the slow rise of MPEG. It had produced a CD-ROM with video way back in 1990, the Dictionary of the Living World, which had over 40 minutes of video footage. This was before research into hardware compression had developed very far. So MDI used its own proprietary routines to make quarter page video clips that fitted on the CD-ROM.

Nowadays it uses both Indeo and Quicktime, but hasn't yet produced an MPEG product, despite the possibility of full-screen video. In fact, one reason it hasn't used it is because of that feature.

Philip Nash, managing director of MDI, explains, "We haven't moved to MPEG for two reasons — there isn't a big enough installed base of MPEG cards yet, and we want our products to be available for everybody who owns a PC to use. Partly, it's because if we use full-screen video we won't have anywhere to put the interface to our software, the icons and such.

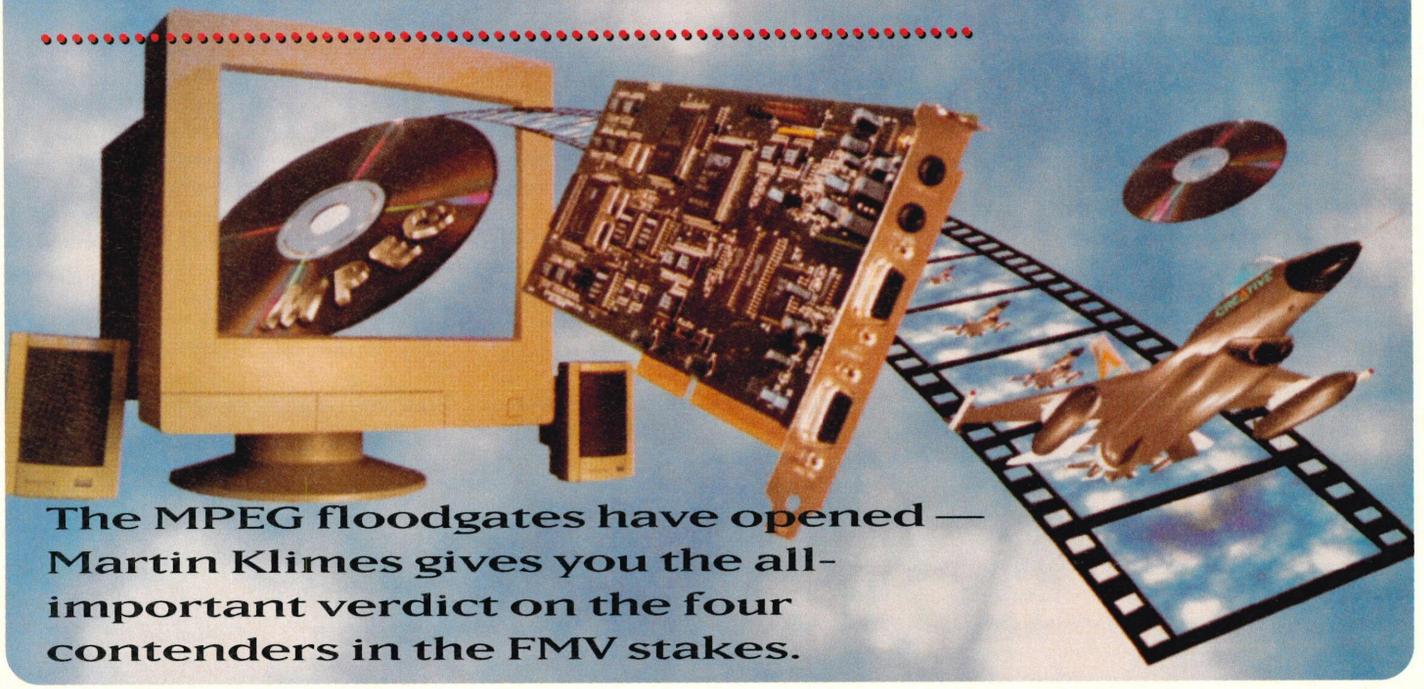
"In about six months' time we'll probably look into a product that has three-quarter screen video for MPEG owners and our usual quarter screen images for those who don't have an MPEG card installed. To be honest, we believe the future is in software compression anyway, but it's a matter of time before it gets as good as MPEG and we can ditch the idea of another card in our PCs."

The MPEG card manufacturers claim that that will take a very long time indeed (but then they would, wouldn't they?).

Pick a card ...

GROUP TEST

MPEG video cards on test.



The MPEG floodgates have opened — Martin Klimes gives you the all-important verdict on the four contenders in the FMV stakes.

A few months ago, the MPEG card market was simple. It was Sigma's RealMagic or nothing. Now there's a much wider choice, and in this group test we intend to steer you through to the best deals around. After all, with a big name like Creative Labs putting its advertising clout into the technology, you can expect to hear a lot about that card in particular, but MPEG is more than RealMagic and/or Creative Labs. There are other quality manufacturers about.

We'll be looking at four kits in total. Apart from the veteran RealMagic from Sigma Designs, we'll take on board the Creative Labs Video Blaster MP400, Ace Coin's Movie Master 24, and the Movie Card by Bluepoint. Aside from the already well established RealMagic, all four should be hot off the production line as you read this.

The categories

MPEG cards aren't simple pieces of electronics. The ribbon cable's connected to the video card. The audio cable's connected to the sound card. The monitor port's connected to the MPEG card. And within moments it looks like spaghetti junction inside your computer.

If you want to ensure that your video playback plays back and that the movie sound is synchronised, then it helps to have a good set of instructions. And after all the palaver of setting up the hardware it would be nice if the software installation was easy to use too. These were just two of the things that came under our beady eye when we considered the four cards.

Once it's up and running, of course, the important thing is whether it does the job, and whether it does it better than the opposition. We've put them through their paces on that one, too, checking for picture quality, sound resolution, and any quirks such as particularly slow running. After all, the whole point of MPEG is that it's real-time decompression.

Following that we took a step back and considered the various deals you get with the different cards. While one company might go heavy on bundling all the latest software, others think the hardware is the central sales point. What do you actually get for your cash, and what's the difference between various versions (like RealMagic and RealMagic Lite)?

Lastly, of course, we'll be assessing the overall value for money of the entire shooting match, looking for the sharpest deal, pound for pound. By the end you'll know exactly what you'll get and what's the difference if you buy the Video Blaster MP400 as opposed to the Movie Master 24, to take a random example.

Sigma Designs RealMagic

Sigma Designs has the oldest card on the market, the trailblazer among MPEG boards (first featured back in issue 25 of PC Review). This doesn't mean that it's technologically backward in any way. If anything this is an advantage because up until now the MPEG standard was very much the Sigma Designs standard.

What that means in real terms is that a lot of software produced for MPEG in the past has been published with a 'RealMagic Compatible' sticker rather than 'MPEG Compatible'. In theory the technology behind all the cards is the same, but in practice certain products have added encryption routines specific to the RealMagic board in them. Activision's Return to Zork is a good example of this. Play it with one of the other cards installed, and you'll get some very disconcerting results.



Above: completely repackaged, and with CD-ROM drive connectors and 16-bit sound card on board, the RealMagic card feels like a whole new product.

This is a problem that plays right into Sigma Design's hands, and is worst with games. However, from now on, with plenty of competition out there, it's a fair bet that you shouldn't have any problems with new titles being released. And that fact largely negates RealMagic's advantage. Then again, Sigma is pushing for its application programming interface (API) to be included in the next-generation MPEG standard, which would again give it the edge.

Other than that, the card plays Video CDs in 16-bit playback at 25 frames per second. This isn't quite as high a specification as a couple of the other

boards, but the quality you get is still fair. There is more blockiness where there are large patches of a single colour, but you really have to have one of the 24-bit cards playing right next to it to notice the difference. By plugging into a 16-bit sound card for instance, you can get the most of the range of music videos in MPEG format that Sigma Designs has organised with Warner, as well.

The RealMagic card has recently been modified to include connnectors for Sony and Panasonic CD-ROM drives and it now has full (if basic) 16-bit sound card capabilities. For installation this effectively means that you have extra cables and wires to attach correctly, as well as more chance of a conflict later on. The whole procedure isn't easy, even though the software is decent enough.

On the plus side, if you take Sigma Designs up on its full multimedia kit then you don't need a sound card or a separate CD-ROM card. This option, which comes as a package with double speed CD-ROM drive, speakers and 15 pieces of software (of variable quality, but not a bad mix all round), will set you back £549, while the RealMagic card without CD-ROM drive and a slimmed-down selection of software costs £339. There is also a version with the sound card stripped out and only the native sound features on board, called RealMagic Lite. If you already own a 16-bit sound card, or intend to get a high quality board for your other computing needs, then this is the option for you, and is available for a very respectable £249.

SIGMA DESIGN REALMAGIC

- Minimum PC 25MHz, 386 processor, VGA graphics, 2Mb RAM. Since the decompression is in realtime, this is a viable minimum and not hopelessly slow.

RealMagic proves that the oldies can still be goldies.

Supplier:	Sigma Designs
Contact:	(0279) 442842
Price:	£249, £339, or £549

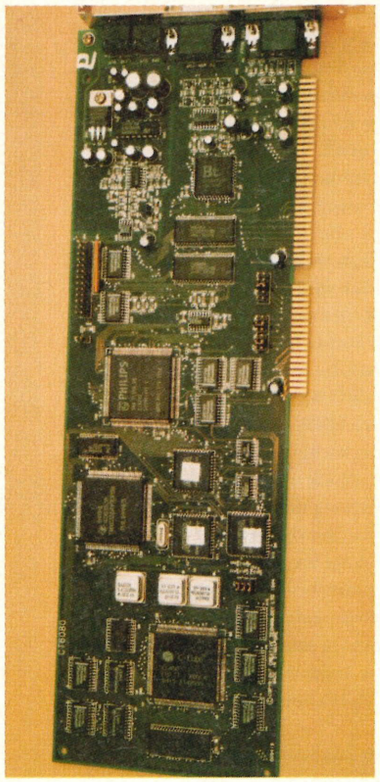
PC REVIEW 8 RATING

Creative Labs Video Blaster MP400

For a company that does a mass of different multimedia kits , Creative Labs has plumped for a surprisingly simple package. Your £299 buys you a board with connectors and cables, pure and simple. There are no various pricing strategies this time.

The Video Blaster MP400 is a dedicated MPEG card. No more and no less. You plug another sound card (Creative hopes that it's one of theirs) in to it, and need to run the CD-ROM drive from elsewhere.

This is no-frills computing, which makes installation easier, assuming you have the rest of the system configured correctly. The instruction manual is excellently laid out with a step by step diagram-filled guide to hooking up the hardware, and a no-nonsense run-through of the software. Installation really is very easy.



Above: Creative Labs will be getting its corporate muscle behind MPEG, promoting the technology and particularly their card, the video Blaster MP400.

With that hurdle over, one nice feature of the Creative software is the easy setup interface. If you want to change colour saturation or picture alignment then you're welcome. All it takes is a click of the mouse, in either DOS or Windows. Your MPEG comes in a scaleable window with a video player that is designed to emulate the front panel of a VCR in real life, once again for ease of use. The style may not be to

Below: The Creative Labs software is thoroughly easy to use, as always. Installation and setup are a dream, and the video player (shown bottom) is very pleasant to use.
From these screens taken through a Video Blaster MP400, the quality is obvious, as is the fact that the Video Blaster is equally at home in DOS and Windows.





TYPICAL

YOU WAIT

ALL YEAR

FOR A

QUALITY

COMPILATION

everyone's taste, but it's pretty much standard fare for Creative Labs products these days.

The card itself is, disappointingly, only a 16-bit card, which seems steep at the price. Remember that the equivalent package from Sigma Designs costs £50 less, and Bluepoint offers a 24-bit card for £100 less.

As with RealMagic, though, it would be harsh to say that being a 16-bit card gives it a much worse performance. The Video Blaster MP400 is a little muddy in certain situations in comparison with the 24-bit offerings, but you'd be hard pushed in a moving picture to spot the difference. It played all we put at it quite happily, with the exception of certain RealMagic-specific titles.

CREATIVE LABS VIDEO BLASTER

- Minimum PC 25MHz, 386 processor, VGA graphics, 2Mb RAM. MPEG, remember, is a standard, so the minimum PC needed to run any of these cards should be the same.

Expensive for a 16-bit card, but well put together and with good playback software.

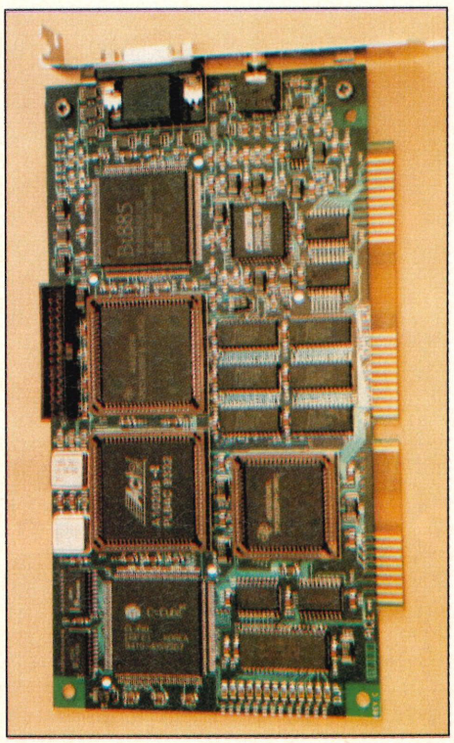
Supplier:	Creative Labs
Contact:	(0734) 248590
Price:	£299

PC REVIEW RATING 6

Ace Coin Movie Master 24

The Movie Master 24, which is distributed through software and peripherals specialist Unica, is a lovely petite card. All that MPEG know-how goes into a space almost half the size of either the RealMagic or Video Blaster MP400, and it's 24-bit rather than 16-bit technology. The card looks good, there's just no two ways about it.

When you open the package, you'll find an installation procedure that's been worked on to become particularly slick. You shouldn't need to mess with any jumpers, the cabling isn't overly complex, and the software's self explanatory. With this card you'll be up and running VideoCD movies in no time at all.



Above: the Movie Master 24 is the smallest of the cards, but is a full 24-bit MPEG system. Designers Ace Coin have gone to some lengths to produce a value package including a card with quality playback and a good group of bundled programs.

Four titles are included with the package, a music video and compilation video from Philips, Opera Imaginaria, which is a European venture putting opera to high-tech graphics, and a disc of royalty-free clips for your own use.

It's a good mix to get you started and show the possibilities of the technology.

Although Philips CDs are included, they will be in the standard 'white book' format, rather than the 'green book' that Philips previously promoted. There is, therefore, no need to use certain special CD-ROM drives, which used to be the problem with playing green book titles on a PC.

Furthermore, the fact that there is now a non-Sigma Designs package for software developers to use means that we can be fairly certain that the days of the RealMagic-only product are over.

Ace Coin also plans to manufacture a 16-bit version of the card for around£299 , rather than the £349 price at which the current 24-bit version of the card retails.

We haven't seen this lower specification card, of course, but really it seems like a false economy trying to save yourself £50 this way, because the quality of the 24-bit image is very nice indeed. Rich, saturated colour in solid areas, without blocky lines at the edges.

You can't ask for more in an MPEG card, except perhaps an even better price.

ACE COIN MOVIE MASTER 24

- Minimum PC 25MHz, 386 processor, VGA graphics, 2Mb RAM. The package also contains a variety of interesting software to get you started with MPEG.

A very capable card, but substantially undercut in price by the Bluepoint board.

Supplier:	Unica
Contact:	(061) 429 0241
Price:	£349, £299

PC REVIEW RATING 7

Bluepoint Movie Card

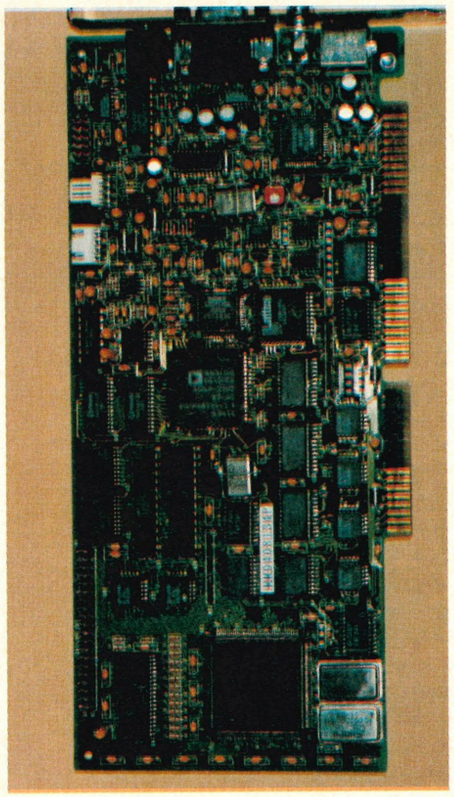
Without skimping on quality, and on occasion even producing better equipment than its rivals, Bluepoint seems to manage to undercut the opposition in every field it enters.

The Bluepoint card is a 24-bit MPEG card with audio playback channel for your CDs, and it looks and sounds just how you would wish a video to look and sound. The Bluepoint Movie Card we saw was pre-installed, and so unfortunately we had no access to the installation process.

However, the card itself isn't complex on the settings and connectors, so shouldn't be too much of a nightmare to get running, especially as Bluepoint is an avowed convert to the plug and play concept. However, we can't vouch for that at time of going to press.

The package includes the card and connectors, with three top movies included — the likes of Top Gun, Black Rain or Naked Gun.

For the price of £199 this ends up being great value for money, especially when you take into account the fact that the Movie Card can also be used as a 16-bit sound card (albeit a basic one) much as the new RealMagic board.



Above: complete with 24-bit, 32,000 colours, £199, the Bluepoint Movie Card boasts a very high specification at a very low price.

There is an alternative package for £299 which includes all the above, and their excellent double speed IDE CD-ROM drive. Whichever option you choose, this is definitely value for money.

BLUEPOINT MOVIE CARD

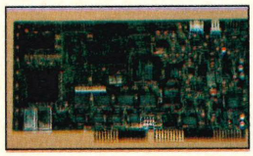
- Minimum PC requirements: a 25MHz, 386 processor, VGA graphics, and 2Mb RAM.

A good deal cheaper than its rivals, this is a card that simply ends up being a good deal.

Supplier:	Bluepoint
Contact:	(0908) 277007
Price:	£199, £299

PC REVIEW RATING 8

Conclusion



Things being what they are, with all these brand spanking new cards — three of which are only just ready to start rolling off the production line — it's difficult to choose an overall winner from them all.

The RealMagic, now substantially better than when it was originally brought out all that time ago, is surely a strong contender. However, it's only a 16-bit card and is hardly cheap compared with the Bluepoint Movie Card. Both Creative's and Ace Coin's versions acquitted themselves adequately on grounds of ease of use and picture quality, but couldn't provide as good comprehensive packages.

That leaves the Bluepoint as the best of the bunch. Without being able to test installation, though, we can only make it a conditional winner. Naturally, when we have more details on advances in the technology, you'll be the first to know — through the pages of PC Review, of course.

THEN 3 COME ALONG AT ONCE

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Day of the Tentacle is like nothing else you've ever seen, heard or played before. In one zany adventure you've got bizarre interwoven plots, a liberal dose of outrageous humour, snazzy graphics and a hundred wayout sound effects. Plus that essential element in any big-time arcade adventure - brain blasting puzzles. It will grip you the second you press 'play'.

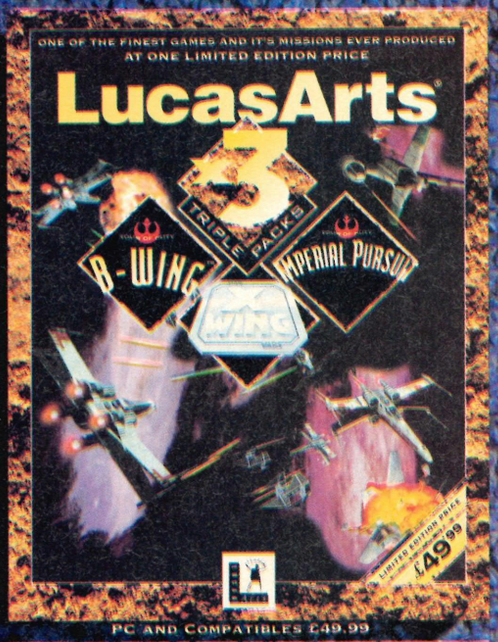
"In short, it's brilliant" PC FORMAT

INDIANA JONES® AND THE FATE OF ATLANTIS™

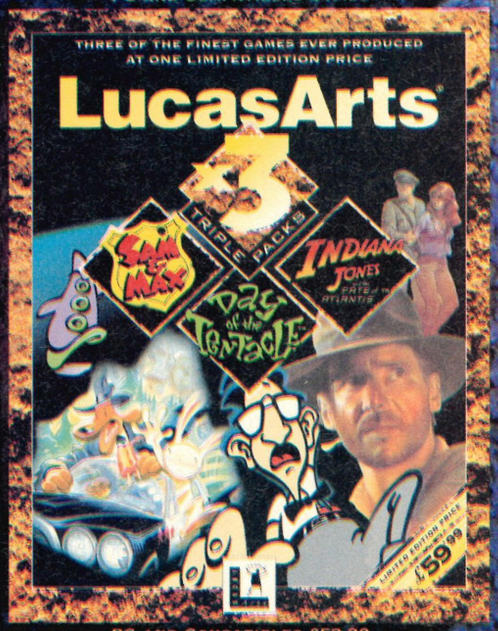
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One of the best selling PC games of all time

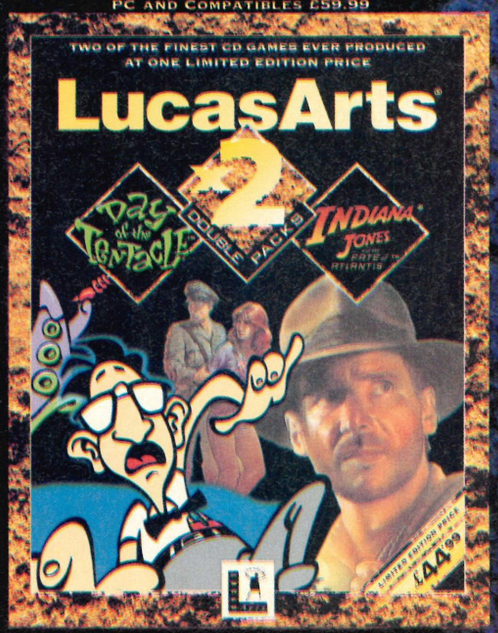
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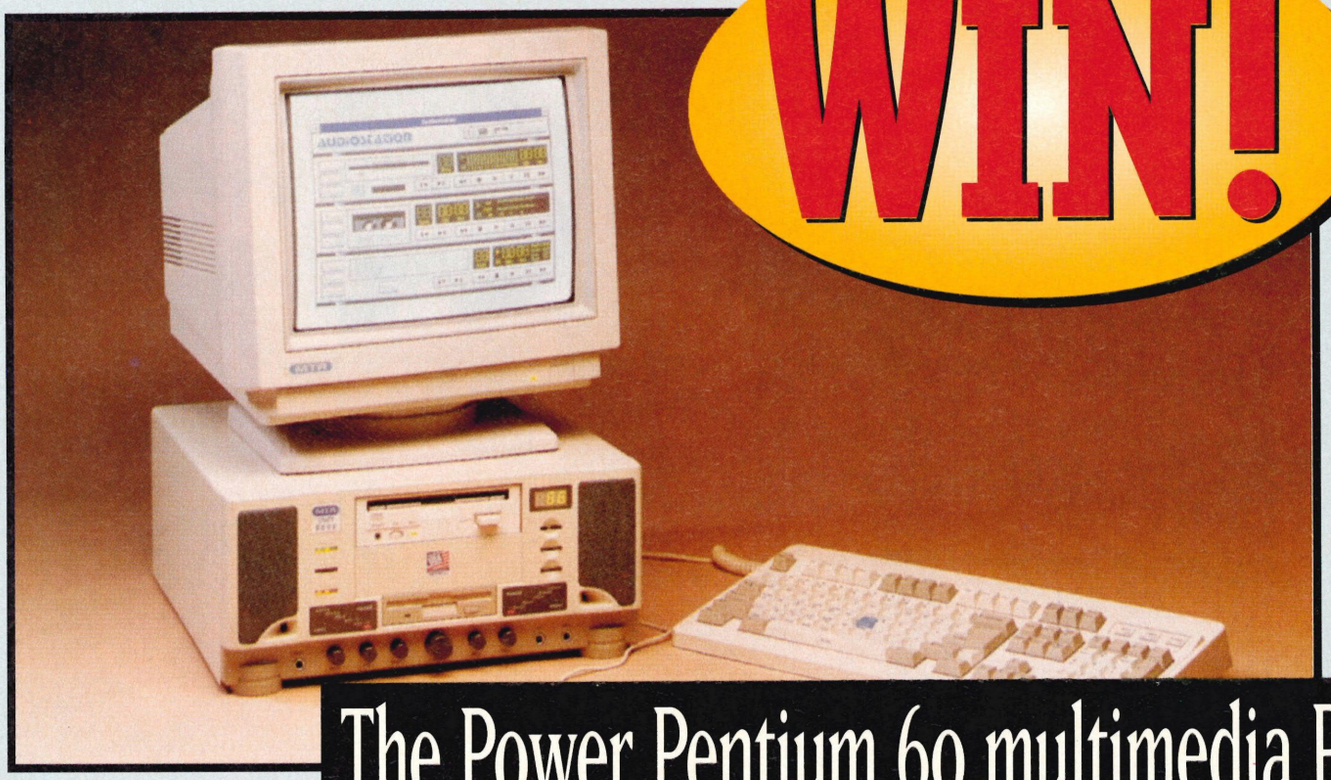


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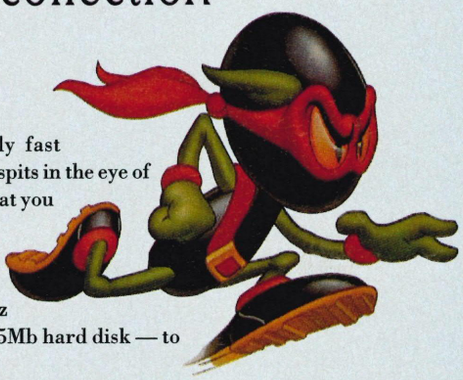
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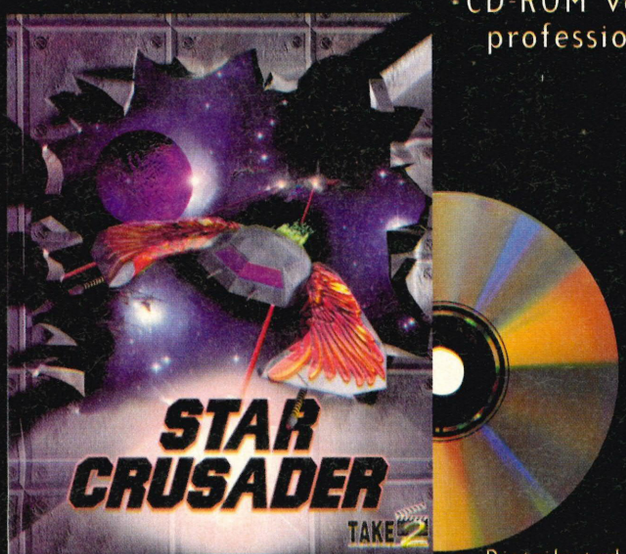
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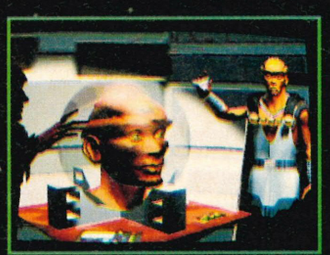
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COVER STORY

Turban-charged

After years of concentrating on the strategy genre, Bullfrog has decided to break the mould with Magic Carpet. Cal Jones speaks to Peter Molyneux to find out why.

Magic Carpet is something of a departure for Bullfrog. All the company's previous games — with the possible exception of Flood, a platformer which never made it on to the PC — have been strategy based. Populous defined the God-game genre, Powermonger was a Populous-style war game, Syndicate mixed strategy with extreme violence and Theme Park was an out and out sim. Magic Carpet, however, is completely different: not only is it a first-person perspective game — something Bullfrog has never attempted before — but it's also primarily an action game. Is Bullfrog afraid of becoming typecast?

"Because we were known for our strategy games, we wanted to do something different," says Bullfrog director, Peter Molyneux. "We wanted to do an action game, although Magic Carpet does involve some strategy too."

A bit like Syndicate, perhaps? "Not really. Syndicate is mainly strategy with a bit of action, whereas Magic Carpet is mainly action with a bit of strategy. We were hoping to create a game anyone could pick up and play, and we're also gearing up to the next generation of consoles, which will probably be much more biased towards action games."



Magic Carpet has undergone several changes since it began development over a year ago. The original scenario was quite different: the player would take part of a beggar who, on hearing that the princess wanted to marry a commoner, decides to present himself to her father, the sultan. To prove his worth, he has to complete a series of tests using the sultan's treasures, notably a magic carpet and a magic lamp.

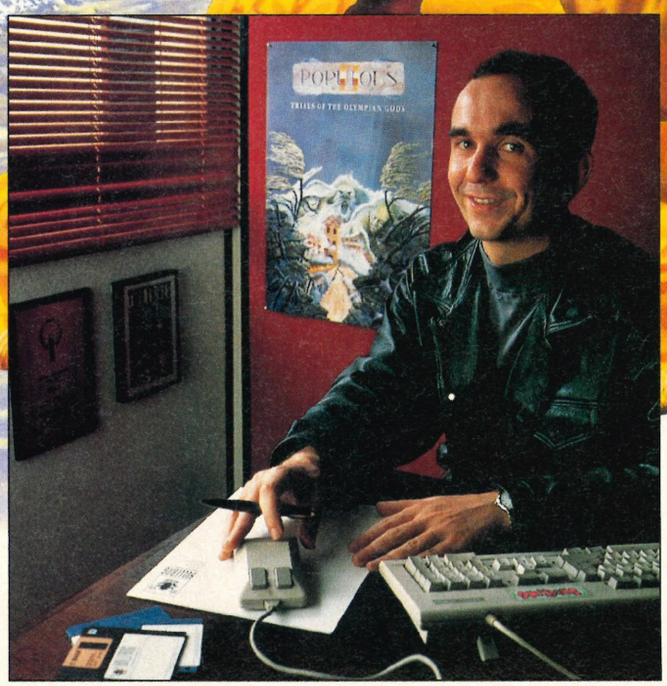
"But we had to change it when Aladdin came out, because we felt that the stories were too similar," says Molyneux. So the magic lamp went, but the carpet remained.

And talking of carpets, the one problem (albeit a very minor one) with Magic Carpet is that you never really get the feeling that you're standing on your flying rug — you don't see any tassels flapping in the breeze and the game lacks an 'external' view, a standard feature of all conventional flight sims.

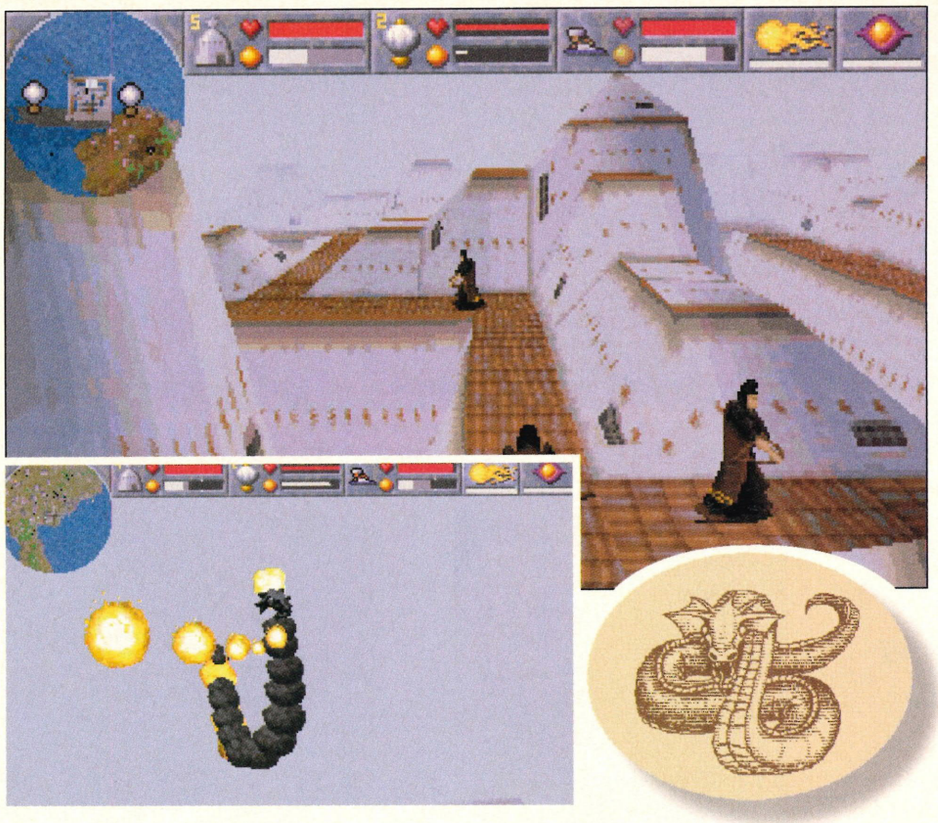
"Originally we wanted to make it like Virtua Racing, where you can either look through the driver's eyes or zoom out and see the car from behind. Unfortunately it didn't really work. The carpet tended to move around too much and kept getting lost in the landscape. We *could* have put it in, but it would have looked rubbish."

Carpet magic

The finished version of Magic Carpet looks far from rubbish, though. Even on a 486 the movement remains reasonably smooth. However, you can't but help noticing the Intel Pentium logo which flashes up after the intro sequence. Is Bullfrog suggesting that you need a Pentium to run it at its best? After all, not that many home users have Pentiums



Peter Molyneux (right) and Les Edgar founded Bullfrog almost ten years ago, and the company's first release, Populous, was released in 1989. Amazingly, the game was rejected by every major games publisher bar Electronic Arts on the grounds that it was too different.



Left: once your castle reaches a certain size, you get a private army of archers to help defend it.

"Because we were known for our strategy games, we wanted to do something different."

only view your agents from a fixed point above the isometric landscape, but in the follow-up you will be able to rotate the landscape and even zoom in to street level to get a closer look at the gore. Speaking of which, there will be a couple of tasty new weapons in the Syndicate 2 arsenal. One, the anti-gravity gun, hurls the victim 50 foot up in the air. Molyneux gleefully describes the other as "a sort of dart gun. Shoot someone with it and their arms and legs fly off."

Creation is a very different kettle of fish, if you'll excuse the pun. Apparently inspired by a scuba-diving holiday, Creation takes place underwater and features lots of nice 3D fishy graphics. Surely even Bullfrog couldn't find a way of incorporating violence into a fish game (but then again, Molyneux does keep piranhas, or rather, a piranha: the others chewed each other to death).

Set in the Syndicate world, it takes place a couple of hundred years after the war at the end of Syndicate 2. The premise is that the weapons used in the war were so powerful that they ignited the atmosphere, forcing the survivors into the oceans where they lived in large underwater cities. After a period of peace between the different cities, catastrophe strikes. A large fungus meteor strikes the ocean bed, contaminating the surrounding area and mutating the fish into fierce spiky monsters. The resulting food shortages create tension between the cities, the outcome being conflict.

Further in the future is Dungeon Keeper, a tongue-in-cheek role-playing game which is about a year away; Theme Hospital, which is the second game in the Designer series (after Theme Park) and involves running, well, a hospital; a game called Biosphere and a mystery sports game which is so secret that Molyneux refused to let on which sport was actually going to be simulated. I get the feeling that each of these games will, in turn, be "the best game Bullfrog has ever done." But then they probably will be, won't they?

● *Magic Carpet is reviewed over the page.*

at the moment. "No, they don't," Molyneux admits. Of course the game runs faster on a Pentium, but it doesn't include any Pentium specific features." However, 486 users will find that Magic Carpet is a bit sluggish at full detail. So if you want clouds in the sky, reflections in the water and anti-aliasing, maybe you do need a Pentium after all.

Bullfrog isn't alone in writing games which are aimed at high-end PCs — Origin has been doing it for years (Wing Commander, which needed a 386, came out at a time when most people had XTs and 286s) and it seems to be a bit of a trend with games companies at the moment. But isn't this just a case of trying to make life easier for the programmers?

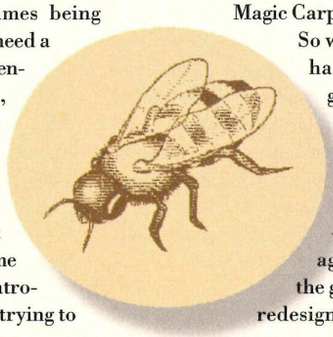
Under development

"We did most of the development for Magic Carpet on 33MHz 486s, so no, not in this case." says Molyneux. "But there *are* games being released which really shouldn't need a high-spec machine." Molyneux mentions one particular game which, when released in autumn last year, claimed it needed a 66MHz DX2 — a requirement which seemed a bit excessive at the time. "I spent ages playing it just to find out if there really was a game in there. The combat system was atrocious — all that messing around trying to target ships with cross-hairs. After that I decided that there wouldn't be any targeting in Magic Carpet."

As a result, combat in Magic Carpet is a simple matter of pointing and shooting. So long as you're pointing in roughly the right direction and the monster is in range, fireballs and other spells act rather like heat-seeking missiles, finding their prey automatically.

Molyneux certainly seems pleased enough with the game. "Personally I think Magic Carpet is the best game we've ever done." But then again, he said that about Syndicate and Theme Park and he'll probably say it about every game Bullfrog releases in the future.

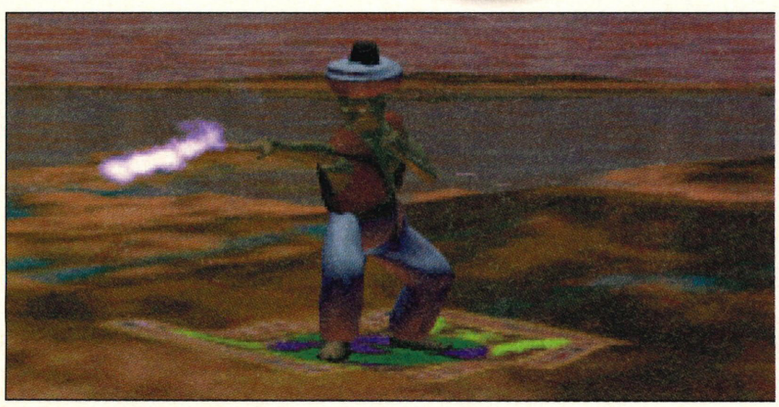
"I didn't say it about Powermonger. I thought Powermonger was shit. We only had a week to put it together, whereas we've spent over a year on Magic Carpet."



So what of the future? Bullfrog does have several potentially excellent games in the pipeline. Of these, Syndicate 2 and Creation are likely to appear within the next six months. Syndicate 2 is based along the same lines as Syndicate — corporation wars, cyborg agents and nasty weapons — but the game engine has been completely redesigned. In the first game you could

Below left: the spectacular intro sequence took almost as long to finish as the game itself.

Below: if you play Magic Carpet on a slower 486, it's advisable to keep graphic detail low. It still looks good, however.





Magic Carpet

It's a flight sim. It's a shoot 'em up. It has action and it has strategy. Could Bullfrog's rug-sim make all other games redundant, or will it crash on take off?





Right: my God, they're everywhere! Skeleton warriors are easy to destroy, but when a big group of them get together, they can damage your castle big time. Fireball 'em, quick!

All Bullfrog games share a common goal: world domination, whether it's by being the most powerful god (Populous and Populous II), the most ruthless corporation (Syndicate), the shrewdest military general (Powermonger) or by building the world's most successful theme park (er, Theme Park). Magic Carpet fits in neatly with this idea. The game is set on an Arabian-style world rich in magical energy, or mana. After years of harmony, the land was rendered barren through the greed of its resident wizards, who not only drained the land of power but also summoned the nastiest monsters they could find to help them gain dominance. It wasn't long before the monsters got fed up of serving their pompous masters, and so they turned against the wizards, causing great damage and terrifying the local people. Eventually, one wizard decided enough was enough and, aided by his young apprentice, prepared an earthquake spell to destroy his opponents. Unfortunately, he underestimated the power of the spell and died in the resulting cataclysm, leaving his apprentice to restore the balance of the world.

And as if you hadn't guessed, you are that apprentice. The earthquake has split the world into 50 island realms, each overrun by trolls, dragons, skeletal warriors and other nasties. Your task is reunite the world by killing these monsters, while also defeating other wizards who seek to take the lands for themselves. When you kill a monster it releases a ball of mana, and the more mana you collect, the more powerful you become.

Weaveworld

If the world domination bit is common to all Bullfrog games, the style of Magic Carpet is dramatically different. Populous, Powermonger and Syndicate were all isometric games, but Magic Carpet has you flying around a spectacular rendered 3D world on your airborne Axminster. And just as Bullfrog's previous releases all contain a hefty element of strategy, Magic Carpet is more of an action game — the thinking man's shoot 'em up, if you will. The basic aim is plain enough: shoot the monsters and collect the mana. But actually, it's not as simple as that. Because you're a mere apprentice rather than a full-blown wizard, you start with the bare minimum: your flying doormat and barely enough mana to keep you airborne. Your first step is to get your hands on some

WEAVING A TALE

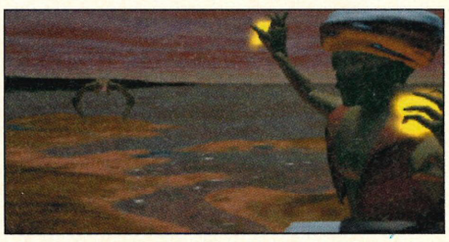
Magic Carpet has one of the best intros I've yet seen, and although the intro is by no means the most important part of the game, this is definitely worth a second look.



Let's kick that old carpet into life with a bit of magic.



Nice day for a bit of rug surfing . . .



Blimey! The mother in law's turned up and she doesn't look happy.

ALTERNATIVELY



Doom
Id/Transend, £34.75
Rated 9, Issue 28
OK, so Doom is based on terra-firma and Magic Carpet takes place in the air, but both contain involve lots of killing and both are brilliant in multi-player mode. Doom is the king of the 3D shoot 'em up genre, with scary monsters, buckets of blood and a tense, claustrophobic atmosphere. Unmissable.



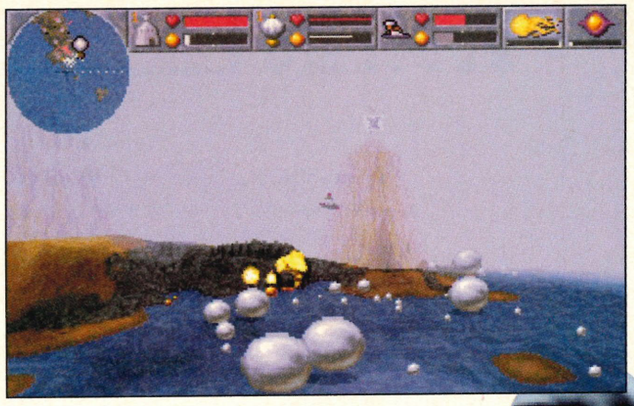
Populous
Hit Squad, £14.99
Not reviewed
Bullfrog's first game, the first ever god sim, has more in common with Magic Carpet than you might think. Again the aim is to beat a rival over many levels, though in this case you're removed from the action, which takes place over an isometric landscape where you must. destroy the enemy god's worshippers.

spells, which you'll find in urns dotted around the landscape. To discover where they, and other useful things are, bring up the overhead map by pressing return or clicking both mouse buttons simultaneously. Spells are represented by red dots. The black dots you see swarming around are monsters (avoid these until you have the fireball spell), gold dots are unclaimed mana balls and dots of other colours are mana which has already been possessed by you or rival wizards.

To pick up a spell you simply need to swoop over it. Once you've tickled the urn with your tassels, the spell is yours for the casting. The first spells you find are possession, castle and fireball. I guess you understand what a fireball does, but the other two spells are equally important. When a monster is destroyed and drops its mana, you can't just pick it up: you have to convert it into your particular 'flavour' and then you have to store it somewhere. So once you've armed yourself with these spells, the first thing you need to do is build your castle. Select a good spot (away from any villages and preferably in the sea), cast your castle spell and, hey presto! One instant castle, complete with its own balloon. Yes, that's right, I did say balloon. And no, I'm not mad. Not quite. Balloons are very, very important because they go around picking up mana and taking it back to your castle for safekeeping.

"Magic Carpet is more of an action game – the thinking man's shoot 'em up, if you will."





To the mana born

But before your balloon can collect the stuff, you have to claim it using that handy possession spell. In its raw state, mana is gold and as such is useless to you.

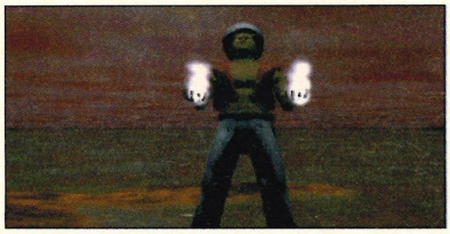
However, when you cast a possession spell it turns into a particular colour, depending on which wizard you're playing. For the sake of argument, let's say it's silver. You have to fly around, turning the pretty gold balls into pretty silver balls and then the balloon can come and take them away.

Since mana is magical power, it follows that the more you have, the more (and more powerful) spells you can cast. In addition, you have to collect a certain amount of mana before the equilibrium of the land is restored and you can move onto the next one (and there are 50 of them, so get moving).

Just as you can possess mana balls, you can also possess buildings and the people who live in them. When you possess, say, a tent, a flag of your colour appears above it. Now you could actually go in and

Top: I'm not doing too badly here, but I better take care of that wizard before he gets his grubby hands on my balls — mana balls, that is.

Left: the funny mirror thing is a teleport — go through it and you'll end up somewhere else on the map.



Time to summon up that old anti-dragon fire.



Gotcha! Anyone fancy a bit of char-grilled reptile?



Phew, that was tiring. Let's head back home for a quick 40 winks.

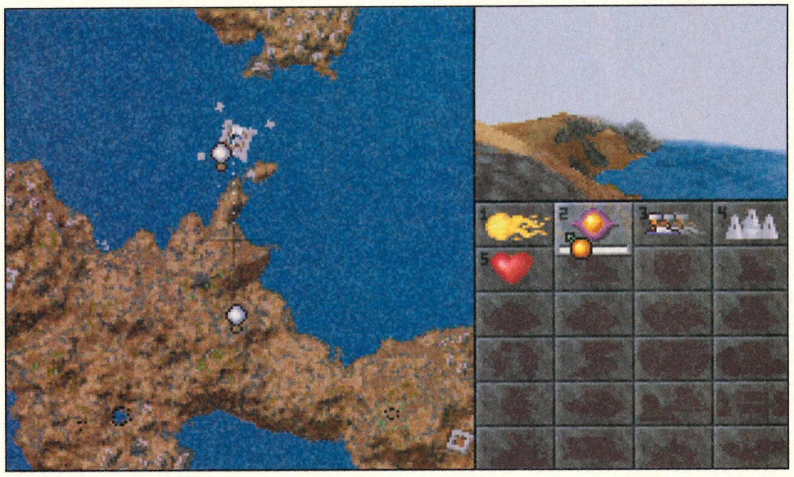
fireball the tent, killing the people within and releasing their mana (which, let's face it, is more fun), but strategically that's a bad move. Tents hold two people, and there's a small chance each year that they might produce offspring. Now if you possess the tent and inhabitants, you get around 10 times as much mana as you would if you simply killed them. More importantly, their mana is available to you immediately, because you don't have to wait around for the balloon to come and pick it up.

"What we have here is exhilarating action, subtle strategy and great graphics."

Arabian sprites

Right, so you've grasped what mana is, how you get it and where you store it. Let's talk about the thing which probably attracted you to the game in the first place, which is the flying bit. Controlling your rug is pretty simple. The cursor keys move you forwards, backwards and sideways, and the mouse handles your angle (that is, whether you're heading into the clouds, taking a nosedive or banking left or right). Using both hands to play can take some getting used to, but the once you've got the hang of it you can perform some pretty nifty manoeuvres (except looping-the-loop — you'd fall off). And it's a good view from up there. Once again the Bullfrog graphics team has done a great job — the ocean has real waves, hills disappear into the mist, water reflects, the sky has fluffy white clouds (though you need a DX4 or Pentium if you want the game to turn smoothly at full detail) — it really is stunning. You can even play in full-colour 3D mode (using the glasses in the box) or, if you're determined to give yourself a migraine, stereogram vision.

Trouble is, if you spend too long admiring the scenery, you end up getting yourself killed. On the first level monsters are thin on the ground: all you need to do is kill a few worms and you're home and dry. OK, so they're giant worms and they spit fireballs at you, but once you've toasted them with a few fireballs of your own they soon keel over. It's on the later levels when you start to run into real problems. There are swarms of giant bees which sting you to death, trolls which chuck rocks at you, genies which steal your mana, dragons and, worst of the lot, other wizards.



Above: The overhead map shows you where everything is: black dots are monsters, gold dots are unclaimed mana, silver dots are my mana and red dots belong to the enemy wizard.

Below: Not only can you possess mana, but you can also possess tents and houses. This is a smart move, because it gives you more mana than if you simply kill the poor villagers.

In the single player game, rival wizards are computer-controlled, but you can set yourself up against some human opposition if you have a handy network (and the multi-player option is superb). Human players are generally brighter than their synthetic counterparts, but either way they're bad news. Your aim is to get all the mana, which, funnily enough, is exactly what they're trying to achieve — and this usually results in a mana war.

Sunny spells

On later levels you can pick up some more powerful spells — lightning bolts, earthquakes and volcanoes to name but a few. Plus if another wizard dies (even if only temporarily) he leaves behind a corpse, and if you use your possession spell on it, you gain all his mana and spells.

So Magic Carpet can get quite strategic after all. You can use your castle spell as a weapon. You can start forest fires by fireballing a tree, and the resulting blaze harms other creatures. You can dogfight. You can send an army of skeletons to trash enemy castles. I could go on, but I think I've made my point.

So what we have here is game which contains exhilarating action, subtle elements of strategy and gorgeous graphics. Does it get my recommendation? Is the Pope Catholic? Magic Carpet is very different from anything Bullfrog (or any other company for that matter) has done before, but it has all the quality and gameplay of the Surrey-based team's previous releases. Yet again Bullfrog has created a true original. And yet again it's brilliant.

■ **Cal Jones**





TECHSPEC 9 RATING

Wall to wall excitement.

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Minimum graphics:	MCGA
Sound:	Roland, Sound Blaster

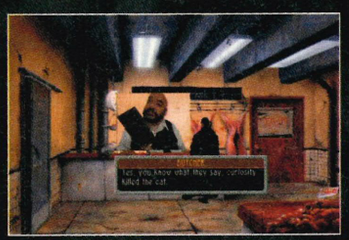
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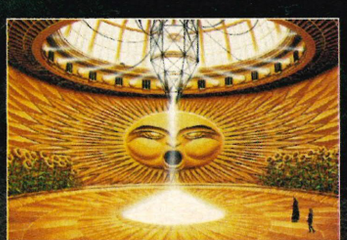
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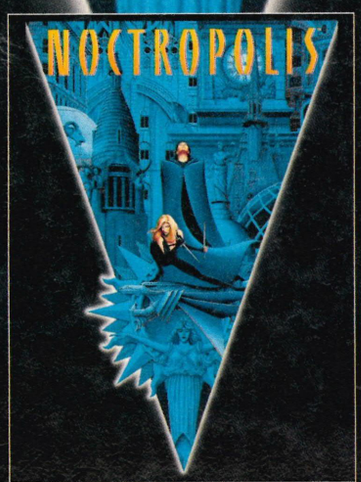


















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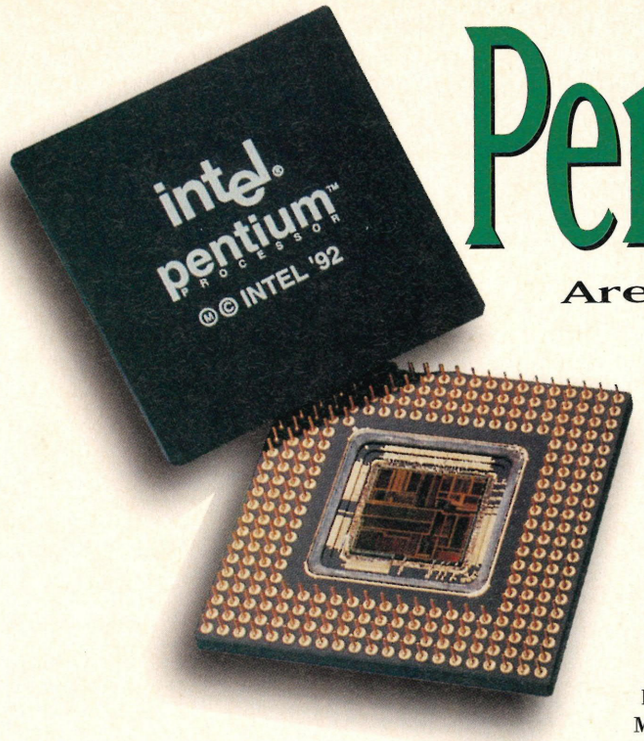


The original Dungeon Master took adventure games into a new dimension. Since then, many copycat games have come and gone. Now Dungeon Master ll is here to set a new standard for dungeon gameplay. As before, the world of Skullkeep is alive with incredible creatures - but now they have learnt to think for themselves and put their experience to use. Now, as well as exploring the dank passages of the dungeon you'll have access to a challenging world above, full of atmospheric effects like lightning and rain. To compete in this incredible environment, you'll find the new interface gives you more control and is even easier to use than before. In Dungeon Master ll, the weapons at your disposal are the most powerful ever. Play it and you'll see why we couldn't send you into this world with anything less.

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Pentium ready?



Are we going to swallow this 'games for Pentiums' malarkey, or do we soldier bravely on with our trusty stalwart, the 486? John Bennett reports.

Until the last couple of months, the mere mention of Pentium, let alone 'Pentium-optimised' games was enough to set me off in an indignant fury of four letter words.

OK, so a bottom of the range Pentium (a P60 for instance) will give 40 per cent more oomph than a top of the range 486, but my abiding impression of the first Pentiums to come out a year or so ago was that they were unreliable, over-priced and thoroughly unnecessary. Certainly the idea of buying a Pentium on which to play games would have made me apopletic.

Bow to the inevitable

But now we have different types of games: games like Magic Carpet, games looking for more than even the best 486 can willingly give. There's Origin's most recent crop of flight sims, Access's Killing Moon and Flight Simulator 5 — all prime culprits. And there will be more to come.

The common factors are high resolution, digitisation and texture-mapping, all of which are admittedly processor intensive. That would be more palatable if it were consistent, but it's not always the case. Take MicroProse's Pacific Air War and Origin's Pacific Strike: same theme, same planes, much the same level of texture-mapping and shading. The former runs perfectly smoothly on a 33MHz 486, the latter jerks along like a Dalek on Mogadon. Why?

Still, the crux of the matter is that in terms of game design, techniques like texture-mapping and digitisation aren't likely to go away so, yes, next year's big games are likely to push the 486 beyond acceptable limits.

The 486 can only go so far. Currently the DX4 is the end of the line: you can't do a simple chip upgrade to turn your 486 into a Pentium (ignore that 'Pentium-ready' stuff on your new machine, it doesn't mean what you might think it does).

> "The biggest justification for purchasing yourself a Pentium PC is the dramatic drop in price."

But still, the biggest justification for Pentium PCs is the dramatic drop in prices, a far quicker drop than most people expected. To give you a few examples, Escom has a P60 at £1,149, MJM's P60 is £1,499, The Power Pentium PC featured in our competition is £1,499 and Gateway's P60 £1,699.

It doesn't even look like (many) corners have been cut in other areas to account for these low prices. The Gateway, for example, comes with a 540Mb hard disk, 8Mb RAM, CD-ROM drive, sound card and 2Mb PCI Local Bus graphics.

OK, so they're hardly bargain basement, and I'm not suggesting that the entry level PC you should buy is a Pentium . However, much as I hate to admit it, the Pentiums we've been running in the office for the past months have been a joy to play real heavyweight games on. There's no doubt about it, the Pentium is now a very serious alternative if you are in the market for a high-end 486 at around £1,200 to £1,500, and it looks like the games companies don't plan to give you much choice about it, either.

There is an alternative though. If you are already the proud owner of a 486, you could upgrade your motherboard. That way you get to use all the perfectly good bits and pieces you've built up. A motherboard with P60 processor and PCI bus will set you back between £700 and £750. Not cheap, admittedly, but then the 66MHz 486DX/2 OverDrive chip on its own costs £300, so maybe it's not such a bad deal, after all.

In our February issue we'll be looking at the costs and difficulty involved in doing exactly this.

What choice have you got?

What alternatives are there to a Pentium, anyway? There's the Power Mac and Power PC, perhaps — the Mac-cum-Windows-cum-workstation solution. I don't believe these are really serious competitors to the PC however, simply because the three things most people are interested in — either running Mac, Windows or DOS software — have to be run through an emulation which hardly gives blistering performance. True, the native mode is undeniably powerful, but it needs specific software to run . . .

There's always the hyper-powerful but expensive RISC processor option — the sort of thing under the hood in a Silicon Graphics workstation, for example. But Intel has always shied away from RISC for the mass market on the grounds of incompatibility with earlier PCs, hardware and software. Eventually, there will be a hybrid of current Intel technology and RISC technology, but until then . . . it's really a one horse race.



Pentium PCs have dropped in price far quicker than 486s did over the same length of time. There are plenty out there now for under £1,500 (ex VAT, of course).

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A new gold dream



Silicon Dream's director of research and development, Ishi Hara.

After ten years of publishing other people's games, especially those originally written for the US market, US Gold has recently decided to set up its own in-house development team. Christina Erskine brings you this special report from the brand new Silicon Dreams.

The PC Review profile

The times they are a-changing. As we reported two months ago (Corporate Muscle, Issue 36), international entertainment companies such as Sony, Paramount, Warner and MCA are moving into the computer games industry at high speed. And if companies such as these see Psygnosis, Virgin, Renegade and Interplay (respectively) as providing them with a fast speed link to interactive technology, they also provide the software publishers themselves with some very welcome cash.

But there are more ways than one to skin this particular cat. US Gold, ten years old this year, raised extra finance by going public, being valued at £50.3 million when it launched on to the Stock Exchange last October.

"I think that third party developers are finding the changeover from floppy to CD difficult."

Tradition

US Gold's traditional business has been to import, under licence, games produced by American companies and to represent those companies in Europe. In its time, it has launched the career of just about every US games publisher worth mentioning (see panel on page 49). Now it has decided it wants a piece of development action for itself.

Since January this year, US Gold has spent over £1 million setting up Silicon Dreams, its first ever in-house development team. Although the division began life working from US Gold's Birmingham offices, it moved into a brand-new building just outside Banbury in Northants in May and has 30 staff onboard, mainly animators, programmers, graphic artists and designers. By the end of this year, there should be 50 people working from Banbury, with more planned for the New Year.

The offices are fully kitted out with Silicon Graphics workstations — the same type of machines that games such as Creature Shock and Wing Commander 3 were developed using — motion capture systems such as A Flock of Birds (that's £250,000 just for starters) and a music composition and editing suite.

Ask the question

The question that immediately springs to mind is why? Why, after ten years of happily licensing finished games from the US and sourcing a few games in the UK from third party developers has US Gold suddenly gone the whole hog and set up what is, in effect, a new software publisher, completely from scratch?

"I think that third party developers are finding that the changeover from the floppy market to the CD market can be extremely expensive and difficult to cope with. When we went from Spectrum to Amiga, there was a learning curve but you could still develop games at home in your bedroom — you cannot do that with what we're trying to do now with 32-bit CD machines. The power of the hardware required, the number of people needed to work on a project — you could have five or six artists working on one piece of code — are really such that you've got to have quite a large amount of money and resources at your fingertips to be able to do it," explains US Gold's chief executive officer Geoff Brown.

It's also a question of ownership. "If you were us sitting here, you'd say, 'What should we do?' and you'd either go out to provide that resource and money to third party developers — which is a bit like selling your birthright — or you'd say, 'Let's take the money and spend it on ourselves'."

The major effect of the switch to CD as a games storage medium is that with 600-plus megabytes available on a single disk, games can be much bigger. They are also now able to store data that's not purely computer code, such as digitised video,

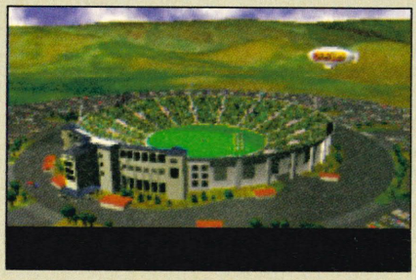
EXCLUSIVE

Olympics 96

It won't be the first product released by Silicon Dreams, but it is a whopper of a licence: the right to design and publish the official game for the Olympic Games in Atlanta in 1996. These are very, very early generic shots from the opening of the game, and if you think that work has started prematurely on this game remember, a) there are a lot of sports in the Olympic Games, and, b) there are myriad layers of official approval needed by various licensors (including the Games' official sponsors) which will prolong the development process.

US Gold is doing rather well with its sports licences: it did the Olympic program for the Barcelona Olympics in 1992 and the official World Cup 1994 game as well.





c and speech, elements were simply unfeasible isk because you simply n't fit your video image 1.44Mb floppy. Now this with the fact that ndard hardware these s — a 4Mb, 486-based with SVGA graphics — operly capable of pro- ng and displaying this ation, and you can see becoming *de rigueur* for ublishers to use this chnology. A third ttraction, for pub- shers, at any rate, is that digitised code on CD-ROM is more easily ported from one machine to another than computer-specific code, so that formats such as PC CD-ROM, 3DO, CD-i and Sony's PSX can all be covered much more quickly and economically than was ever allowed when the old Amiga-to-PC-to-Atari route was in force.

"These days you can't get up one morning and say, 'Let's do a pirates game — we'll start with the graphics'. It's got to be a very structured approach, developing games. That's not to say that you stifle creative talent, but it's all got to be integrated, the milestoning, storyboarding, licensor approval when we get to that stage — it's become a very professional, major business."

These days it also appears that you can't expect any return on your investment for at least two years. Silicon Dreams may be working its high-end workstations to the bone on seven separate games projects, but nothing is due for release until Christmas '95, with the next batch not due until the middle of '96. The screens shown in the panel, left, are so early as to be almost embryonic.

Under development

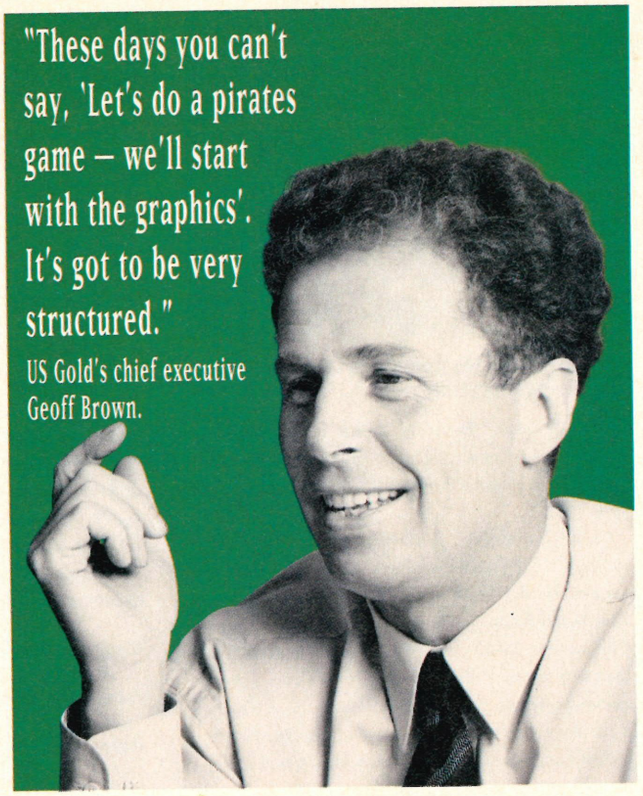
The two-year development cycle for multimedia games on CD-ROM is a fairly accepted standard, the sheer size and the number of disparate elements that must be pulled together accounting for most of it. "Anyone who says that they can develop a quality product on CD in a year is lying to you. Either it takes more than a year, or it's not a quality product". But one danger must be that while you're working on a state-of-the-art game, the market moves on — how do you know if what you think will be fresh and innovative in 18 months time will actually turn out to be so? Think of the way in which Doom took everybody by surprise at the end of last year, and how some first person based games released this year might have stood up rather better had Doom not been released.

Brown agrees that this is a potential danger, while US Gold's director of research and development, Ishi Hara, adds, "We are investing quite heavily to avoid such a situation from happening. We're doing a lot of competitive analysis and I'm sure that we are on the right track."

Of course, ensuring that your staff have the very latest in game design tools to work with and that they themselves are of the highest calibre is one priority. The recruitment for Silicon Dreams has been a long process. For the 30 people currently working at Banbury, internal development manager Andrew Green has weeded out nearly 700 CVs from hopefuls. And while some of the staff have moved to Silicon Dreams from other games development companies, most have come from outside.

"We wanted to bring in different types of people into the programming environment, such as professional animators, university graduates who've gone through mathematical or physics degrees, even structural designers. I think you can only really have university graduates now or people who've been professionally trained — because without a keyboard you cannot get into programming."

By this Brown means the shift in the UK development market from self-taught programmers who started programming as a hobby on a Spectrum, Commodore 64 machine, or even a ZX81. The new generation of 16-18 year olds are more likely to have lived with a Sega or Nintendo in the house — try teaching yourself Basic on a Megadrive.



Sweet dreams

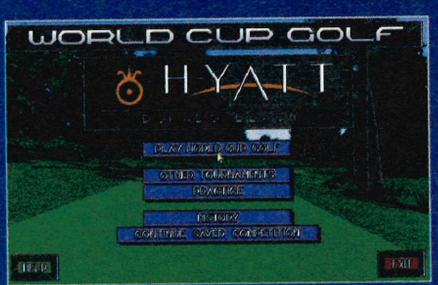
The games produced by Silicon Dreams will be a mix of licensed and original titles, with the official game of the 1996 Olympic Games, pictured left, set to stand as a showcase for the company. They are likely to be action and/or adventure-based using the polygon rendering capabilities of the Silicon Graphics set-up. They are not, you will be interested to hear, planning to make 'interactive movies' with 'vactors' and extensive video sequences. Geoff Brown shrugs, "I don't think there's much in it — too many limitations.

"The great thing about the polygon world is that

UK-BASED ASSOCIATES

US Gold may not have developed games itself before now, but it has historically relied on third party developers to convert American games to popular European platforms such as the Amiga and Atari ST. And it has on occasion directly published third party games. So why not simply use one of its 'regulars' for the Silicon Dreams games?

"We seriously looked at acquisitions before we set up ourselves, but what we wanted to do was quite innovative, quite forward-looking and I think we'd have had to make such massive changes, changes to the way any company works that I don't think we could have done that. Yes, there are plenty of people around who can develop good games, but perhaps how they develop them is not how we wanted to develop them."





Above left: World Cup Golf
Arc Developments is working on the World Cup Golf game — and its sequel — for US Gold, and will continue to develop games for the company.



Above: Legends of Valour
DCD produced the first person perspective role-playing game Legends of Valour for US Gold two years ago. DCD is currently developing a first person racing game, Rapid Assault, for the American company GTE Entertainment.

Above: World Cup USA 94
Tiertex
Tiertex and US Gold have had a long and fruitful partnership, with one of Tiertex's recent successes being the well-received World Cup USA 94 football game.



US Gold's next big game this Christmas is Under a Killing Moon

it's so flexible," he adds. "The new hardware wasn't really invented for interactive movies and sprites, it was made for rendering and creating a 3D world."

As 'old hardware', and with open architecture to boot, the PC can do pretty much anything, of course, but US Gold's primary interest here is as a multi-platform publisher. Brown isn't even sure that pure technological prowess is all that important any more. "What we really want is a good games concept. That's the difference, I think. You always tried to squeeze the Spectrum to do something it couldn't do, but today's machines can do everything, anyway."

Facing the music

Nor are Silicon Dreams' ambitions confined simply to games. Geoff Brown was a musician before he founded US Gold, and he is quite frank about the fact that music has remained his first love ever since. He gives the impression that Silicon Dreams is a realisation of his own dream as well, especially when he talks about the audio technology held within the company.

"We are creating digital music that is as valid as normal music, because it is proper music, digitally produced on CD. I can see us creating music and short animation sequences and this is the imbalance in the market. This is why you've got the Time Warners, the Paramounts, and so on wondering what the hell to do. We are going to have a music publishing company, we will have it because we can, whereas I don't think record companies are developing games at the moment.

"So I can see a crossover market here even with interactive music CDs — at the moment I think they're rubbish, although the Prince one at least tries to go a little bit more into interactive media.

"But it costs a lot of money to do and I think there are a lot of companies looking around for people to do them."

And there's more. "The hardware that we're working on, which is basically Silicon Graphics technology plus all the bells and whistles that you have with it, is basically the same technology that's driving the film, video and advertising industries. This means we're almost at the crossroads where if someone came to us and said we've got a TV ad we want to run for two minutes and these are the computer graphics we want to run for it, we could actually do that.

"Initially you might think we're a load of idealists living in Utopia, but the answer is that no, we're not. It's just that people find it surprising that we're developing games for late '96 or early '97 and ask how you know what's going to happen. But there's only a limited number of hardware people to work with and they've already decided what it will be like."

ACROSS THE POND: US GOLD HAS HAD 'EM ALL

Given that over 50 per cent of the PC software we see in the shops was developed in the US, it is to US Gold's credit that nearly all of them first put their toes in European water in Birmingham, licensing their games to US Gold for repackaging and conversion to European formats for sale over here.

This is US Gold's core, traditional business and the establishment of Silicon Dreams won't change that.

"I don't think there's any conflict of interest there," says Geoff Brown. "We don't know what the third parties are working on for 1996. They're not telling us that they're going to develop, say, an archery game for Christmas '96 and we think, "Oh my God so are we." It just doesn't work like that."

But affiliates come and affiliates go, and after a period of some stability there have been quite a few moves and transfers this year.

"I think some of them are expecting too much out of the European market and so at certain points you have to say, no, that's unachievable we can't do that. The other way around is where again we've got products that they wanted to sell that we reckoned had no long-term value. But if I was an American company with 12 products a year, I'd have my own sales and marketing operation; if I only had one I'd ask myself if it was worth it. I think there's a been a settling down period now; I think we're back to our core people.

Selected team members

Access (1984 — to date) — **US Gold's first signing, still with the club.**

Attic (1992 — to date) — **German strike force newly on the books.**

Bethesda Softworks (1990 — to date) — **Ex-sports sim specialists now branching out into futuristic action games and RPGs.**

Capcom (1987 — to date) — **Coin-op specialists.**

Crystal Dynamics (1994) — **Pushing some titles through US Gold (such as The Horde).**



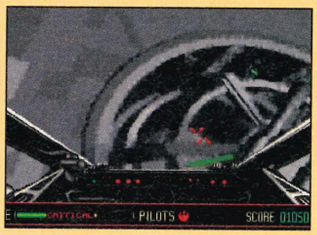
The Horde
New signing Crystal Dynamics proudly displays The Horde through US Gold for European audiences.

Delphine — **French purveyors of adventure games which just oozed atmosphere.**

Dinamics — **Spanish outfit much given to horizontal scrolling arcade style games.**

Epyx (1984 — 1991) — **Ceased to exist in 1991.**

LucasArts (1987 — 1994) — **Now with Virgin Interactive**



Rebel Assault
LucasArts' last US Gold published game, Rebel Assault, has sold over one million units world wide and become a CD-ROM must-buy.

MicroProse (1986-1989) — **Set up own European division.**

Mission Studios (1994) — **Breakaway team from Velocity which took the Jetfighter III work in progress with them.**

New World Computing (1988 — to date) — **Lowish profile adventurers from California.**

Novalogic (1992-to date) — **Have set up own European division to assist with development.**

Sanctuary Woods (1994) — **New signing.**

Sir-Tech (1992 — to date) — **Produce the Wizardry series, and, er, that's it.**

Software 2000 (1992) — **German champions of the Bundesliga with The Manager.**

SSI (1989 —1994) — **RPG and war game specialists now with Electronic Arts.**

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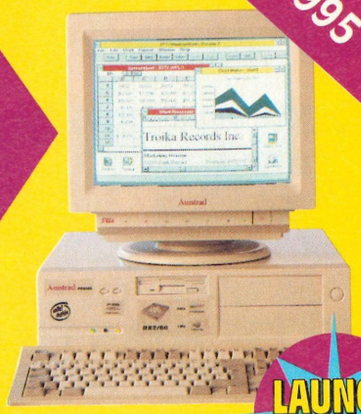
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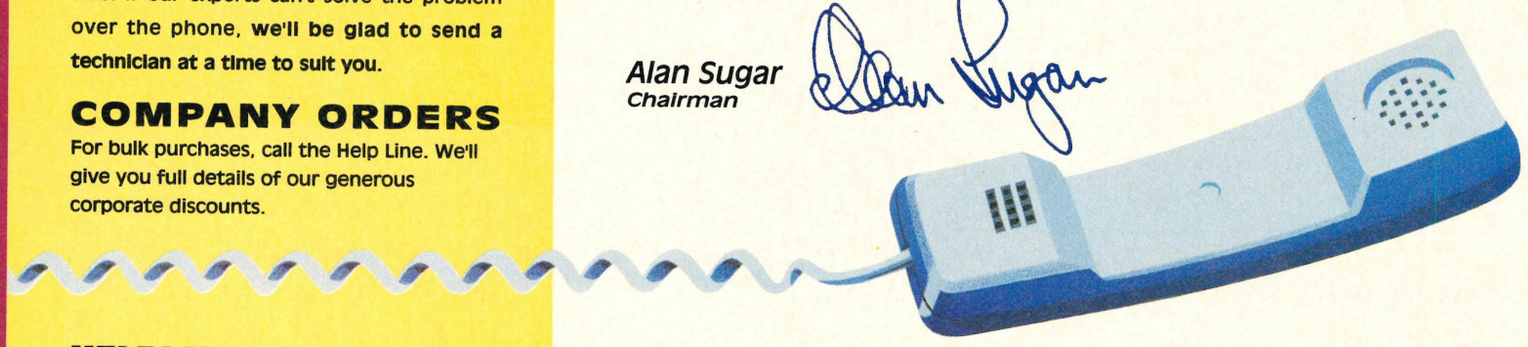
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We reserve the right to change component types, manufacturers, sources of supply and technical specifications at any time. Dimensions, speeds, weights and colours contained in this brochure are approximate and may change. Prices and products may be altered without notice at any time. Products subject to availability. All software is sold strictly subject to Licence. MS-DOS and MS-Windows are registered trademarks of Microsoft Corporation. Intel Inside logo, Intel 486sx, 486dx, Pentium Overdrive & iCOMP are registered trademarks of Intel Corporation. Storage by Seagate is a registered trademark of Seagate Technology. PFS Window Works 2.0 & Winfax Ultralite are registered trademarks of Spinnaker Software Corporation. Rebel Assault is a registered trademark of Lucas Arts Entertainment Company. Compton's Encyclopedia is a registered trademark of Comptons New Media Inc. Theme Park is a registered trademark of Bullfrog Productions Ltd. Doom is a registered trademark of id Software. Lotus 1-2-3 for Windows and Lotus Amipro are registered trademarks of Lotus Development Corporation. The name and logo AMSTRAD are registered trademarks of Amstrad plc. Amstrad PC9486 and Amstrad Desktop are also registered trademarks of Amstrad plc.

Amstrad® BUSINESS DIRECT

HELPLINE CUSTOMER SERVICE **0345 70 88 88**

BUYLINE FREEPHONE **0800 33 88 44**

THE WORLD'S EASIEST FAXES

Who was the first British manufacturer to combine a phone, answer machine and fax machine? First with a Mercury-compatible fax? And who developed the Voice Chip to replace cassettes in answerphones? You've guessed it - Amstrad, the UK leaders in Personal faxes for the last 5 years.

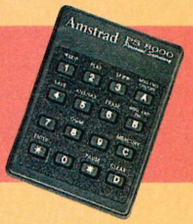
AMSTRAD PS8000

We call it The Personal Secretary. It's a full-feature fax, phone, answerphone and copier all in one that will automatically call you anywhere in the world to play your messages back to you. Best of all, it's digital. The Amstrad Voice Chip means you never need to worry about a jammed or worn-out tape.

£32.36 A MONTH FOR 12 MONTHS SEE BACK FOR FULL CREDIT DETAILS



A



D



APPROVED for connection to telecommunication systems specified in the instructions for use subject to the conditions set out in them.

ALL AMSTRAD FAXES ARE BABT APPROVED

AMSTRAD FACTORY PRICE £299.99 EX VAT + VAT £52.50 = INC VAT £352.49

SEE DELIVERY TERMS ON ORDER FORM

MERCURY COMPATIBLE

1 YEAR ON-THE-SPOT SERVICE **FREE** on all Amstrad fax machines. If our Help Line experts can't solve the problem over the phone, our technicians will come to you.

PHONE

- **A** Only one telephone line needed - the PS8000 automatically differentiates between fax or voice calls.
- **B** Mercury-compatible for substantial savings on long distance and international calls.
- **C** 30 memories, 9 with one-touch dialling, for important numbers.
- **D** Compatible with PABX, so you can use it on a business telephone system.
- **E** Call waiting, call diversion, conference calling and reminder calls all available through BT Network.

FAX

- **A** Automatic 5-sheet document feeder.
- **B** Automatic paper cutter cuts each document to correct length.
- **C** Anti-curling system for easier filing.
- **D** Convenient copy facility onto thermal paper.
- **E** 16 grey level scales for clearer photos or pictures.
- **F** Fine resolution mode for extra clarity on small text.
- **G** 30 metre paper roll.

ANSWERPHONE

- **A** Digital Amstrad Voice Chip gives you the most advanced and sophisticated message system available.
- **B** Holds up to 25 messages, automatically quoting each time and date.
- **C** Automatic message forwarding to anywhere in the world. The machine will call you and replay your messages.
- **D** Tone dial pad for message retrieval from anywhere.
- **E** Pre-recorded voice helps you when retrieving messages.

Dimensions: 102mm (h) x 411mm (w) x 307mm (d). Weight: 4.9kg

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AMSTRAD FX8500AT

You'll never be out of touch with the FX8500AT. This Mercury-compatible fax, phone and answering machine has some great features like a digital answering system, fax/voice switch, automatic document feed, automatic paper cutter, 30 metre paper roll and single telephone line operation to help your business run smoothly. Which makes it ideal - whether you work from home or the office. Dimensions: 85mm (h) x 335mm (w) x 275mm (d). Weight: 4.9kg

"The Amstrad FX8500AT is good value....very easy to set up...ideal for first-time users."
DAILY MAIL.

£26.93 A MONTH FOR 12 MONTHS SEE BACK FOR FULL CREDIT DETAILS



PHONE
FAX
DIGITAL ANSWER PHONE
FREE 1 YEAR ON-THE-SPOT SERVICE
MERCURY COMPATIBLE

AMSTRAD FACTORY PRICE £249.99 EX VAT + VAT £43.75 = INC VAT £293.74

SEE DELIVERY TERMS ON ORDER FORM

AMSTRAD FX7500AT

If you've got room on your desk for an A4 pad, then you've got room for the Amstrad FX7500AT 4-in-one speakerphone, fax, copier and answer machine. Not only does it save space, but with superb features like remote fax activation (allowing you to turn your fax machine on from any extension phone), full hands-free speakerphone, halftone and fine resolution mode, 15 metre paper roll and call screening, it also saves you time and money. So if you need a speakerphone, fax, copier and answermachine, but you don't need the clutter, then you need the FX7500AT. Dimensions: 60mm (h) x 190mm (w) x 280mm (d). Weight: 2.9kg.



HANDS-FREE PHONE
FAX
DIGITAL ANSWER PHONE
FREE 1 YEAR ON-THE-SPOT SERVICE
MERCURY COMPATIBLE

AMSTRAD FACTORY PRICE £199.99 EX VAT + VAT £35.00 = INC VAT £234.99

SEE DELIVERY TERMS ON ORDER FORM



£21.54 A MONTH FOR 12 MONTHS SEE BACK FOR FULL CREDIT DETAILS

ONE LEAD DOES IT ALL

Amstrad fax machines are so simple. The mains plug is fitted and there's just one other lead straight from the machine into your phone socket.

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BUYLINE FREEPHONE 0800 33 88 44

THE PC9486 SERIES

THE ULTIMATE IN PERSONAL COMPUTERS

POWERFUL

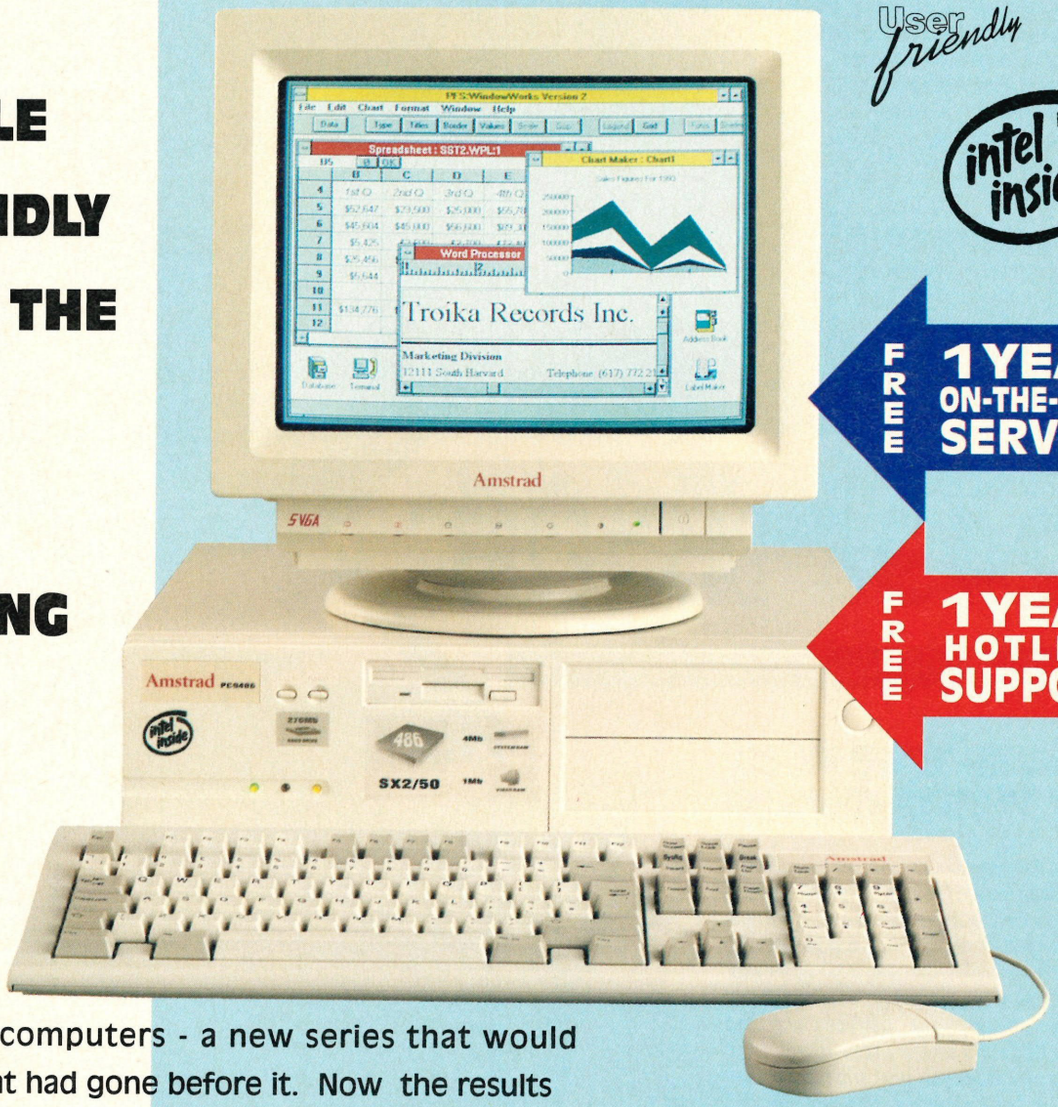
EXPANDABLE

USER-FRIENDLY

READY FOR THE FUTURE

TOTAL SUPPORT

OUTSTANDING VALUE FOR MONEY



User friendly

intel inside

FREE 1 YEAR ON-THE-SPOT SERVICE

FREE 1 YEAR HOTLINE SUPPORT

These were the six targets we gave ourselves when we set out to create the ultimate in personal computers - a new series that would outstrip everything that had gone before it. Now the results are here. The PC for the future, the Amstrad PC9486 Series.

Intel Verified: for the Pentium™ OverDrive™ Processor

ADVANCED

THE WIDEST CHOICE Amstrad has created three purpose-designed PC9486 packages - Family, MultiMedia and Business - or you can tailor-make a system to suit your exact needs.
Whichever you choose, all PC9486's offer this unique line-up of features.

THE LATEST TECHNOLOGY The PC9486 is ultra-fast and will handle the most demanding computing tasks. It is based on the latest in Intel486™ processor technology and integrated main board design.
Both graphics and interfaces have been built into the main board for increased performance and reliability.

EASY

READY FOR ANYTHING If your computing needs grow, the PC9486 grows with you. For example, it's easy to add memory upgrades, CD-ROM drives, tape streamers or expansion cards.
Most importantly, the PC9486 is ready for the new generation of Pentium® Overdrive® processors which Intel is developing. It's totally "future-proof".

USER-FRIENDLINESS Amstrad's speciality. The PC9486 is designed throughout to be extremely easy to use. All supplied software is pre-loaded, including a complete on-screen tutorial to guide you through the system. You just switch on and go.

RELIABLE

BUILT-IN RELIABILITY We've deliberately chosen only components proven to offer maximum performance and reliability.

BRITISH BUILD-QUALITY Every PC9486 is British-made - built and tested to the very highest standards in our own hi-tech factory.

FREE HOT LINE SUPPORT If you've any operating problems, just call our experts...your PC9486 comes with one year's free Hot Line support.

FREE 1 YEAR ON-THE-SPOT SERVICE If we can't solve a problem over the phone, we'll send a technician within 48 hours (excluding weekends and public holidays) to your home or office at a time to suit you.

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THE POWER YOU NEED NOW...

All PC9486 systems featured here use the latest **INTEL486™ CENTRAL PROCESSORS** with a minimum **4Mb OF SYSTEM MEMORY (RAM)**, **1Mb OF VIDEO RAM** and at least a **270Mb FAST ACCESS HARD DRIVE**. They're ultra-quick, based on a **TRUE 50MHz MOTHERBOARD**. Remember, many competitive machines can only run at 33MHz.

The graphics performance is simply dazzling - with up to 1024 x 768 resolution and a choice of 16.7 million colours! An **ADVANCED 24 BIT SUPER VGA COLOUR VIDEO CONTROLLER** is used, linked through a **SUPER-FAST LOCAL BUS**. If you're using Windows,™ the world's most popular operating system, an in-built **ACCELERATOR** increases performance even further.

....AND IN THE FUTURE

The PC9486 is designed to be easily upgraded, with two 5.25" drive bays, five 16 bit expansion slots and RAM cache sockets.

Its 237 pin ZIF (Zero Insertion Force) processor socket will take a variety of current Intel Overdrive® processors and has been verified by Intel to be compatible with their eagerly awaited Pentium® Overdrive® processors. Simply put, a PC couldn't be more "future-proof".

YOUR TECHNOLOGY CHECKLIST

When choosing any PC, there are 12 essential specification points that you should insist on to ensure you are not left behind as technology continues to evolve. All twelve are featured in the design of the PC9486.

FOR EXTRA SPEED AND PERFORMANCE

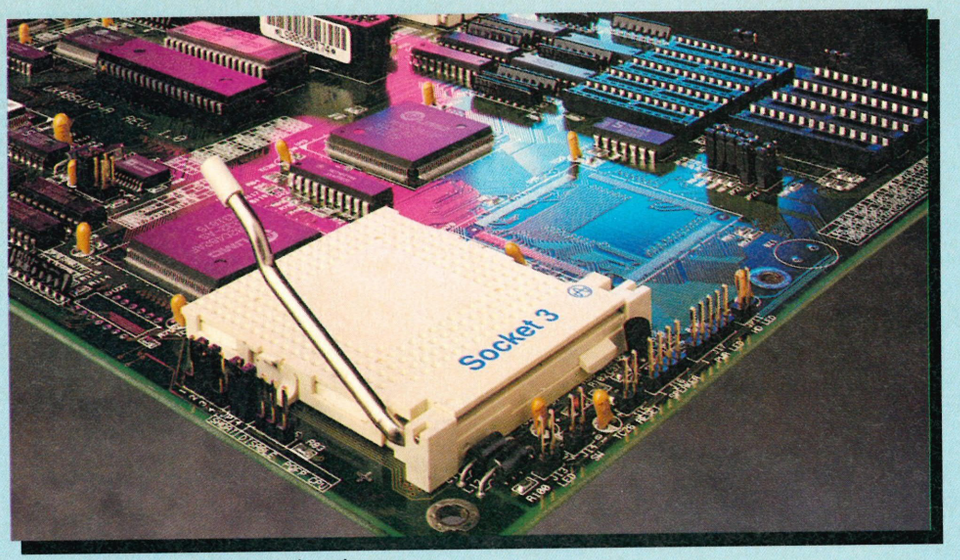
- Intel486™ CPU Technology ☐
- True 50MHz Rated Motherboard ☐
- Fast Access High Capacity Hard Drives ☐
- 4Mb System RAM as standard ☐

FOR PIN SHARP GRAPHICS

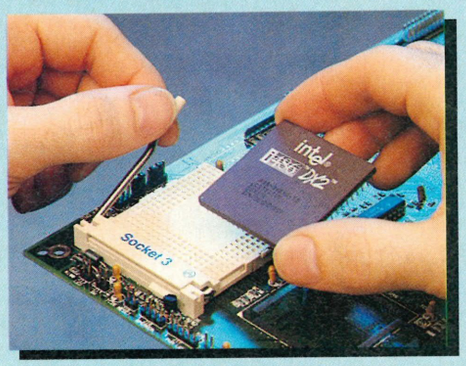
- Local Bus Super VGA Graphics with 1Mb Video RAM ☐
- True Colour Video Controller with Windows Accelerator ☐
- High Resolution 14" Super VGA Colour Monitor ☐

FOR EXPANDABILITY AND RELIABILITY

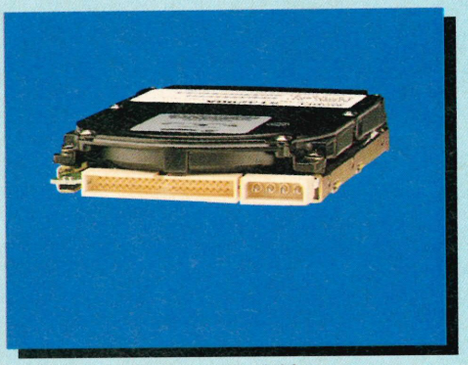
- Fully Integrated Motherboard ☐
- 237 Pin, Zero Insertion Force, CPU Socket ☐
- Ready for Pentium® Overdrive® Processor ☐
- User Upgradeable RAM Cache ☐
- Free 5.25" Drive Bays & 16 Bit Expansion Slots ☐



Ultra-fast fully integrated motherboard.



237-pin Pentium® Overdrive®-ready socket.



High capacity fast access hard drives.

INTEL CPU SPEED COMPARISONS

i486

DX2-66 MHz	297
DX2-50 MHz	231
SX2-50 MHz	180
SX-33 MHz	136
SX-25 MHz	100

Intel iComp Index©

Choose your own processor to increase performance.



The Point-and-Click interface



Any questions...One year's freephone Hot Line Support

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BUYLINE FREEPHONE
0800 33 88 44

PC9486 FAMILY PACK

Here's everything you need to get started in computing - both the hardware (that's the computer itself) and the software (the programs which make it perform for you).

It's a very powerful, very sophisticated system, yet purpose-designed to be easy-to-use and outstanding value for money.

What's more, it can grow as your computing experience does. It's a lasting investment.

> "The 9486 is extremely good value for money... An ideal machine for the beginner"
> **PC FORMAT**

> "I particularly like the way Amstrad has made a genuine effort to make the machine accessible to PC newcomers"
> **PC REVIEW**

LAUNCH SPECIAL

For early orders and while stocks last, we'll offer you a 14" colour 0.28dp ultra-high resolution, Low Radiation monitor, at the price of our standard 0.39dp model.

INTEL486™ SX2-50
270Mb HARD DRIVE
SPECIAL 0.28dp
MONITOR OFFER-
See Below

User friendly

intel inside

FREE 1 YEAR HOTLINE SUPPORT

FREE 1 YEAR ON-THE-SPOT SERVICE

£33.98 A MONTH FOR 36 MONTHS
SEE BACK FOR FULL CREDIT DETAILS



AMSTRAD FACTORY PRICE £799.99 EX VAT + **VAT** £140.00 = **INC VAT** £939.99

SEE DELIVERY TERMS ON ORDER FORM

HARDWARE

- Intel486™ SX2-50 Processor
- 4 Megabytes of RAM
- 270 Megabyte Fast Access Hard Drive
- 1 Megabyte of Video RAM
- Super VGA Colour Graphics
- 14" Colour Hi-Res SVGA 0.39dp Monitor (See "Launch Special")
- Ergonomic Keyboard
- 2-button Mouse

READY INSTALLED SOFTWARE

- MS-DOS® 6.2
- MS-Windows® 3.11
- PFS Window Works™ 2.0
- Winfax Ultralite™
- ADT Point & Click Interface
- Interactive On-screen Tutorial

SO MUCH MORE FOR YOUR MONEY

Your PC9486 arrives ready to go. The software has been loaded for you, so you just plug in, switch on - and you're away.

It's easy to find your way around, thanks to the "point and click" Amstrad Desk Top Interface and Interactive Tutorial - and you've a superb software package to explore. MS-DOS® 6.2 and MS-Windows® 3.11 are the latest versions of Microsoft's world-beating operating systems, whilst the much acclaimed PFS Window Works 2.0 offers full-feature word processing, spreadsheet with graphics, and database with address book. It's the outstanding user-friendly package for students and business people alike.



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PC9486 MULTIMEDIA PACK

MultiMedia is the latest and most exciting development in Personal Computing. It combines the conventional computer strengths with the new world of CD software. The capacity is simply staggering - an entire encyclopedia can go on one CD! It can give you amazing games, superb information presentation and movie-like video sequences, plus digital quality sound from the 16 bit sound card and stereo speakers. The PC9486 brings you all this in a truly user-friendly way.

> "The stunning PC9486 multimedia computer...you won't find many companies that can put together a more approachable, easy to use PC"
> **PC REVIEW**

> "Good value for money, particularly the PC9486 multimedia pack"
> **PERSONAL COMPUTER WORLD**

User friendly

intel inside

INTEL486™ SX2-50
270Mb HARD DRIVE
SPECIAL 0.28dp
MONITOR OFFER-
See Below

FREE 1 YEAR HOTLINE SUPPORT

FREE 1 YEAR ON-THE-SPOT SERVICE



£42.48 A MONTH FOR 36 MONTHS SEE BACK FOR FULL CREDIT DETAILS

LAUNCH SPECIAL

For early orders and while stocks last, we'll offer you a 14" colour 0.28dp ultra-high resolution, Low Radiation monitor, at the price of our standard 0.39dp model.

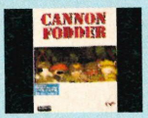
AMSTRAD FACTORY PRICE	VAT	INC VAT
£999.99 EX VAT	+ £175.00	= £1174.99

SEE DELIVERY TERMS ON ORDER FORM

HARDWARE

- Intel486™SX2-50 Processor
- 4 Megabytes of RAM
- 270 Megabyte Fast Access Hard Drive
- 1 Megabyte of Video RAM
- Super VGA Colour Graphics
- 14" Colour Hi-Res SVGA 0.39dp Monitor (See "Launch Special")
- Double Speed CD-ROM Drive (Fully MPC2 compliant)
- 16 Bit Stereo Sound Card
- Shielded Tri-Mode Stereo Speakers
- Ergonomic Keyboard
- 2-button Mouse







READY INSTALLED SOFTWARE

- MS-DOS® 6.2
- MS-Windows® 3.11
- PFS Window Works™ 2.0
- Interactive On-screen Tutorial
- ADT Point & Click Interface
- Winfax Ultralite™
- Rebel Assault™ CD
- Compton's Interactive Encyclopedia™ '94 Edition CD
- Theme Park™ CD
- Cannon Fodder
- Doom™ Episode One





SO MUCH TO ENJOY

Business and pleasure perfectly combined in a total package that offers quite phenomenal value. **As well as all the Family Pack software,** you get five of today's hottest multimedia titles. •**Rebel Assault CD** - fast and furious action with fully animated video footage and CD quality sound. •**Compton's Encyclopedia CD** - over 30,000 items combining motion video sequences, animations, stills, high quality sound, colour maps and diagrams. •**Theme Park CD** - strategy and superb cartoon graphics combine in this highly compulsive game. •**Cannon Fodder (Disk)** - crisp arcade-style graphics, catchy in-game music and excellent sound FX.•**Doom Episode One (Disk)** - voted best overall game of 1994.

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BUYLINE FREEPHONE **0800 33 88 44**

PC9486 BUSINESS PACK

For the office, home, or even running an entire small business, the PC9486 Business Pack offers an unrivalled combination of top-rated power and value-for-money.

It features the lightning-quick Intel486™ DX2 processor with on-chip maths co-processing running at 50MHz, backed up by 256Kb of cache memory and a massive 528Mb hard drive.

The software is equally outstanding. Lotus 1-2-3 for Windows is the latest Windows version of the world's most popular spreadsheet software, whilst Lotus AmiPro for Windows offers highly sophisticated wordprocessing, using full WYSIWYG (What You See Is What You Get) technology.

HARDWARE

- Intel 486DX2-50 Processor
- 4 Megabytes of RAM
- 256Kb of Cache RAM
- 528 Megabyte Fast Access Hard Drive
- 1 Megabyte of Video RAM
- Super VGA Colour Graphics
- 14" Colour Ultra Hi-Res SVGA Low Radiation Monitor (0.28dp)
- Ergonomic Keyboard
- 2-button Mouse

READY INSTALLED SOFTWARE

- MS-DOS® 6.2
- MS-Windows® 3.11
- Lotus 1-2-3 for Windows® 5.0
- Lotus AmiPro for Windows™ 3.1



FREE 1 YEAR HOTLINE SUPPORT

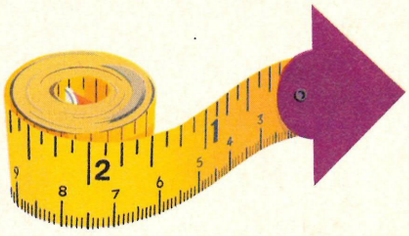
FREE 1 YEAR ON-THE-SPOT SERVICE

£42.48 A MONTH FOR 36 MONTHS SEE BACK FOR FULL CREDIT DETAILS

AMSTRAD FACTORY PRICE £999.99 EX VAT + **VAT** £175.00 = **INC VAT** £1174.99

SEE DELIVERY TERMS ON ORDER FORM.

PC9486 TAILOR-MADE



If none of the standard PC9486 packs precisely fits your needs, just specify your own system with the technology you require. We'll be happy to custom-make a system especially for you, at prices that fully reflect the amazing value of the PC9486 series.

To qualify for these incredible prices, you must order the Basic System as a minimum - and then upgrade whichever individual elements you want. The Basic System is complete and ready to use, once you've chosen your monitor. Design your system using this table, then ring the Buy-Line or fill in the details on the Order Form (see back). **Upgrade hardware, software and monitors can only be ordered with a basic system (BS1A).**

PRODUCT CODE	DESCRIPTION	AMSTRAD FACTORY PRICE	+VAT	= INC. VAT
BS1A	**BASIC SYSTEM** (Must be included on every order). System unit with 486SX2-50 CPU, 4Mb System RAM, 0Kb Cache RAM, 1 Mb Video RAM, 1.44 Mb 3.5" Floppy Drive, 270Mb Hard Drive, Keyboard, Mouse, 1 year's Free Hot Line Support, 1 year's Free On-the-Spot Service, MS-DOS 6.2, Windows 3.11.	£635	+ £111.13	= £746.13
*Upgrade CPU's only one per system.		ADD		
DX25A	486 DX2-50 CPU* (upgrade)	£45	+ £7.88	= £52.88
DX26A	486 DX2-66 CPU* (upgrade)	£85	+ £14.88	= £99.88
SR8A	RAM UPGRADE TO 8Mb	£120	+ £21.00	= £141.00
CR2A	256Kb CACHE RAM (upgrade)	£25	+ £4.38	= £29.38
HD5A	528Mb HARD DRIVE (upgrade)	£50	+ £8.75	= £58.75
MH1A	**MULTIMEDIA HARDWARE** Double Speed CD-ROM Drive, 16 bit Stereo Sound Card, Shielded Stereo Speakers.	£155	+ £27.13	= £182.13
SOFTWARE				
FS1A	**FAMILY PACK** Amstrad Desktop, PFS Window Works 2.0, Winfax Ultralite, Interactive Tutorial.	£15	+ £2.63	= £17.63
MS1A	**MULTIMEDIA PACK** Rebel Assault CD, Compton's Interactive Encyclopedia '94 Edition CD, Theme Park CD, Cannon Fodder Disk, Doom Episode 1 Disk. Only suitable for use with MultiMedia Hardware.	£45	+ £7.88	= £52.88
MONITORS				
CM1A	14" SVGA COLOUR MONITOR 0.39 dot pitch	£149.99	+ £26.25	= £176.24
CM2A	14" SVGA COLOUR MONITOR 0.28 dot pitch	£149.99	+ £26.25	= £176.24

LAUNCH SPECIAL NORMAL PRICE £189.99

User friendly

intel inside

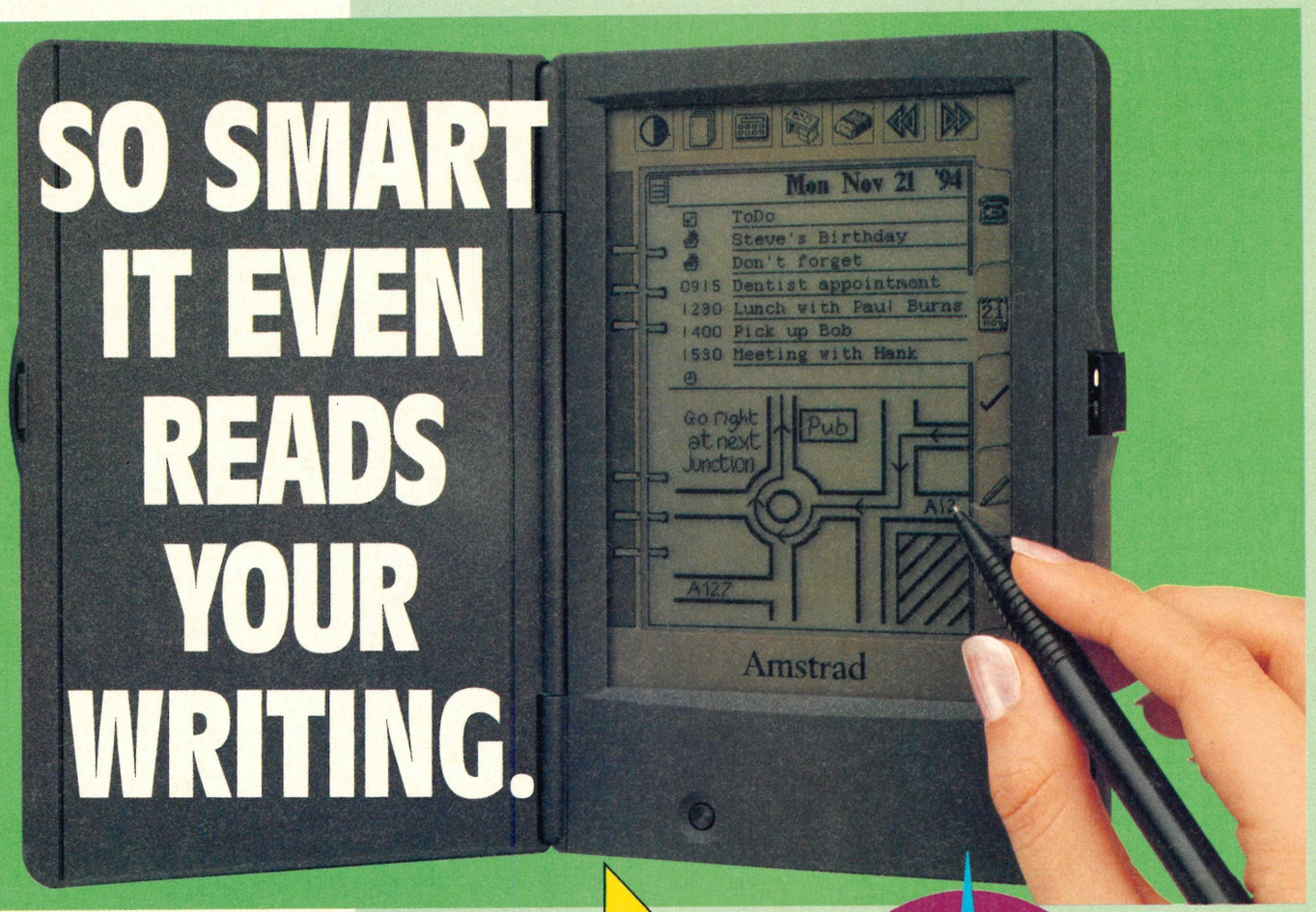
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FREE 1 YEAR ON-THE-SPOT SERVICE

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THE AMAZING AMSTRAD PENPAD

SO SMART IT EVEN READS YOUR WRITING.



The World's first PDA.

AMSTRAD FACTORY PRICE £99.99 (ORGANISER NOT INCLUDED) EX VAT + **VAT** £17.50 = **INC VAT** £117.49

LAUNCH SPECIAL

SAVE OVER £150!



PREVIOUS PRICE (WITH ORGANISER FOR WINDOWS) £299.99 inc. VAT

Goodbye ring-binders, hello to the personal organiser for the next century! The Amstrad PenPad. Its sophisticated handwriting recognition facility means it "learns" to read your handwriting, so there's no fiddly keyboard, you just "write" on the screen.

It's a diary, address book, calculator, jotting pad, conversion chart and much more all in one. It remembers birthdays, lets you draw sketches and maps - and never runs out of "paper". In fact, you need never buy a diary again. The PenPad is programmed to the year 2099 and beyond.

We've made the PenPad our feature offer for the launch of Amstrad Business Direct - with an incredible £150+ off while stocks last.



ORGANISER for Windows A PC-based Windows™ package that lets you link your PenPad to your PC. You can backup your PenPad information, revise it, print it out, use it in other documents - or download new information from the PC. Link cable provided.

AMSTRAD FACTORY PRICE £24.99 EX VAT + **PLUS VAT** £4.37 = **INC VAT** £29.36

No credit terms are available on PenPad or accessories.

Amstrad BUSINESS DIRECT

HELPLINE CUSTOMER SERVICE **0345 70 88 88**

BUYLINE FREEPHONE **0800 33 88 44**

HOW TO ORDER

We've three easy ways to pay, but if you've any questions about what to buy or how to order, please phone the Help Line on 0345 70 88 88. To make things even quicker, we can now clear cheques instantly with Transax. Keep a copy of your Order Form. (Even if you're ordering by phone, it's a good idea to fill in the form as a record.)



BY PHONE: 0800 33 88 44 Order instantly by quoting your Credit/Debit card or American Express card. ☐

BY POST: FREEPOST to Amstrad Direct, FREEPOST, Brentwood, Essex CM14 4YW. Just complete this form and post it with a cheque for the full amount or give your Credit/Debit card or American Express details. ☐

BY FAX: 0277 209009 Just fill in this form and fax it. If you're not paying by Credit/Debit card or American Express, please send a cheque by return post. ☐

PRODUCT CODE		DESCRIPTION	QTY	UNIT PRICE INC. VAT	TOTAL PRICE INC. VAT
FX1A		PS8000 FAX		£352.49	
FX2A		FX8500AT FAX		£293.74	
FX3A		FX7500AT FAX		£234.99	
PC1A		PC9486 Family Pack		£939.99	
PC2A		PC9486 MultiMedia Pack		£1,174.99	
PC3A		PC9486 Business Pack		£1,174.99	
PD6A		PDA600 PenPad (Delivered Free)		£117.49	
SP1A		Organiser for Windows (Delivered Free)		£29.36	
TAILOR MADE PC'S					
BS1A		System Unit (without monitor) N.B. Must be included on all Tailor-Made orders.		£746.13	
DX25A	CAN ONLY BE ORDERED WITH BS1A	Either 486 DX2-50 Processor (upgrade)		£52.88	
DX26A		Or 486 DX2-66 Processor (upgrade)		£99.88	
SR8A		RAM Upgrade to 8Mb (upgrade)		£141.00	
CR2A		256Kb Cache RAM (upgrade)		£29.38	
HD5A		528Mb Hard Disk (upgrade)		£58.75	
MH1A		MultiMedia Hardware		£182.13	
FS1A		Family Pack Software		£17.63	
MS1A		MultiMedia Pack Software		£52.88	
CM1A		PC14M39 Monitor		£176.24	
CM2A		PC14M28 Monitor - SPECIAL OFFER PRICE		£176.24	
				*DELIVERY See below	
				TOTAL TO PAY VAT INCLUSIVE	

Title (Mr/Mrs/Ms)_____ Initials_____

Name_____

Company (If applicable) _____

Address _____

_____

Postcode _____ Telephone (Day)_____

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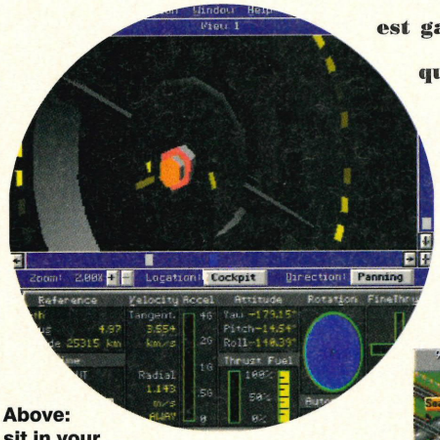
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GAMES Reviewed this month

Welcome to PC Review's games section, packed with reviews, previews and tips covering absolutely everything that's happening in the world of PC games. Here's where you'll find reviews of all the latest games released for the PC, extensively illustrated and play-tested in depth to give you the best games review service you'll find anywhere. Our previews section picks out some of the most interesting games currently in development and also includes our perennially popular Coming Soon games-at-a-glance column. In QED, we give you playing guides to the latest games and also — uniquely — we'll answer your questions on the spot.

COVER STORY

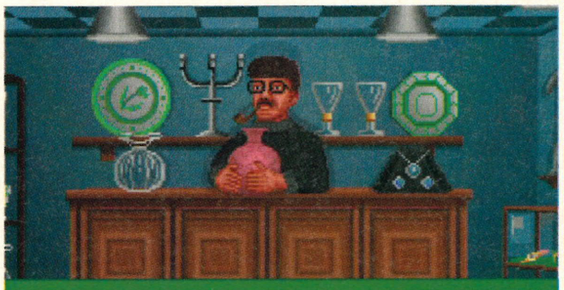
Look out this month too for a new feature on page 107 in which we take a light-hearted look at some of the choicest episodes in PC gaming, and we'll be asking you for your favourite gaming moments as well.



Above: sit in your own tin-can far above the moon — Microsoft follows up the phenomenal Flight Simulator with Space Simulator on page 85.



Above: SimCity meets Railroad Tycoon — with a dash of A-Train — in Transport Tycoon, the new program from Chris Sawyer and MicroProse reviewed on page 64.



Above: "Odd, unintentionally hilarious, and one of the most enjoyable games I've played this year": Simon Shaw gets to grips with The Clue on page 72.

The ratings

PC Review gives a single mark out of 10 to rate games. The score takes into account all the elements of the games, with particular regard to playability, graphics and sound, and overall presentation.

We aim to play the games tested to completion — where the game has a distinct beginning, middle and end, anyway.

We can be pretty tough on games when we put our minds to it — since 'five' is the halfway mark between 0 and 10, you can assume we consider any game rated more than five to be above average in quality, and a game rated below five to be below average quality.

0: A game with absolutely nothing to recommend it to anyone (no game has yet scored zero).
1-2: Poorly implemented game, badly programmed, very disappointing.
3-4: A game with some good ideas, but serious drawbacks: poor controls, weak animation, maybe just plain tedious.
5: A solidly average game. Competent without being anything special, probably enjoyable in the short term.
6: Won't disappoint any fans of the genre; an above average title, but probably one which doesn't break any new ground.
7: Good, imaginatively programmed game which should appeal to the majority of game players.
8: Very good indeed — a game will need something special in the way of gameplay, innovation, graphics or sound to make it worth an eight.
9: Outstanding as an all-rounder. Few, if any, failings in graphics, sound, atmosphere, playability, ease of use, etc.
10: The ultimate score. Sheer perfection.

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Cyclemania

Motor cycle racing games are rare on the PC. Here Accolade tries to redress the balance.





There are quite a few decent racing games on the PC, but nearly all of these are based on cars — in fact, I can't think of any which feature good old motorbikes. Accolade also seems to have noticed this rather large gap in the market, and has attempted to bridge it with Cyclemania. The game makes no pretensions about being an accurate sim, however; it's an out-and-out arcade game and as such is very easy to play.

The game takes place over five road tracks, and you simply have to get from start to finish using the cursor keys (or joystick): up to accelerate, down to brake and left and right — well, I don't have to tell you what these keys do, do I? Winning isn't that straightforward, though. Although it's reasonably easy to overtake your opponents, staying in front is a little more tricky. There may be a race going on, but that doesn't mean the road has been closed to other drivers — you're going to run into police motorbikes, sports cars, open-top Beetles, bloody great trucks and even loose horses and cows. Hit one of these at 166mph and you're going to take a tumble, though for some bizarre reason the other vehicle always comes out of it completely unscathed. I think Accolade may have missed an opportunity here: exploding trucks and dismembered cows would have added a little extra something to the game.

Collision course

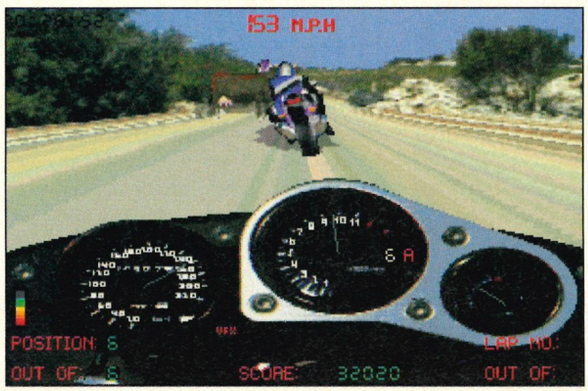
The collision detection isn't exactly spot-on, mind you. If you hit something head on you're going to eat tarmac, which is fair enough. But sometimes you could have sworn you'd missed the offending obstacle, only to get wiped out anyway; other times you're sure you clipped it but you somehow manage to stay upright.

Despite such annoyances, Cyclemania does have its good points. The tracks look quite smart: Accolade strapped a camera to the front of a bike, digitised the footage and then laid sprites over the top. The only problem is that sometimes the game slows when there are a lot of sprites on screen, though strangely it seemed smoother on my 33Mhz 486 than on the office Pentium. The game also contains some attractive rendered animations — before and after the race, when you choose the bike or track and so forth. And when you crash your bike, up pops a digitised sequence showing a bike smash, though in the heat of the race it's an annoying interruption, especially if you fall off rather too often. Fortunately you can turn them off.

> "The game makes no pretensions about being an accurate sim: it's an out and out arcade game."

The gameplay is pretty solid too. You can choose from one of six different bikes, five tracks, the number of laps, the standard of the opposition and whether the race will be aggressive or friendly. The last option lets you earn bonus points for nudging your rivals off their bikes.

In addition, there's a championship mode, where you drive all five tracks, earning cash to spend on upgrades for your bike, as well as place points.



Above: the start is always good for a bit of argy bargy.

Below: trucks and cars aren't the only hazards: loose cows and horses can also stop you in your tracks.

Everyone's a winner

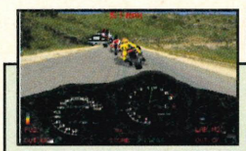
Having won the championship, I was a bit miffed at being taken straight back to the game menu without so much as a "well done". The game has plenty of nice rendered animations, so you would have thought the programmers could have included a champagne-spraying sequence or something.

Overall, Cyclemania is a pretty good game. It has its faults, and its main failing is that with only five tracks, it does have a limited lifespan. On the plus side, it's instantly accessible, easy to pick up and good-looking into the bargain. It isn't as good as Roadrash on the 3DO, but unless you're willing to wait until the 3DO card becomes available for the PC, Cyclemania is as good as you're going to get.

■ **Cal Jones**

Below: when you come off your bike, you're treated to some video footage of a bike smash. It bears no resemblance to the actual race, mind.





TECHSPEC

7 RATING

Fast, slick, instantly playable and accessible.

Publisher:	Accolade
Price:	£39.99
Contact:	(081) 788 0200
Minimum PC:	386, MS-DOS 5.0
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Ad Lib, Sound Blaster, Roland

Transport Tycoon

The 'ultimate sim on wheels' was how we billed Transport Tycoon on our September demo disk. Does the finished game live up to the early promise?

DISK ONLY

In this day and age of splendiferous CDs packed with all sorts of clever trickery — and often little else — it's a rare treat to come across a real *game* like Transport Tycoon.

The idea of the game is about as straightforward as you can get, really. You're in charge of a transport company, and you have to expand and make money before your competitors freeze you out of business. You do this by hauling goods and passengers from A to B (and back again if you wish) and you have a wide variety of transportation at your disposal.

Different cargos and different journeys equal different rates of pay, of course. Now, all you have to do is figure out a way to make a profit, or go under. It's that simple.

That doesn't make it a pushover, by any means. One minute everything's going a treat, the next your only coal mine is on a go-slow, half your fleet of lorries have broken down and your most expensive plane has just crashed with a loss of 100 lives. Oh, yes, there's a submarine rather unsportingly trying to torpedo one of your oil tankers and a new company has just started trading in your home town ...

Below: disasters work both ways. My express has just totalled one of my rival buses. Oh dear.



Steamin' down the track

The first thing you do when you start a new game is have a look at the world map — it's a huge playing area, believe me — and check out the distribution of towns and industries. These needed to be connected up with track roads, tunnels and bridges.

Towns are reasonably straightforward, and involve ferrying passengers, goods and mail back and forth. The better you make the transport network, the quicker the towns grow, and that in turn means more potential passengers.

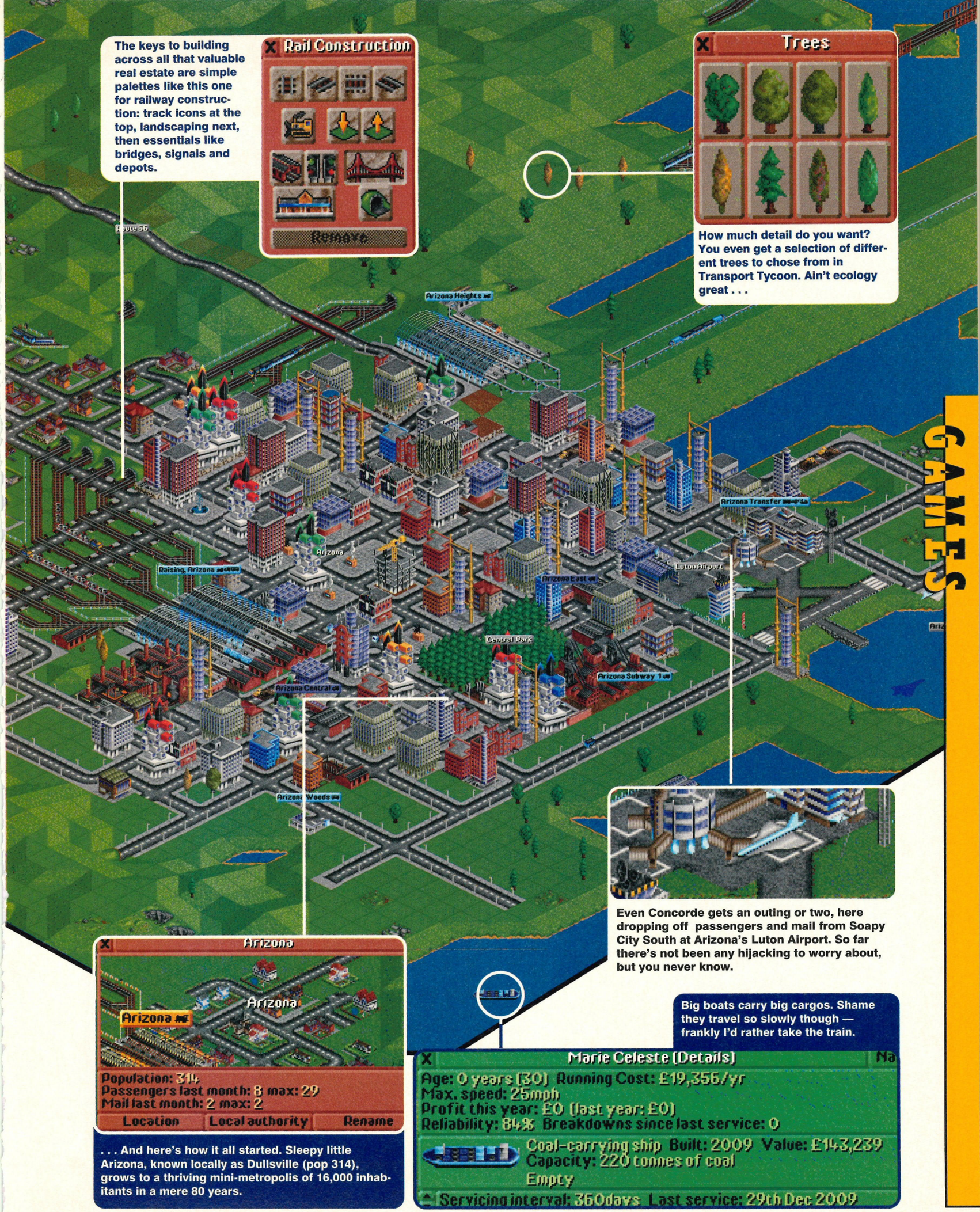
Each station has a catchment area and your performance is rated by the local industry and populace. Give them a lousy service and they'll desert you when one of your rivals sets up shop in the neighbourhood.

Mind you, if you've got cash to burn, you can always run an advertising campaign, fund local road reconstruction, or contribute to new buildings for the town if you think it'll help your cause.

As for industries, well you're almost spoilt for choice. Farms for instance, produce livestock and grain. Factories accept livestock, grain and steel, and produce goods. Forests produce wood, which needs to make its way to a convenient sawmill to be turned into goods, and so on.

Runaway train

How you get the stuff from one location to another is up to you (the choice includes trains, buses, lorries, ships and planes),



The keys to building across all that valuable real estate are simple palettes like this one for railway construction: track icons at the top, landscaping next, then essentials like bridges, signals and depots.

How much detail do you want? You even get a selection of different trees to chose from in Transport Tycoon. Ain't ecology great . . .

Even Concorde gets an outing or two, here dropping off passengers and mail from Soapy City South at Arizona's Luton Airport. So far there's not been any hijacking to worry about, but you never know.

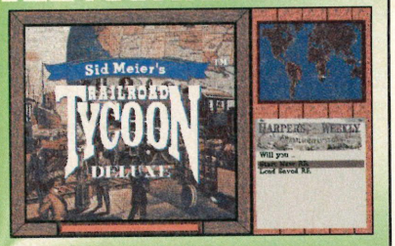
. . . And here's how it all started. Sleepy little Arizona, known locally as Dullsville (pop 314), grows to a thriving mini-metropolis of 16,000 inhabitants in a mere 80 years.

Big boats carry big cargos. Shame they travel so slowly though — frankly I'd rather take the train.

ALTERNATIVELY



SimCity 2000
Maxis, £39.99
Rated 9, issue 29
Already regarded as a classic, SimCity 2000 is one of the most pointlessly entertaining games money can buy. The isometric 3D game world needs constant care and attention. When you have to worry about everything from the crime rate to reading levels, who needs the real world?



Railroad Tycoon Deluxe
MicroProse, £39.99
Rated 7, issue 23
Sid Meier's railroad empire builder can't compete with the variety, looks and detail of Transport Tycoon, so it'll probably be put out to budget-label pastures. Even though it's very long in the tooth, it's still got more gameplay in it than half the new releases we'll see this coming year.



Above: only a few years have passed and I've already got a thriving coal haulage business up and running. You can just see the start of my new HQ building — that shack in the bottom left corner.

but one of the most impressive features of the game is how easy it is to control each of your growing fleet of vehicles. Click on any one of them, and a comprehensive little control window will appear with a camera view tracking the vehicle as it goes about it's business, and a series of icons. That's all you need to dish out quite complex orders, plus a couple of mouse clicks on locations: say, 'go to station A, load up, go non-stop to station C, back to station B then start all over again.'

What's more, you can leave as many of these control windows on screen as you like (as well as all sorts of financial and general info) which makes the job of masterminding your growing transport empire far less haphazard than it might have been. You don't even have to have one type of vehicle take the goods all the way. A lorry load of steel, for example, could be transferred to a ship and then a train before it reaches its final destination, and you could keep tabs on it all the way.

> "In terms of addictiveness, Transport Tycoon has a hook the size of a ship's anchor."

Throw mama off the train

The way everything fits together so well is undeniably clever, but what really *makes* Transport Tycoon is the detail and the animation. You don't have to be a trainspotter to appreciate it.

Trains puff smoke, signal lights work, sparks come off the TGV as it flashes along the track, buses overtake, lifts work on buildings, and trees grow. It's immaculately done: the ultimate model railway.

This is where Transport Tycoon really scores over both SimCity 2000 and Railroad Tycoon. I'd even say that it's a better game than both of them.

OK, so Railroad is an old game and it could hardly be expected to compete on looks or scope. But when you see a game that shares the same isometric 3D view as Sim City 2000 and manages to knock it into a cocked hat for detail, well, it's just got to be something special.

It's also a far more personal, less detatched game than SimCity 2000, which is a big plus. As my first train manfully struggled up a steep incline with a heavy load of coal I was rooting for it all the way, likewise when one of my buses gamely tried to overtake a rival at a blistering 30mph there was a lump in my throat, and this stays with you throughout the game.

And, you get just as worked up about what your opponents are up to as well. You can see exactly how they're stealing your business. It's a tangible enemy to deal with, not like you're competing against some invisible city somewhere off-screen. In fact, the competition got to such a stage that I was often playing Transport Tycoon more like a war game than anything else.

Last train to Clarksville

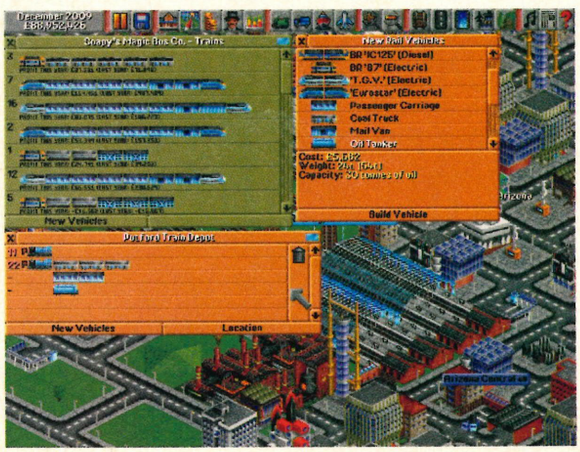
Transport Tycoon is one of those fascinating games where you can cheerfully spend four thoroughly absorbing hours twiddling about with all sorts of things without getting anywhere in particular. At times it feels almost pointless, like "what the hell have I just spent the last three hours doing this for? " but it's an impossible game to walk away from.

The combination of fluctuating economics, luck and a variety of difficulty settings should keep you on your toes for a good while. And, when you do eventually crack it, there's always the serial link, two player option to add an extra dimension to the gameplay.

Without mentioning the 'D' word, there hasn't been another game this year that's taken up so much of my time. In terms of sheer addictiveness, Transport Tycoon has a hook to it the size of a ship's anchor. It's fabulous.

■ John Bennett

Below: time ambles by, and new machinery arrives on the scene as the older stuff starts to conk out. Mind you, the new vehicles tend to be rather unreliable for the first year.





TECHSPEC 9 RATING

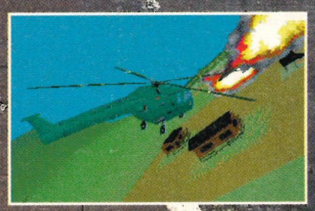
Poetry in motion, what more can I say.

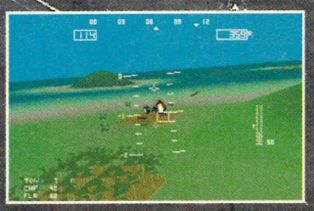
Publisher:	MicroProse
Price:	£44.99
Contact:	(0454) 326532
Minimum PC:	25 MHz 486
Minimum memory:	4Mb with 575K free RAM
Minimum graphics:	VGA
Sound:	Ad Lib, Sound Blaster, Roland

KA-50 HOKUM

A HELICOPTER FLIGHT SIMULATION OVER THE SOUTH CHINA SEAS









SCALE 1:72 | FORMATS: IBM PC AND COMPATIBLES | FIRST CLASS PILOT WANTED-APPLY WITHIN | VIE-94

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PEOPLE LIKE YOU. FROM SIMIS, THE TEAM BEHIND THE CRITICALLY ACCLAIMED AV-8B HARRIER ASSAULT, COMES A SIMULATION OF PHENOMENAL PROPORTIONS. FLY FOUR OF THE WORLD'S MOST ADVANCED HELICOPTERS ...

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... EACH ONE SIMULATED TO AN UNPRECEDENTED DEGREE OF REALISM WITH SOLID TEXTURE-MAPPED DETAIL AND AUTHENTIC FLIGHT MODELS TESTED AND APPROVED BY EXPERIENCED PILOTS. TAKE ADVANTAGE OF THE UNIQUE TWO-PLAYER CO-PILOT FEATURE, AND THE MOST ADVANCED STRATEGIC BATTLE-PLANNING SYSTEM EVER IMPLEMENTED IN A COMBAT SIMULATION. SPECTACULAR CAMERA VIEWS BRING TO LIFE THE FULL EXPLOSIVE IMPACT OF COMBAT IN THE AIR AND OVER GOURAUD-SHADED TERRAIN. BUT DO YOU HAVE THE NERVE AND ABILITY TO COMMAND A FOUR-STRONG FLEET AND WAGE WAR AGAINST THE PIRATE ARMIES ?

KA-50

Virgin

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Quarantine

"Where to, guv'?" Take a taxi ride to Violenceville, USA, and don't forget to tip ...

Right: The punters whistle, wave or shout to attract your attention. Remember not to drive over them before they get in the cab, though.

DISK ONLY

Doom-in-a-taxi' is what they told me this game was going to be. Now there's a game I hadn't thought of. 'Doom-in-a-taxi' was right down at the bottom of the list next to 'Ultima Underworld in Texas Homecare.' But considering the fact that Quarantine puts you at the wheel of a futuristic hackney carriage with orders to shoot, drive over or chop up pedestrians, I suppose it's a fairly apt description.

By the way, those of a sensitive disposition needn't worry — the violence is almost entirely necessary to the plot.

As the game begins you find yourself in Kemo City, where street crime has always been rife but is now larger than rife, thanks to the misguided machinations of the sinister Omnicorp corporation. A couple of years after Omnicorp took control of the city, it tried to reduce its crime problem by releasing a calming psychotropic drug into the water supply. But wouldn't you know it? The drug reacted with pollutants in the water and turned everyone into zombie nutters, so Omnicorp sealed up the city with armoured walls and now the whole population are prisoners, confined in the city to a particular zone.





Below: Sorry mate! Another one to add to the roadkill statistics. Not that anyone's keeping count.





South of the river? No chance, guv

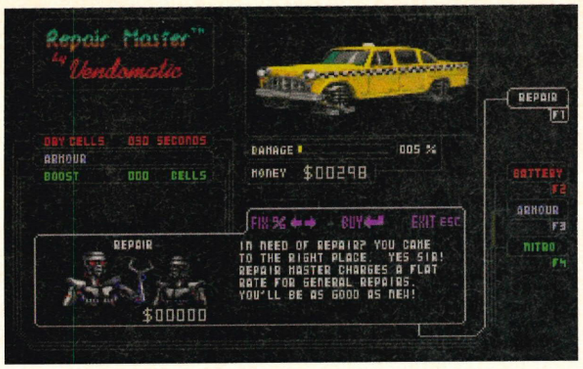
So here you are, an honest, but not an exactly pacifist, cabbie, cruising Kemo City's central zone. The view through the windscreen is of a scrolling 3D maze of texture-mapped store-fronts, shopping malls and expressways. There are other drivers patrolling the streets in chunky, but smoothly animated autos, as well as digitised people sprites, most of whom would shoot you dead as soon as look at you.

The punters aren't so bad though. As in real life, you can spot them by their habit of standing by the roadside, waving and shouting, 'Yo!' or 'Taxi!'. Just pull up next to them and they'll show you where to go on a map, how soon they want to get there (usually within the next 45 seconds — impatient bleeders) and how much they'll pay if you get them there on time. Deliver them late and they start subtracting dollars from your fare until you're left with absolutely nothing.

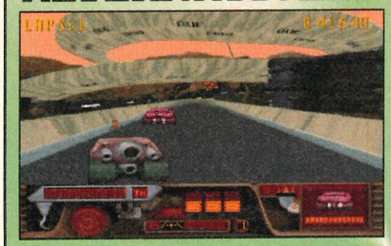
So, with a passenger on board, you flip down the 'For Hire' sign and plunge into Kemo City's nightmarish traffic system. Tootling down a street you're suddenly accosted by gangs of street punks who leap from the rooftops and throw Molotov cocktails at your windscreen. Guys pop up from manholes and perforate your radiator with their Uzis. Your fellow motorists are an equally psychotic bunch who bounce your floating motor off the road if you get in their way, or hit you with missiles and land mines. This means it pays to discover that the twin heavy calibre machine guns mounted on the bonnet aren't just ornamental.

Driven to violence

All this punishment takes its toll on your cab, and if the damage-ometer at the top



ALTERNATIVELY



Megarace
Mindscape, £44.99
Rated 8, Issue 31
More of a racing game than a taxi-driving game, but still with an element of gunning other cars off the road. Megarace is a lush looking game which scores highly for presentation, smooth movement and funky music. But it lacks the raw excitement of, well, something like Doom.



Doom 2
Virgin/id, £49.99
Rated 7, Issue 37
Like Quarantine, graphic violence features strongly in Doom, but playing Quarantine makes you realise how much more there is to Doom's appeal than just gore and guns. Doom II gives you a new weapon and more baddies, but it's essentially more of the same, hardly a bad thing in itself.

of the screen hits zero it conks out and you're dead meat. So as soon as you've racked up some dollars it's essential to nip down to the nearest automatic service centre every once in a while to get the cab fixed up, and maybe add some armour plating for extra protection.

If you've got cash to spare it's worth taking a trip to a Weapon King store, where you can fill up with ammo or get some new hardware fitted. How about a mine-layer, or quadruple-barrelled roof cannons, or perhaps the car-carving, bonnet-based buzz saw? All meaty stuff which clears the road in a trice, sending offending drivers careering off the highway to explode satisfyingly at the roadside.

So, that's the game — keep picking up customers and use the fares to finance the gear which extends your survival. But, there is a bit more to it, as you discover after half a dozen journeys. It becomes increasingly apparent that your destiny in Quarantine is to undermine Omnicorp by helping out a gang of anti-Omnicorp terrorists — and not just by giving them free rides home after a night out. These guys turn up every once in a while to give you a special mission. Sometimes you have to deliver a package or a bomb. Sometimes you have to track down enemy gangsters and either drive over them or chase their car around town until you've blown it up.

After completing a few of these the gang are sufficiently satisfied with your efforts that they promote you to a new area of town by giving you the password to feed into the exit elevator which is the only way into the neighbouring district. There you can expect more of the same, only different.

Cab-aret

So — finger-licking good fun, or flawed and faulty? Well, I'll tell you I've come out of Quarantine with a vague feeling that it's quite good. To elucidate: firstly, it's very impressive technically. Everything does look kind of realistic. The scenery shifts around swiftly and smoothly, even on a low-end 486 (though you may need to switch to the low detail setting for best results), and the cars and the roaming thugs look pretty good too. The sound effects match the weapons for meatiness, and this CD version even lets you switch between nine not-bad-at-all rock/grunge/jazz CD tracks which suit the action down to the ground. Now you're maybe waiting for the 'But', and indeed here it comes.

> "In spite of all the potential for mayhem, somehow the excitement never reaches fever pitch."

But in spite of all the potential for mayhem and excitement, what with all these guns and murderers, somehow the excitement never reaches fever pitch. I'm not saying that Quarantine is dull, it's just that, well, the violence usually feels like a not-altogether-necessary adjunct to the main part of the action.



Above: These service 'centres' are all over the place. Just pull in, plug into the autovendor and you get instant robotic repairs. You can also kit your cab out with armour plating, nitro boosters or batteries, which let you drive off-road for a limited amount of time.

For the most part you're just carting folks around, getting lost, pausing to check the map, and generally making like a taxi driver. Even with the time limit, there's not much to get you frantic in these bits, nor even in the special missions which aren't really that special. It doesn't take long for the novelty of shooting people and blowing up cars to wear off and I ended up simply running over bad guys if they got in my way and overtaking or bumping past the other drivers.

I got the impression that the programmers concentrated on trying to satisfy a lust for gore and blood and putting a substantial game element in there came second on the list of priorities. And that's understandable because I'm sure there are a lot of players out there who can live with that, though for safety's sake maybe they should eliminate red meat from their diets, cut down on caffeine, and be kept away from sharp objects.

■ Paul Glancey



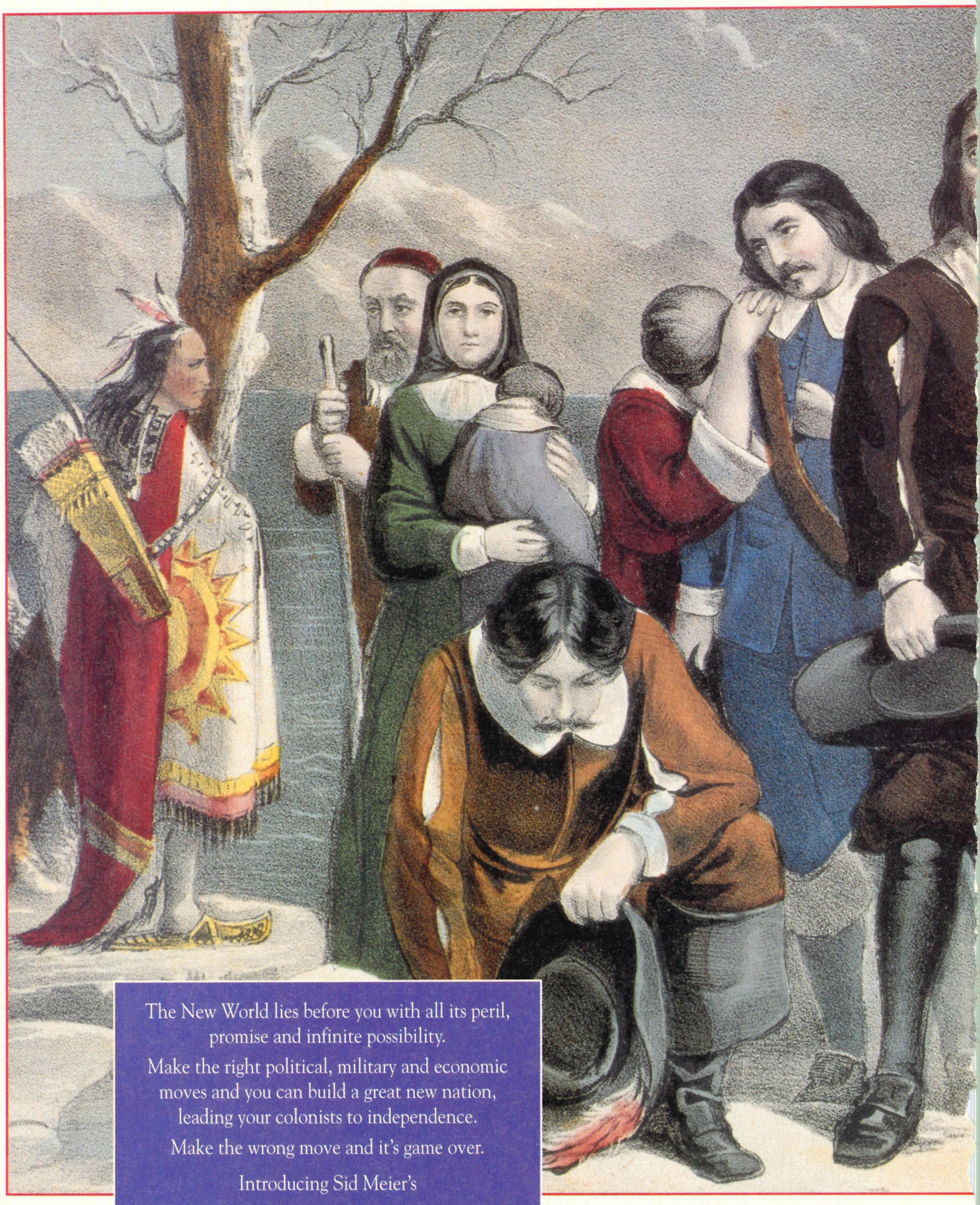


Mayhem galore, but not much more.

•TECHSPEC• 7 RATING

Publisher:	Gametek
Price:	£39.99
Contact:	(0753) 553445
Minimum PC:	33 MHz 486, CD-ROM
Minimum memory:	4Mb RAM 1MB hard disk
Minimum graphics:	VESA-compatible VGA
Sound:	Ad Lib, Sound Blaster, Roland, Gravis

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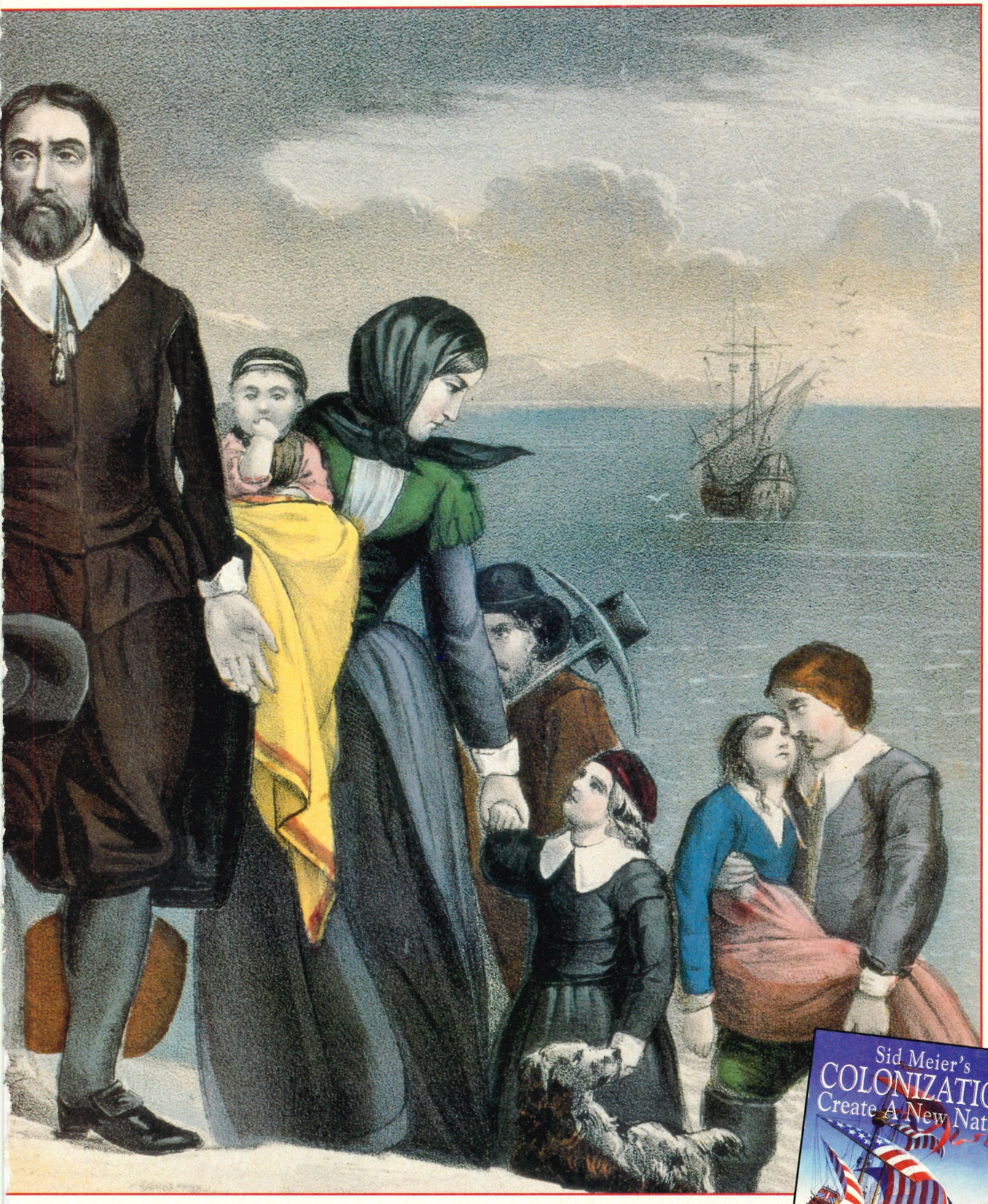
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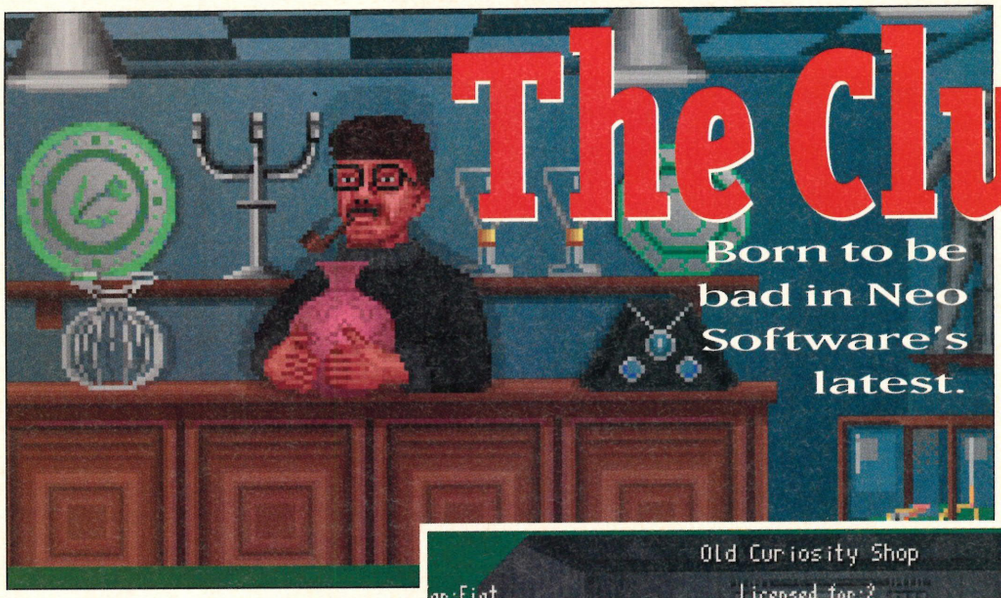
FOR IBM PC COMPATIBLES

The Clue

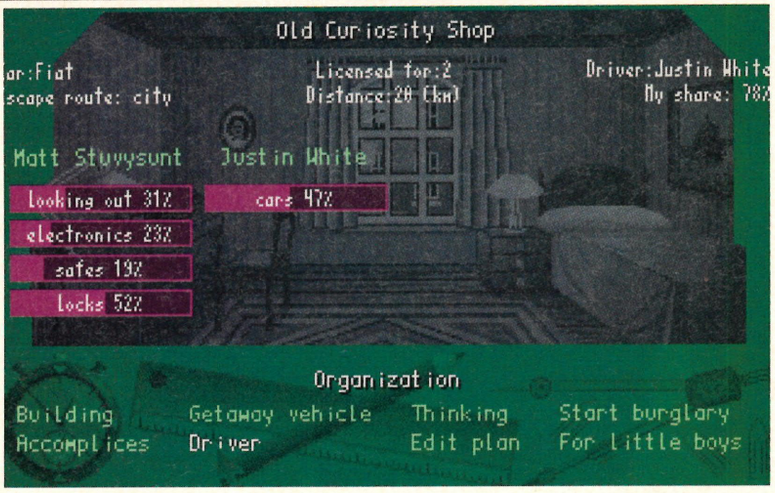
Born to be bad in Neo Software's latest.

Right: This is Mr Pooly, who owns a fine little retail establishment and specialises in handling stolen goods. It's rather surprising how many shopkeepers are in exactly the same line of business. You'll have to hawk your ill-gotten gains around in order to get the best price.





Below: Planning a heist in Matt's hotel room: I've got a target and a car, now all I need is a driver. With Matt's breaking and entering skills, he can take care of the rest.



This is one of the oddest games I've ever played. It's Austrian-designed, but set in 1950s London, and is full of unintentionally hilarious vignettes of English life. It also boasts a crude interface and pretty terrible graphics and at first sight gives every impression of being a right pre-seasonal turkey. On closer inspection, though, and much to my surprise, it's turned out to be one of the most enjoyable games I've played all year.

It's a point-and-click adventure in which you take the role of Matt Stuyvesant, a louche young man with a fag glued permanently to the corner of his mouth and a casual attitude towards other people's property. Matt, you see, is from the wrong side of the tracks, the son of a famous thief and determined to follow in daddy's footsteps. In conventional police games your aim is to solve crimes. Here it's to commit them, and the sheer immoral fun of it all is quite exhilarating.

You start with a low skill-base and only a few pounds in your pocket, but after a couple of jobs your experience increases and with healthier finances you're able to invest in better equipment. Fortunately there's a tool shop just opposite the police station where you can buy anything from a jemmy to an oxy-acetylene cutter with no questions asked. It's just as easy to pick up accomplices, because almost everyone you meet, from shop owners to waiters, turns out to be completely corruptible. They must have a pretty low view of our national character out there in Austria.

Below: The Fat Man Pub is full of all sorts of dodgy characters with dubious criminal skills. This one's called Briggs, an old family friend. The graphics screens in The Clue are strictly out of the Captain Pugwash school of animation.



In effect, though, any resemblance between places and persons portrayed in The Clue and real life is, as they say in the movies, entirely coincidental. I mean, would you want to spend a night in the Ugley (sic) Dog Hotel, down a pint in the Fat Man Pub or even contemplate for one moment visiting a cafe called the Walrus With Yellow Blinds?

If you did, you certainly wouldn't expect to meet an army officer named Lucas Grull, or a housewife and spare-time getaway driver who goes by the name of Justin. To say that The Clue is weird, preposterous and bizarre is seriously to understate the case.

It is, however, tremendous fun. As you progress, more and harder potential targets become available, culminating, in a crack at the Crown Jewels in the Tower of London. For each job you have to case the joint, recruit a gang, select equipment, and then plan the raid, using the skills of your various accomplices to maximum effect. This can get repetitive, but it's been sufficiently unusual to keep me intrigued. What the game lacks in style and presentation, it makes up in originality.

Slick it isn't, but if you're bored with conventional adventures and fancy something a little different, The Clue is for you. It doesn't take itself too seriously, it's easy to pick up and has a charm all of its own. At the very least it's good for a few laughs.

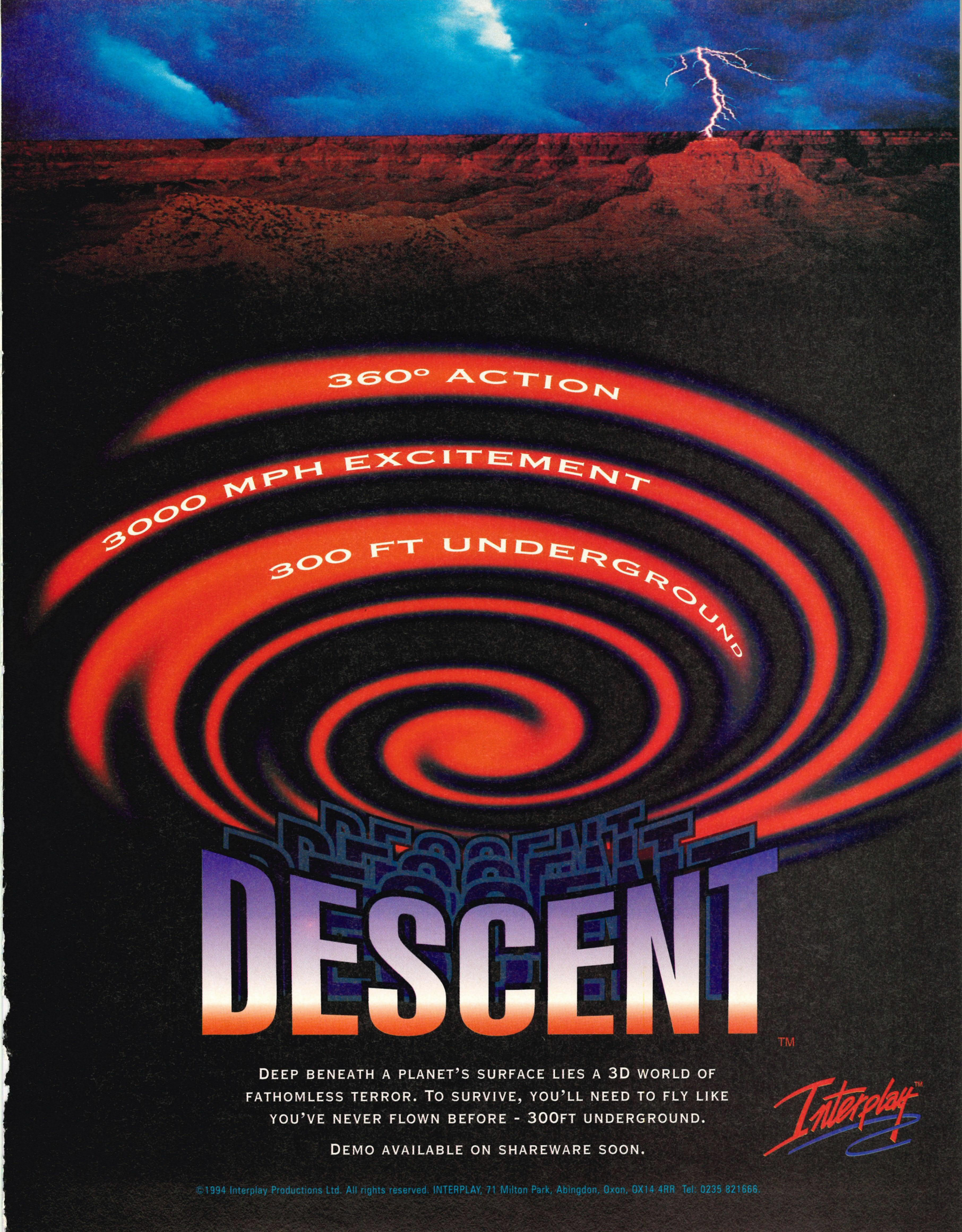
■ Simon Shaw



Weird, but essentially wonderful.

TECHSPEC 7 RATING

Publisher:	Neo Software
Price:	£34.99
Contact:	(0438) 840004
Minimum PC:	25MHz 386
Minimum memory:	4Mb, 7Mb HD Free
Minimum graphics:	VGA
Sound:	Sound Blaster and Ad Lib


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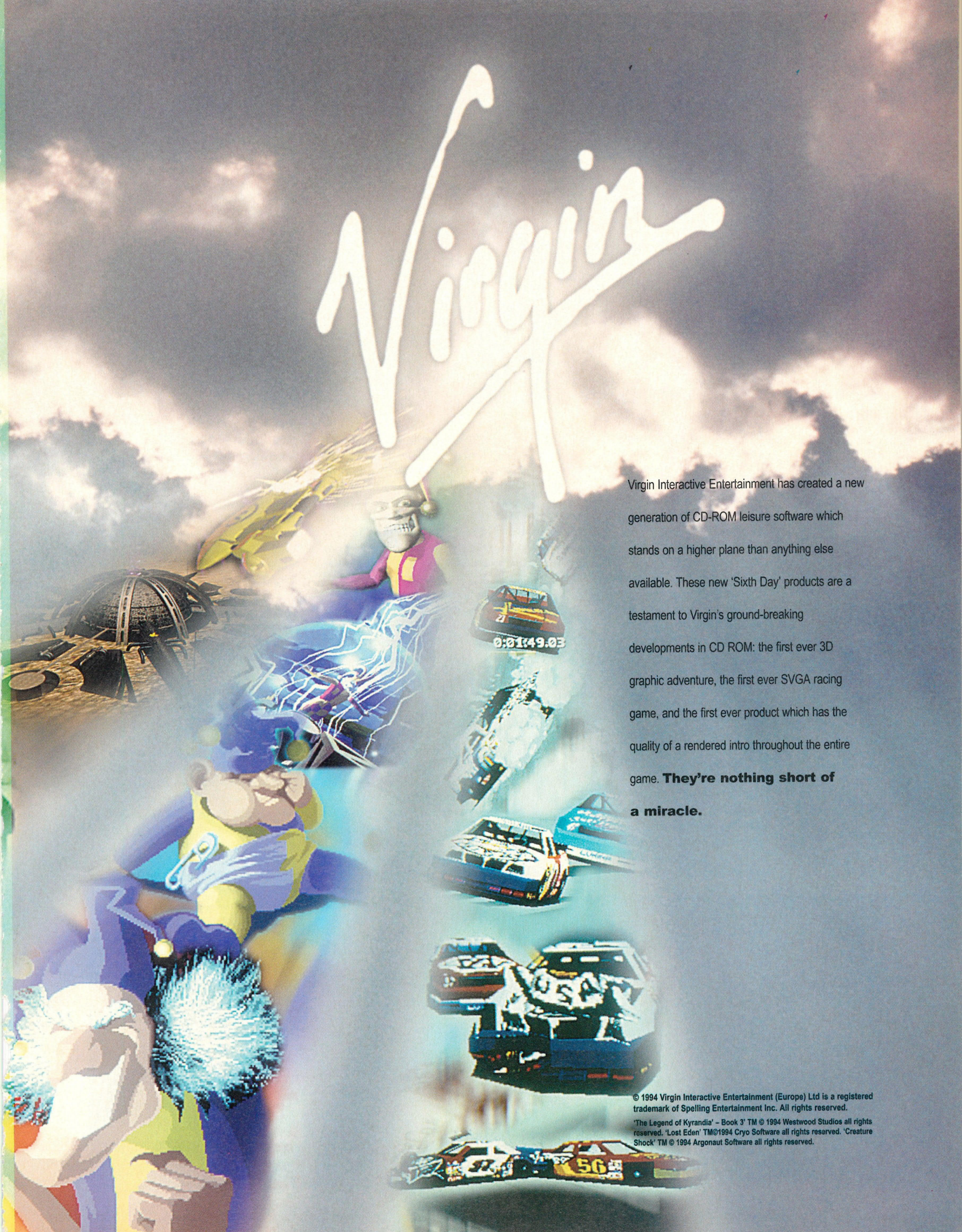
'Kyrandia 3 is packed with novel features, lavish graphics and state of the art animation' – **PC HOME**

NASCAR Racing

680 horsepower cars racing inches away from each other at speeds of over 200mph. With amazing graphics based on actual television footage, this game is total realism, total challenge, total racing mayhem.

'NASCAR Racing looks set to become the most realistic racing sim ever' – **PC POWER**





Virgin Interactive Entertainment has created a new generation of CD-ROM leisure software which stands on a higher plane than anything else available. These new 'Sixth Day' products are a testament to Virgin's ground-breaking developments in CD ROM: the first ever 3D graphic adventure, the first ever SVGA racing game, and the first ever product which has the quality of a rendered intro throughout the entire game. **They're nothing short of a miracle.**

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Alien Legacy



Not content with releasing Outpost, Sierra has decided to corner the market in space exploration and colonisation games with another product in the same vein...

In Sierra's new strategy game, Alien Legacy, you command a spaceship sent into deep space with the aim of founding colonies and saving the human race. Er, hang on a sec . . . wasn't that the theme of Outpost, released all of two months ago? Well, yes. Having waited so long for Sierra to develop anything at all in the strategy line I suppose one shouldn't grumble, but the initial sense of déjà vu is a little overwhelming.

The theme apart, Alien Legacy doesn't have all that much in common with Outpost. The latter is a serious-minded, consciously realistic simulation; Alien Legacy is more lightweight and fun, but incomparably cruder in terms of both presentation and design. It doesn't have any of Outpost's obvious flaws, but nor does it boast any of its superior qualities. It's probably a little above average in most departments — but only a little.

What Alien Legacy does share with Outpost is a reluctance to disclose how it should be played. You start the game with your spaceship, the Calypso, in orbit round a planet in the star system Beta Caeli. There's an involved background plot (which the manual goes into and I shan't), but suffice to say that there are traces of a previous Earth expedition somewhere down on the planet, as well as a lurking hostile alien presence against which you are at some stage going to have to defend yourself. On your bridge sits a group of advisers, always ready with a hint as to how you should proceed, but effectively you're now on your own. The manual does at least explain what to do on each game screen, but beyond the short term, your aims and objectives appear pretty blurred.

> "If this is going to be a developing trend in strategy games – it should be stamped on."

If this is going to become a developing trend in strategy games, then I really think it should be ruthlessly stamped on now. It's quite legitimate in an adventure game to just plonk you down in a hostile environment and say, "Now get out of that!" But you can't play a strategy game properly without knowing the rules. Imagine sitting down for the first time at a Monopoly board and being told by way of explanation, "Well, it might be a good idea to try and get Mayfair and Park Lane, but I'm not going to tell you what will happen if you do!" It would irritate the hell out of you, unless you were blessed with angelic patience — something conspicuously lacking in my own character. Call me old-fashioned and ploddingly linear if you will, but I know what I like and I don't like this.

So is it good or bad?

Which isn't to say that Alien Legacy is a bad game — it isn't, but it isn't a great one either. It has a lot of quite good ideas, and a lot of depth too, but it's one of those cases where by the time you've found out what it is you're meant to be doing, going back to the beginning again and restarting from scratch is a less than tempting prospect.

There is a turn count on display at the bottom of the screen, but the game is effectively played in real-time, though you can speed, slow or pause the action as required. Your spaceship contains enough resources to keep you going for a little while, but your first priority is to thaw out some of your cargo of deep-frozen humans and get a colony established on the planet's surface. An initial site has already been chosen and a few structures built. This

Below: This is the 2D view. The icon represents an energy source. The planet is full of similar naturally occurring deposits.

Below right: The colony screen. Choose structures such as factories, laboratories and human habitats from the box on the right and simply drag them over to an available clear square to build. You'll need plenty of robots and humans to keep all buildings functional.

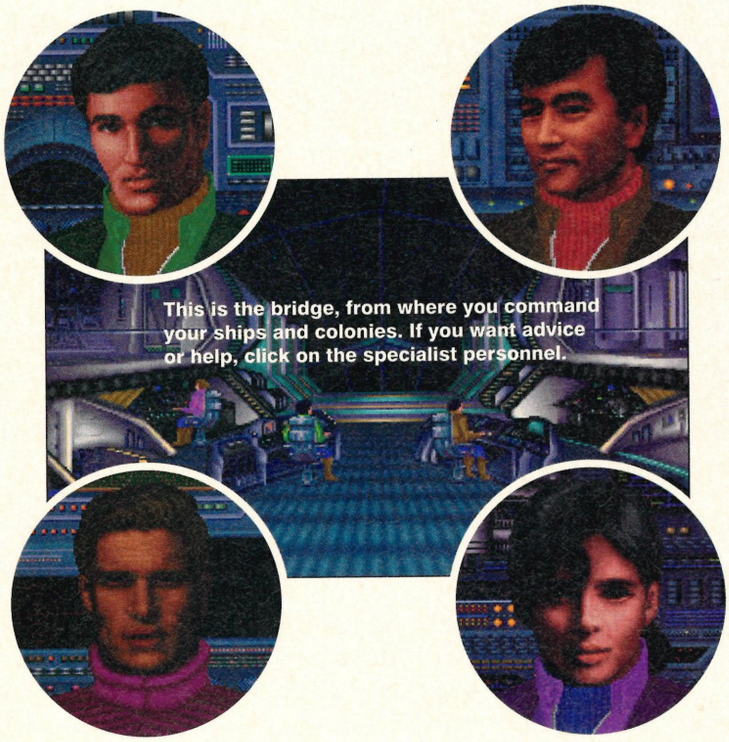




THE INFORMANTS

The navigator is in charge of your vehicle fleet. Spaceships are vital for transportation to and from the colonies, exploration of the planet's surface and defence.

Your engineer is your construction adviser. Access your colonies through this screen. He'll tell you when it's necessary to build particular structures.



This is the bridge, from where you command your ships and colonies. If you want advice or help, click on the specialist personnel.

Colonel Romanov will keep you informed of military developments, including weapon upgrades. The theme of his advice is usually to get out there and explore.

Your chief scientist keeps you abreast of technological advances, which are speeded up by the discovery of alien artifacts. You will need to direct laboratory research personally.

part of the game is a bit like Dune 2, although poor scrolling and the absence of a large-scale map makes colony management unnecessarily fiddly.

Factory work

In your factories you will process ore, and build robots and vehicles. In your laboratories you will research new technologies. This bit is reminiscent of Outpost. Send out a vehicle to explore the planet's surface, however, and you'll come to a part of the game that really isn't much like anything else at all.

First you're taken to a Mercator projection map, which has a superimposed grid dividing the planet into segments. Highlight a sector to explore, click, and get taken into a quasi-arcade sequence.

The default view is 3D, from just behind your ship, but there's a top-down 2D view as well. You manoeuvre by clicking on arrows with your left mouse button, while the right button fires weapons. This isn't





Top: This is the 3D flying view. The telescope and scales are artefacts. Simply click the mouse button over them and they'll appear in your hold.

Above: Besides giving you access to general information and the game options screen, the robot also keeps a useful log and library data. And even if it is only a tin can, that won't stop it dispensing advice.

wholly satisfactory, though I've seen worse. The real problem with these sequences is the amount of pointless flying they entail. You must explore the surface of the planet thoroughly, and although your scanners can locate possible energy or ore deposits, there's no way of picking up stray goodies like abandoned alien artefacts unless you fly directly over them. This is a mindlessly repetitive business: you reach an area, scan it, then criss-cross the map until you've secured all the little radar blips. No skill is involved, no judgement has to be made. Why do you have to fly the ship yourself? Why not just send out an automatic pilot under instruction?

The actual artefacts, when they appear, look oddly out of place, like power-ups or bonuses in a true arcade game. And while you're carelessly whizzing through the skies, time is passing and nothing constructive is going on elsewhere.

It's hard to see why or how this fits in with colony building and resource management in my opinion.

Perhaps I'm being unnecessarily purist, but Alien Legacy strikes me as being a bit like two games in search of a common theme. It's quite entertaining, and it has fair long-term playing potential, but the bits don't really add up.

The last three strategy games I've looked at have been Colonization, Lords of the Realm and the forthcoming Transport Tycoon. In that sort of company, Alien Legacy just doesn't cut the mustard.

■ **Simon Shaw**



Fairly entertaining, but rather confused.

TECHSPEC 6 RATING

Publisher:	Sierra
Price:	£39.99
Contact:	(0734) 303322
Minimum PC:	386, MS-DOS 6.0
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Ad Lib, Sound Blaster, Gravis

ALTERNATIVELY



Dune 2
Hit Squad, £14.99
Rated 7, Issue 16
If you want action and strategy combined in a sci-fi game, Dune 2 is it. It has nothing at all in common with the first Dune game, yet in its own way is just as good. Though beware, the scenarios are too limited — only the last one is really tough — and the furious real-time action may give you RSI in your mouse finger.



Utopia
GBH, £9.99
Rated 7, Issue 12
Like Dune 2, this game is let down by limited scenarios, but at least they allow you to progress. Alien Legacy, by contrast, is too much on one note. Utopia is old, but it's on a budget label and gives good value. With more scenarios and a decent combat system it could have been a real contender.

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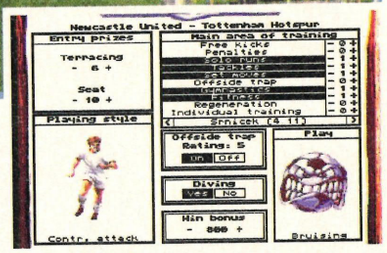
MICROPROSE

On The Ball – League Edition

Once again soccer management titles are back in vogue, and unusually we've had a couple of superb titles in no time at all, namely the extremely attractive On The Ball World Cup from Ascon and the tactic-heavy Club Football: The Manager from Imagine. This is Ascon's attempt to capture the league market with what is being touted as a sequel to On the Ball, but is in fact a prequel. In Germany, the league edition was out long before the World Cup version, but due to the fact that converting the league edition meant reconfiguring a lot of the game, and the World Cup version was just a case of changing the text, the Cup edition was released first over here.

What this basically means is that the better of the two games was released first. Not the smartest idea, as this just doesn't stand up by comparison.

Do you really need to know what you are supposed to do in the game? If you've ever seen anything like this, you'll already know that you're supposed to take a bottom league team, and make them Premier League champions through buying and selling the right players, making the right tactical decisions and using your team's abilities to their best. You can generate funds through gate and good games, and this allows you to pull in the players and coaches you desperately need to stand a chance against the rest of Europe, and in return your ascent through the ranks will be far faster.



Right: Before each match you can set up your playing style, as well as player bonuses and gate fee.



The game looks great, using the same digitised watercolour system as the World Cup edition, along with very similar in-game highlights of the matches. The trouble is that it just doesn't have the same gloss and shine as the World Cup version. There's none of the character interaction, none of the unusual segments (press conferences, chilling out scenes and the like) and you find yourself in a repetitive game loop before you know it.

Sure, the ability to tell your players to dive in the box and the variety of game styles means you have a fair amount of control over your team.

But if you already have Club Football, I can't really see any reason for you to buy this game as well.

■ **Tony Dillon**

DISK ONLY

· TECHSPEC ·

Minimum PC:	386
Minimum memory:	1Mb
Minimum graphics:	VGA
Sound:	Most cards supported
Publisher:	Ascon
Price:	£29.99
Contact:	(071) 372 7435

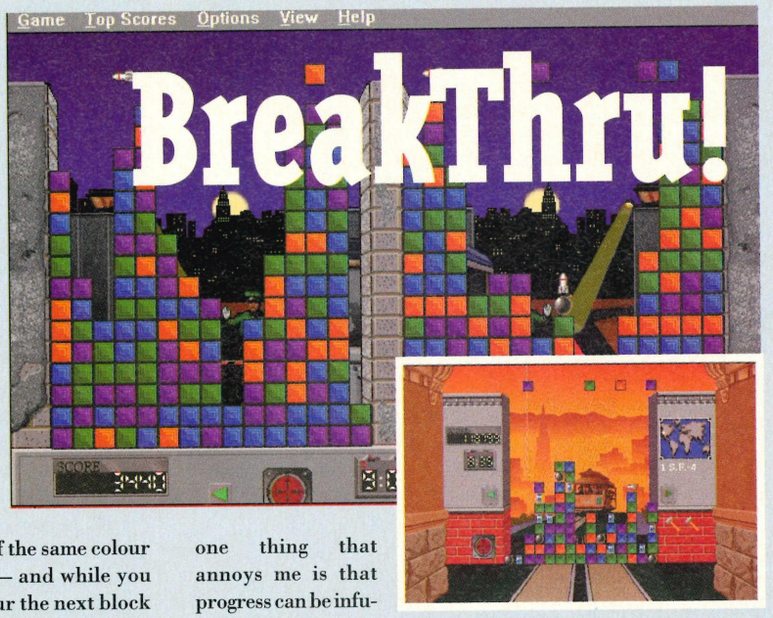
RATING 4

BreakThru!

If you've got a spare 30 to 50 quid to spend on a new game for your PC, I very much doubt whether you'd go out and buy a puzzle game. You'd be more inclined to invest your precious cash in something a bit more glamorous, such as the latest Gouraud-shaded flight sim or maybe the new Ultima.

But if that's the case, you may be missing out. Firstly, if a puzzle game is good, you can come back to it time and time again, whereas the majority of games, however good, tend to gather dust on your shelves once you've completed them. Secondly, if you've ten minutes to fill, a puzzle game fills that gap perfectly, which is more than can be said for adventures, role-playing games and world-builders. And thirdly, what about Tetris? How many of you can honestly claim that you've never played Alexey Pajitnov's classic brain-teaser? Not too many, I'd bet.

Well, Mr Pajitnov has done it again. BreakThru! is similar to Tetris in that blocks fall from the top of the screen and you have to get rid of them, but instead of fitting shapes together, you have to match blocks of the same colour before they can be removed. You start with a well full of different coloured blocks, and any block which has one or more blocks of a like colour next to it, either horizontally or vertically (or both), can be removed. The aim is to empty the well, but it is constantly being topped up by more blocks which fall from the top of the screen. Isolated blocks can't be removed until a block of the same colour lands on or next to it — and while you can't choose what colour the next block will be, you can choose where it will land.



Occasionally, helpful objects appear, such as rockets which destroy entire rows and columns, bombs which destroy all adjacent blocks and multicoloured blocks which allow you to eliminate all blocks of a particular colour.

Conversely, there are objects which get in your way, including a spider which deflects all blocks which fall on it, tin cans which can only be destroyed by bombs and rockets, and rocks.

BreakThru! is incredibly addictive, and right now I just can't stop playing it. But is it as good as Tetris? Well, not quite. The one thing that annoys me is that progress can be infuriatingly slow when you get down to the last few blocks, particularly on the harder levels.

Even so, I thoroughly recommend BreakThru!. The two player mode adds another dimension to the game, and the four difficulty levels means that you won't conquer it too quick. In fact, if you ever make it through the difficult level I'll prostrate myself before you.

BreakThru!'s also well presented, with sharp, attractive graphics and the most annoyingly catchy tune since Bubble Bobble. Why not give it whirl?

■ **Cal Jones**

Top: two player mode, where you share the screen with your opponent. Bottom: the solo game.

· TECHSPEC ·

Minimum PC:	386, WIndows3.1
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	All Windows compatible sound cards
Publisher:	MicroProse
Price:	£34.99
Contact:	(0454) 326532

RATING 8

DISK ONLY

Lords of the Realm



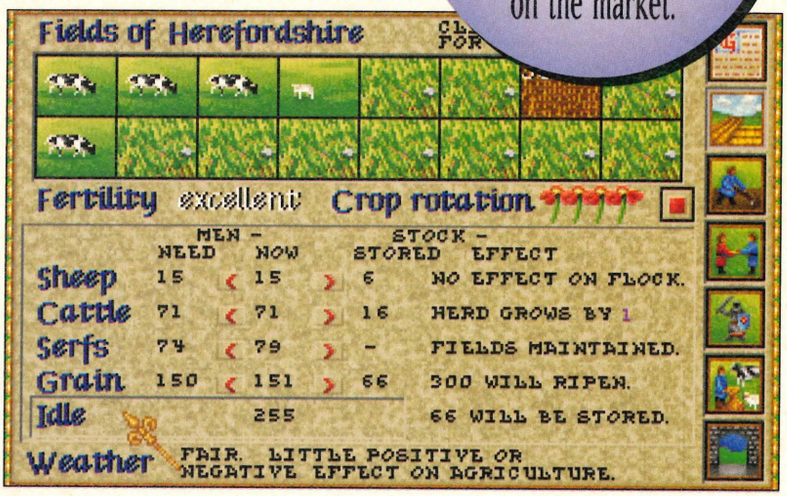
Mediaeval England provides the setting for what is almost certainly Impressions' best game to date. Will you fight or farm your way to victory?

"It's challenging and addictive, and is right up there with the best strategy games on the market."

Right: The field management screen. You'll need a lot of labour, particularly at harvest time, so don't conscript too many men into your army or everyone will starve. Click on the icons at the right to go into the other county management screens.

Lords of the Realm is a strategy game in which your aim is to seize the crown of 13th century England. You start in conventional style with only one county, but as you grow more powerful you expand into others, some neutral, some under the control of rival nobles who are also angling for the crown. You have to manage your counties, raise taxes and armies, build castles and conduct campaigns. At different times it's reminiscent of Kingmaker, the two Castles games and (for those with longer memories) Defender of the Crown, but the ingredients have been skilfully blended and the design is first-class throughout.

This is without doubt the best strategy game Impressions has produced. The company has had a number of near-misses (Detroit and The Blue and the Gray earlier this year) but somehow the parts have always ended up seeming greater than the whole. Lords of the Realm, however, is a real breakthrough, a game which not only promises but also delivers.





Play is controlled by using two main maps: a strategic overview of England and Wales, and a much more detailed operational map which you access by clicking on the county of your choice, after which you can scroll at your leisure. The counties are of differing shapes and sizes, but common to all will be roads, forests, houses and fields. Click again and you'll be taken to the resource management screen.



User friendly

Here you direct your labour force, juggling the competing needs of agriculture, quarrying, forestry, and so on. Spare men can be converted into soldiers or used to build castles, though you'll need a large store of raw materials first. If you're impatient you can barter for them with a merchant, but there's never one around when you need one and the prices are usually high. As you conquer a lot of counties, all this bookkeeping can get a little tiresome, but for a few crowns a month you can hire a steward who'll take care of the details. Although this is a big and complex game it's not difficult to get into and the controls are generally user-friendly.

ALTERNATIVELY



Kingmaker
US Gold, £37.99
Rated 6, Issue 26
US Gold's conversion of the famous board game has a more abstract flavour than Lords of the Realm. The setting is the War of the Roses, and your aim is to take control of either the Yorkist or the Lancastrian faction. It's a tough challenge, but the attractive multi-player action is unfortunately let down by the slowness of the overall program.



Castles 2
Interplay, £39.99
Rated 7, Issue 35
The sequel to Castles took all the best features of the original game (principally the detailed design work) — and discarded them. The result is still a fair enough game, but it lacks depth and staying power. Lords of the Realm borrows many of its ideas, but in general improves on them, and is the better game by a mile.



Above: The strategic map shows the state of play amongst the various baronial factions. Crossed swords indicate battles. If you want to make things really hard for yourself you can choose the limited visibility option, which blanks out most of the screen.

Perhaps the most impressive aspect of Lords of the Realm is the way it operates on multiple levels yet manages to avoid becoming bogged down in unnecessary detail, which is the commonest failing in strategy games.

A good example of this is the agricultural system, which is based on the traditional method of crop rotation. Initially it looks both complicated and boring (do you really want to play Sim Medaieval Farm?) but in fact the trade-off between simplicity and realism works well.

Build your own home?

The same goes for castle building. If you want to you can plan a design from scratch in the manner of the original Castles game, influencing every choice from the height of the walls to the size of the moat. But if this is something you'd rather avoid you can buy off the shelf instead, importing ready-made designs all the way from Harlech and Caernarvon at one end of the scale, down to a humble square keep at the other.

The same principle applies to the battles, where you can opt either to control the action yourself or simply let the computer assess the result.

I have to confess that when I was first taken into the tactical battle screen my heart sank. If it's by Impressions, I thought, it has to be Micro-Miniatures — in my view the clumsiest and most long-winded combat system on the market. But Hallelujah, Impressions has seen the light! Lords of the Realm boasts a brand new system, and although it's far from original and looks distinctly quaint, it's simple, playable and fun; in short, everything Micro-Miniatures isn't. The terrain is over-simplified, but there are a fair number of troop types and there's some scope for tactical subtlety. You couldn't call it realistic, but once again the level of detail has been well pitched — this is, after all, a strategy and not an action game.

Under siege

There's an additional combat screen that's used exclusively for resolving sieges. This is a more complicated affair, usually stretched over a number of turns and involving such matters as building catapults and ladders, making breaches and launching assaults. It is, perhaps, a bit fiddly, and in a long game the routines can get repetitive. Even so, I'm happy to give it the benefit of the doubt. Frankly I'm in no mood to quibble.

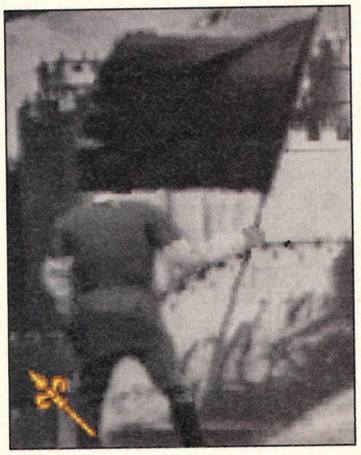
Lords of the Realm has got me completely hooked. It's challenging and addictive, and is right up there with the best strategy games on the market. Graphically it's not up to much, but then in this genre that's almost a sign of good breeding — how often does the quality of the gameplay seem to be in inverse proportion to the quality of the graphics? The same goes for the sound.

I suppose designers are under pressure to put in something new, but usually my first move is to reach for the 'music off' button, though not in this case.

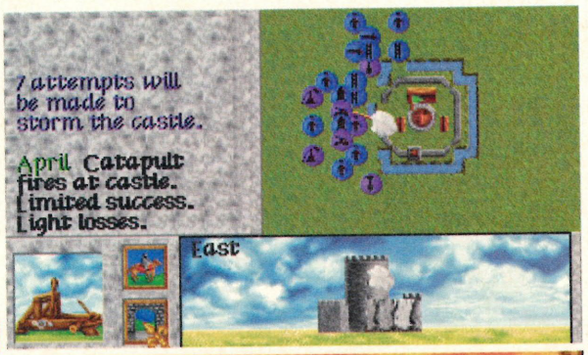
But the game itself is superb. It's easy to pick up, but hard to master, with real long-term appeal. It also boasts an excellent multi-player option — because it's turn-based it's feasible to share the screen — and you don't need a modem (though you will need a 486 to run it at a reasonable speed).

I've been somewhat dubious about the Impressions' house style in the past, but with Lords of the Realm I count myself well and truly converted. Hallelujah — once again!

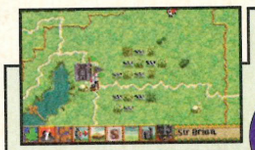
■ **Simon Shaw**



Below: Besieging a castle can be a long and bloody business. First you must build siege engines, then assign men to fill in the moat, storm the outer walls and capture the keep.







TECHSPEC 8 RATING

A must for all strategy fans.

Publisher:	Impressions
Price:	£39.99
Contact:	(071) 351 2133
Minimum PC:	386, MS-DOS 3.31, mouse
Minimum memory:	640k
Minimum graphics:	VGA
Sound:	Ad Lib, Sound Blaster, Roland

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Star Crusader

Star Crusader. Not much of a name, that, is it? Still, the pulse-slowing title belies the true nature of this space combat simulation which mixes TIE Fighter with Wing Commander to come up with something that exceeds expectations nicely.

Star Crusader transplants you into the body of Roman Alexandria (you can tell the designers of this game have a singular talent for names) who happens to be the best starfighter pilot the Gorene Empire can muster.

As part of their Galactic Philanthropy Project, the Gorenes have just moved into the Ascalon Rift, an area of space already disputed by five other races, claiming that they only want to pour oil on troubled waters and help everyone divide the rift up into equal shares. These alien guys don't buy that for a minute and promptly set about molesting the three Gorene space stations with large energy projection weapons.

Seeing as their new neighbours don't plan to be nice, the Gorene command suddenly drops its Mr Nice Guy policies and sets to with plans of conquest. This means sending you and the elite pilots of Gold Squadron into battle on a total of 104 missions which vary from deep strikes to capture sorties and reconnaissance missions.

Sounds familiar

If you've played TIE Fighter or Wing Commander, the procedure will be pretty familiar. Before every mission there's a briefing, then a pick-a-ship bit, then the mission itself.

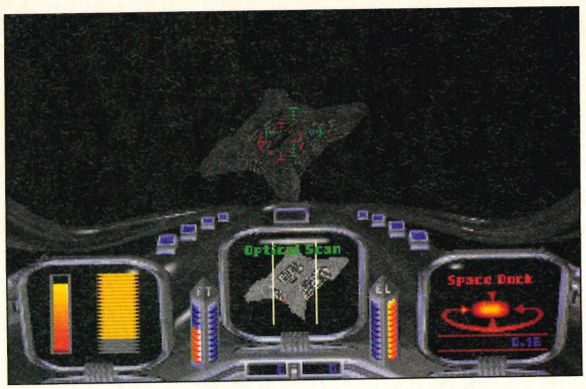
The briefings are anything but brief, though excessive tedium is avoided because, (a) they're spoken, and reasonably convincingly; and, (b) they are used to reveal some intriguing plot shenanigans. The plot turns out to be one of the game's best features and all sorts of conflicts arise between the nutty generals who aren't sticking to the Gorene love and peace principles and the caring, sharing pilots. The plot also branches, taking you in different directions depending on the outcomes of certain missions. You may even find yourself defecting!

After the revelations you tend to skip over the slightly superfluous map screen and the pick-a-pilot bit to get stuck into the action. The combat is *very* similar to TIE Fighters — which is no bad thing, of course. The enemy ships manoeuvre fairly realistically and the dogfighting is pretty good fun. You get to fly lots of different ships against lots of different other ships, (enemy ones of course), so you can mess around with varying tactics and weapons as you progress.

Tales of the unexpected

The missions vary a bit too. Most are deep strikes, some of which are dull, and some of which are incredibly brief because your fellow pilots seem to take out your target before you've even got up to full speed. Mostly they're OK, though, and you sometimes find yourself battling it out in hazardous minefields or nebulae, where your instruments keep screwing up. I enjoyed the recconnaissance missions, in which you have to sidle up to within 200m of your target and hang around while your scanners or a probe check it out.

The ship's scanners are just one of a number of little unexpected add-on features. You can overcharge your lasers or shields if you need them topped up quickly, but don't mind risking their destruction. You can creep around enemy installations with the help of a stealth generator.



Above: Having to stay up close to armed installations makes the reconnaissance missions tricky. The best tactic is to pull back on the stick and circle at top speed until the scan's completed.

You can even save fallen comrades by hooking their escape pods with your tractor beam, then warping back home. Oh, and the ship's computer has a 'Bitchin' Betty' voice, which announces your imminent demise in fine matter-of-fact female tones.

Vectoring their bets

Graphically the game doesn't quite match TIE Fighter. The programmers have tarted up the vector graphic vessels with every trick in the book — texture-mapping, light-source, Gouraud, even Phong shading — but they still look garish and ugly. At least they move well — or at least they do on my DX2-50. Gametek recommends a 33MHz PC, which is a bare minimum — it's unplayably slow at 25 MHz even with the detail turned off.

So, Star Crusader doesn't match the latest LucasArts effort, but even so it still deserves credit for being at least comparable to TIE Fighter, and for having some good ideas of its own, and for being good fun to play.

It does make you realise how much the Star Wars ambience added to TIE Fighter, though, because even though the designers have made strenuous efforts to get the atmosphere going with a good plot, I never got quite as excited about getting out there and blasting the other side in Star Crusader as I did when I was playing TIE Fighter and X-Wing.

■ Paul Glancey







•TECHSPEC•

7

RATING

Good, but not quite as good as TIE Fighter.

Publisher:	Gametek
Price:	£39.99
Contact:	(0753) 553445
Minimum PC:	486SX -33
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Sound Blaster, Roland, Gravis

Alone in the Dark 2



Released at the end of 1992, Alone in the Dark is one of the few games which really deserves to be called a "classic". Set in a haunted mansion, the game follows detective Edward Carnby as he tries to investigate the mysterious suicide of the house's owner. Alone's ground-breaking graphics, clever use of viewpoints and creepy sound effects won it a lot of admirers and Alone 2 (reviewed issue 28) followed just over a year later. It was both bigger and tougher than its older brother. The problem is that, whereas the monsters in Alone come unarmed, Alone 2's walk round with guns and pistols — which effectively means that you die a lot.

Following criticism that Alone 2 was, perhaps, a bit too hard, Infogrames has rectified matters by making the CD version a touch easier. In addition, there's an extra half-hour of gameplay, 12 new screens and a considerably embellished soundtrack.

The CD is an improvement over the floppy version, but it isn't perfect and you need be patient to get the most out of it.

■ **Cal Jones**

· TECHSPEC ·

Minimum PC:	33MHz386 MS-DOS 5.0
Minimum memory:	2Mb18 MB HD space
Minimum graphics:	VGA/MCGA
Sound:	Sound Blaster and compatibles
Publisher:	Infogrames
Price:	£44.99
Contact:	(071) 738 8199

RATING 8

BloodNet



Eight months after we originally reviewed it (Issue 28), MicroProse has finally decided to release BloodNet. BloodNet, in case you missed the original review, is a role-playing adventure set in New York a hundred years from now. The future is not terribly bright: poverty is widespread, violent cyberpunk and vampires roam the streets and a huge corporation, TransTechnicals, controls the city.

Enter one Ransom Stark, former TransTechnicals employee, rescued by Dr Deirdre Tackett and fitted with a brain implant which allowed him to lead a normal life again. That is, until Tackett goes missing and Stark gets bitten by a vampire. Unable to find anyone to turn to, Stark must find a cure for his strange condition on his own. His brain implant is helping to slow his transformation, but every so often the bloodlust gets too much and he has to bite someone. This sets up an interesting moral dilemma. Stark can recruit friends to help him, but should he fail to satisfy his bloodlust he will lose control and bite one of them instead. BloodNet is an intriguing game with a dark, menacing atmosphere. It's highly enjoyable: there's enough to keep you interested from start to finish.

Well worth buying.

■ **Cal Jones**

· TECHSPEC ·

Minimum PC:	16 MHz 386 MS DOS 5.0
Minimum memory:	2Mb
Minimum graphics:	VGA
Sound:	Ad-Lib, Sound Blaster, Roland
Publisher:	MicroProse
Price:	£39.99
Contact:	(0454) 326532

RATING 8

IndyCar Paint Kit



It's a bit of a saga, really. Once upon a time there was an excellent racing game called IndyCar. Then, came the IndyCar expansion pack which included new courses and utilities. Good courses, mind, so they added value to your original game.

Now, however, hot on the heels of the expansion pack, comes IndyCar Paint Kit. The good news is that it's only a tenner. The bad news is that it really should have been part of the expansion pack. The same utilities are included, and you have to wonder if the designers aren't trying to make a fast buck here. Not that the paint kit is bad. It's flexible and fun for any IndyCar addict, but since it must have been developed side by side with the extra courses, you have to wonder why it's being released separately.

The other thing that makes me wonder is the fact that the Paint Kit also includes another course. This time you get the fabled Indianapolis Speedway, from where IndyCar gets its name. We wanted to know why it wasn't part of the original game. They didn't even have the decency to put it in the expansion pack. Now it finally pops up and it's not even like it's a really exciting course. The paint kit is only available by mail order directly, and then only for the UK version of the game. Even if you have a tenner to spare, my advice is to let it stay in that warehouse.

■ **Cal Jones**



· TECHSPEC ·

Minimum PC:	25MHz386
Minimum memory:	4Mb RAM
Minimum graphics:	VGA
Sound:	Sound Blaster, Ad Lib, Roland
Publisher:	Virgin
Price:	£9.99
Contact:	(081) 960 2255

RATING 4

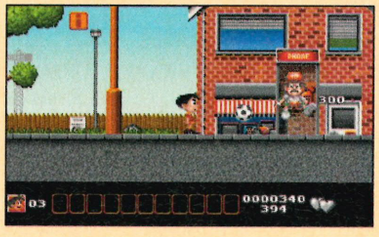
Soccer Kid



Soccer Kid (the original floppy version) was released to coincide with the World Cup, so I can't help feeling that this later CD release has missed its market somewhat. It's a platform game, though its plot and style of gameplay are a little unusual.

The game takes place during the World Cup, but the tournament is disrupted when an alien steals the trophy. As he makes his getaway, his ship is destroyed in a collision with a satellite and the trophy is broken into five pieces which fall back to Earth.

Aided by his lucky football, Soccer Kid must find the fragments before the final takes place. The idea is to get to the end of each of the 15 scrolling levels, using your football to dispose of baddies, collect bonuses and so on. Soccer Kid has the sort of footy skills which would guarantee him a place on the England team: he can dribble, head, bicycle kick and even bounce on top of the ball to give him the extra height he needs to collect hidden bonuses. Utilising all of Soccer Kid's various skills takes some getting used to, but that's half the fun.



The CD version of Soccer Kid doesn't differ much from the original: the game itself is identical, but a stereo soundtrack, animated intro and end of level animations have been added. The animations are cell drawn and look nice, but aren't enough reason to buy the game if you have it already. Other than that, Soccer Kid is an original arcade game, and is very suitable for younger players.

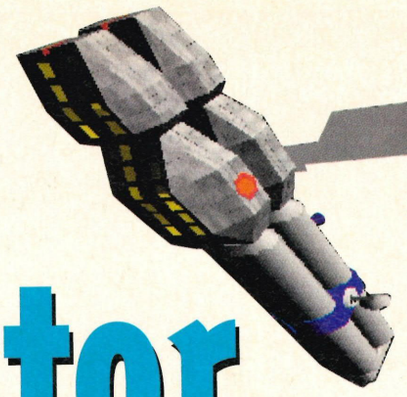
■ **Cal Jones**

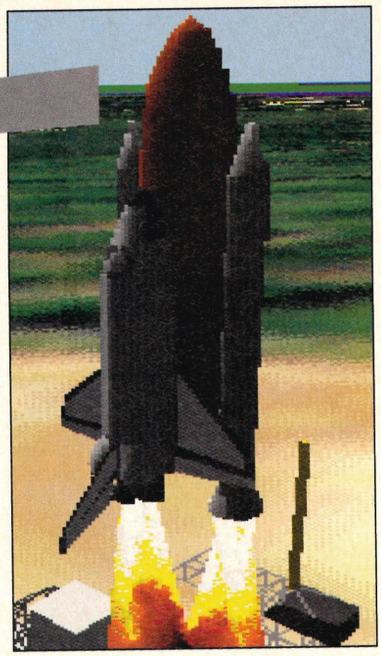
· TECHSPEC ·

Minimum PC:	20MHz386 MS DOS 3.3
Minimum memory:	4Mb(8Mb recommended)
Minimum graphics:	VGA 256 colour
Sound:	Sound Blaster
Publisher:	Krisalis
Price:	£34.99
Contact:	(0709) 372290

RATING 6

Space Simulator





Never landed an Apollo craft on Mars before? Let Microsoft put you behind the control panel.

You've played Microsoft's Flight Simulator and loved it. All that flying around without any guns or missiles to distract you. But the skies of San Francisco are beginning to bore you, so where to next?

The people at Microsoft hope to have answered that problem for you. Head out into the galactic void with Space Simulator. It's bigger and meatier than even Flight Simulator dared be. With a zillion options and more read-outs than the control panels of a nuclear power station, it's a dream come true for some folks. Even if it is a complete turn off for others.

For starters, you have to know about the laws of physics and how things move in space, so now's the time to brush up on your A-level sciences. Then you'll need to know what the different bits of the different menus do, so you can configure the system correctly. Then you should study the manual to suss out all the readings and information that the screen spews forth.

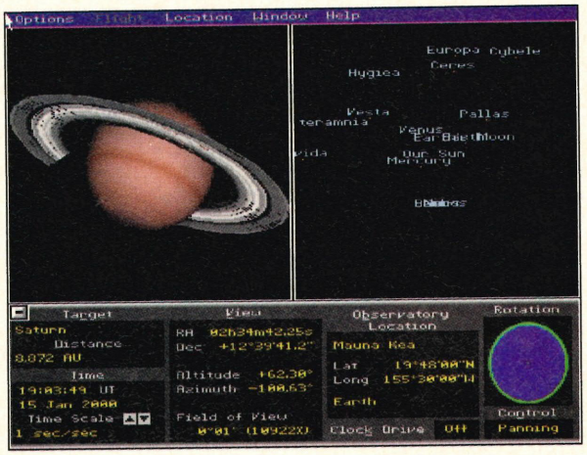
Then, and only then (by the time you have all that down to pat), can you start to make the most of Space Simulator.

International rescue

Rescue missions for stricken satellites? No problem, just stick the keys into the ignition of the nearest shuttle and take her for a spin. You might need to dock with a nearby space station, or land on another planet. The trip might take months, but you don't have to do it in real time.

You aren't limited to today's technology either. Try out the stuff they had to handle in the '60s and '70s, during the pioneering days. Or take a peek at what's around the corner — the technology of the next millennium. Sound effects are functional but minimal, the music is truly ghastly, but the graphics are decent enough, if you don't count the gauges and read-outs. Those things are for fast action type products. This is a simulation, not Elite.

And, being a 'true' simulation, it seems doomed to being the slowest, least adrenaline-pumping ride of your computer life. Windows Solitaire makes your heart beat faster than this. If your doctor has ordered you to stay away from stress, then try Space Sim. Otherwise, be warned about the frustration factor.



Lost in space

Space Simulator simply doesn't make you very excited about either being in space, or controlling some of the most complex pieces of engineering mankind has ever produced, in an alien environment.

It's all well enough implemented, almost crafted in fact, with the detailed algorithms behind it practically oozing from behind the functional if uninspiring interface. But the bottom line is that this is unlikely to be a satisfying experience.

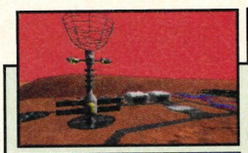
For the minority, I may be wrong. If you are a student of astrophysics then this could be a fascinating piece of software. More a beginners' animated reference than a bit of entertainment. And if you've never docked with a space station while a tinny computer version of the Blue Danube plays in the background, then this is your chance. As long as you don't want it to be too interesting an experience, that is.

■ Martin Klimes

A thrills and spills packed roller-coaster ride of a simulation? Space Simulator has none of those elements.







It's pretty, and detailed, but yawn.

TECHSPEC 5 RATING

Publisher:	Bluebyte
Price:	£49.99
Contact:	(0734) 270000
Minimum PC:	25MHz 386, mouse
Minimum memory:	2Mb RAM
Minimum graphics:	VGA
Sound:	Ad-Lib

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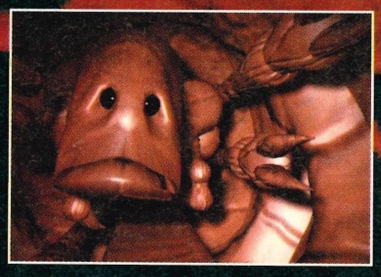
Four years later, as the UNS Amazon nears Saturn, all contact is lost, save for the faint signal of an emergency distress beacon. There's something out there.

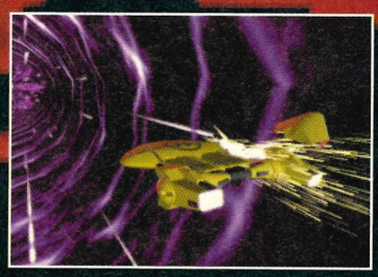
Something very large, very alien and evidently very unfriendly...

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CREATURE SHOCK

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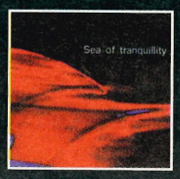








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Virgin



The sun rises on the second game in SSI's Dark Sun series. It's time to get ravaged!

Dark Sun: Wake of the Ravager



Dark Sun: Shattered Lands was one of SSI's better role-playing games. Ultima it wasn't, but it still had a certain charm of its own and was certainly a damned sight better than the Gold Box series which preceded it. And what do you know, SSI has come up with a sequel? Well, I say sequel, but although both games take place on the same, sun-blasted world, they're set in different cities and have different plots and characters. In other words, you don't need to be familiar with Shattered Lands to play Ravager. Right, now that's cleared up, let's get on with the review.

Desert storm

As planets go, Athas is a bit of a dump. Way back in its history, wizards found a way of drawing magical energy from the sun, but eventually the sun became unstable and dried up all the oceans.

The result was a harsh, Dune-style desert world where water was expensive and life was cheap. Slavery became commonplace and rebellious folk were thrown into the arena to fight for the amusement of the rich, and the few that managed to escape were forced into the desert to live out their lives as nomadic traders.



Below: Just like any other market, Shadow Square is full of dodgy geezers who'll try to flog you "genuine Rolexes" which "fell off the back of a lorry", only to miraculously disappear as soon as the plod shows up.

Puff the magic dragon

Tyr, the city central to Ravager, has since been liberated. The local tyrant is dead, slaves and gladiators are a thing of the past, and all is fine and dandy. Well, almost. Unfortunately, the lifting of restrictions in Tyr has meant that the town has become a haven for bandits, cut-throats and beggars, and in any case, the ruling Templars are not quite the nice guys they seem to be. An evil dragon lord and his pet wizard have decided that Tyr is a good place to set up home (as you'll find out during the game's extremely dodgy intro sequence), and are using the Templars as pawns to further their aims.

This, of course, is not a good thing for the people of Athas. And as if by magic, one ready-made bunch of heroes, ably controlled by you, pops up to put a stop to Mr Dragon's wicked plot.

"Ravager is very similar to the first Dark Sun: both are top-down scrolly-type games"

After the aforementioned dodgy intro it's on to the character generation bit. You can, if you wish, use the pre-generated party of four provided with the game, but it's always more fun to roll your own, I think. You can choose from the human, elf, dwarven and halfling characters, as well as the less standard half-giant (a human-giant hybrid around 10 feet tall), mul (a human-dwarf hybrid which has the height of its human parent along with the strength and toughness associated with the dwarven race) and thri-keen (a big insecty thing). Likewise, there are a whole host of different character classes, including fighters, rangers, wizards (known in this game as preservers), clerics, druids and thieves, plus a few which are unique to the Dark Sun series, namely gladiators and psionicists.



Psionic organisers

Athas is unique in that all intelligent creatures that live there have some degree of psychic power. These powers, or psionics, fall into three categories: psychokinesis (the manipulation of objects), psychometabolism (psychic enhancement of one's own body) and telepathy (used principally in psychic battles *á la* Scanners). The majority of Athasians are limited to one power, but psionicists have access to all three, making them formidable opponents.

ALTERNATIVELY



Al-Qadim
SSI/US Gold, £39.99
Rated 8, Issue 33
An easy game to get into, Al-Qadim is best described as a beginner's RPG. The engaging, Arabian Nights-style story makes a change from the usual Tolkein inspired nonsense, though the game is a bit on the easy side for hardened role-players. Fun, though.



Ultima VIII: Pagan
Origin, £44.99
Rated 7, Issue 31
The newest Ultima is a bit of a hit-and-miss affair: it has the usual strong Ultima plot but Origin has sneaked in some arcade elements which I personally hated but others might enjoy. Hampered by a bastard control system which is both cumbersome and annoying.

Déjà-vu

Ravager is very similar to the first Dark Sun: both are top-down, scrolly-type games where you move your party around a landscape, and both have graphics that are workmanlike rather than stunning. If you're used to the beautiful animation of Ultima VIII, the rather artificial perspective of Ravager looks a bit strange in comparison. You do get used to it, though, and let's just say that movement is a hell of a lot easier than in the Origin epic. If you want to go anywhere, just click on the spot and your party will make their way there, automatically circumnavigating people or obstacles which get in their way. Even better, if the place you want to visit is too far away to appear on screen, you can bring up the overhead map and click on that with much the same results.

The only time this system falls down is when you have to follow someone. One character wanted to take me to see a secret organisation, the Veiled Alliance, but when I couldn't keep up with him he kept going back to his house instead of waiting for me. After about 10 attempts I finally made it, but for heaven's sake! In some games, when you're required to follow a non-player character, the computer takes over and guides you along. Why not here?

Aside from that, the game is fine. The puzzles are pretty much tied to the plot, and making progress is usually just a case of talking to the right person. But with so many characters to talk to, the amount of text you have to get through can be overwhelming after a while. Say you have to get a certain item from character X. Well, good old character X isn't going to give it to you for free, is he? So instead, he sends you off to kill some monsters in location Z. Unfortunately, location Z is locked, and character Y has the key. Character Y will only let you have the key if you bring her the teeth of a particular monster which hangs out in location B . . . and so on.

This plot-within-a-plot structure works much better than a linear game, since there's less chance that you'll get stuck and run out of things to do.

The downside is that you end up with so many things to remember that you end up forgetting what the original quest was. The moral: keep a pen and paper handy to write things down.

Thanks for the memory

Whilst Ravager is certainly enjoyable, it's nothing out of the ordinary either. Combat is turn-based, which is fine if you're up against one or two monsters, but tiresome if there are any more than that, since you have to wait for them to take their turn before you can get on with taking yours. Presentation is also average; the CD version has some extra animations, music and speech, but the spoken parts are so badly acted they don't enhance the game at all. In any case, you still have to install 30Mb of files to the hard disk, which is hardly satisfactory when you consider that half the point of CDs is that they're supposed to keep your hard disk clutter-free. Oh, and you need over 600K base memory to get the thing to run at all.

For all that, I still enjoyed Ravager. The storyline is compelling enough to keep you interested, so if you're not fussed about the multimedia bells and whistles you should find it sufficiently entertaining. It doesn't really improve on Shattered Land, but then again, that's fine as long as you don't mind more of the same.

■ **Cal Jones**



TECHSPEC

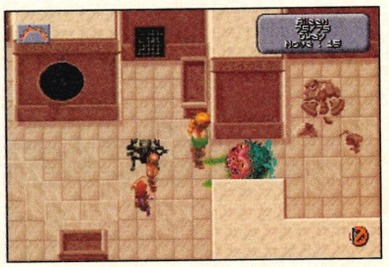
7

RATING

More of the same, which is fine if that's what you like.

Publisher: SSI/Mindscape
Price: £44.99 disk £49.99 CD
Contact: (0444) 246333

Minimum PC: 33MHz 386, MS-DOS 5.0, mouse
Minimum memory: 4Mb, 30Mb hard disk
Minimum graphics: VGA
Sound: Sound Blaster



OK, so there's four of you and only one of them, but don't assume you're going to get off lightly against this ugly critter.



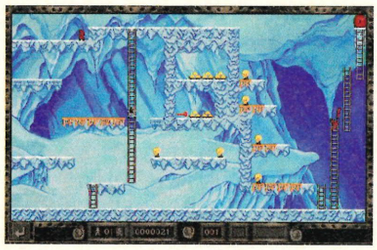
Funny how the inside of genies's tents (below) are so much bigger than the outside (right). And they seem to go in for cushions in a big way. Are you sitting comfortably, or what?



Lode Runner

A piece of gaming history is resurrected, but how does it fare in our multimedia world?





Top: The level builder is very easy to use — choose floor material, gold, traps, monks and ladders from the menu and draw them on screen . . . Above: When you're satisfied, take it for a test run to see if it's playable. If not, it's back to the drawing board.

DISK ONLY

A long time ago in a galaxy far, far away . . . well, about 12 years ago, to be precise, there was a game called Lode Runner. Lode Runner was a platform-cum-puzzle game, the object of which was to move Jake (the lode runner of the title) around the screen, collecting treasure and avoiding the mad monks. Simple in concept, Lode Runner was also fiendishly addictive — which is why Sierra has resurrected it, given it a new lick of paint (so to speak) and released it for Windows.

If you're not familiar with the original (and I think that goes for most of you), I shall endeavour to explain how it works.

Taking a collection

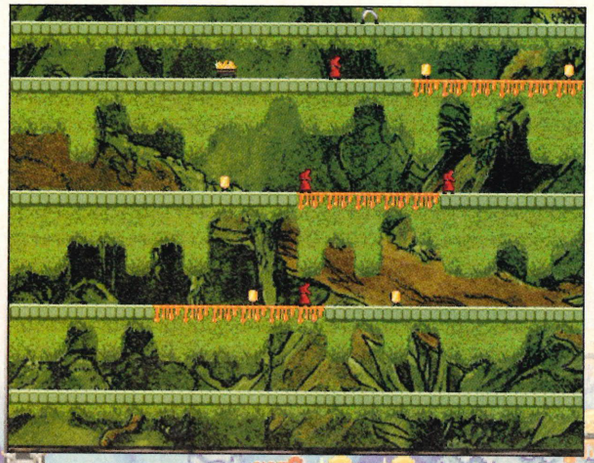
Each level consists of a single screen, which is filled with platforms, ladders, treasure and, more often than not, monks. You must collect the treasure before you can move onto the next level, but this simple sounding task is made difficult by various obstacles. Although Lode Runner is a platform game, Jake can't jump, and is restricted to climbing up and down ladders or falling straight down. What he can do is dig, using his powerful, ever-ready laser gun, so if he spies some treasure on an otherwise unreachable ledge below him, he can blast a hole in the floor and drop down to retrieve it.

Figuring it out

All the time you're trying to work out how to get to the next piece of treasure, those nutty monks are in hot pursuit. Although they're none too bright, they have a nasty habit of catching up with Jake and ripping his guts out. Fortunately, Jake isn't entirely defenceless. The simplest way to stop those God-botherers in their tracks is to blast a hole directly in front of them, so that they fall in and get stuck. If they don't climb out quickly enough, the hole closes on them, killing them — though unfortunately when one dies, another will always come to take his place.

You do have to be careful that you don't fall into one of your own holes, though, as unlike the monks, you can't climb out. Likewise, you're not immune to bombs, snares and other anti-monk devices found on later levels, so watch your step.

Below right: You've got an awful lot of holy Joes to avoid on this screen, and your task is made even harder by that nasty sticky stuff which takes an age to wade through.



On paper, Lode Runner doesn't sound all that exciting, but it is, in fact, a horribly addictive game — once you get going you'll end up playing the blasted thing all night. With 150 levels to complete, it's wonderful value for money, and even when you finally conquer those, you can create your own levels using an easy-to-master level builder, which is just as much fun as playing the game itself.

The new graphics are also impressive. They're bright, colourful and, if run under Windows, very high-res. The sprites are a bit on the small side, but they're beautifully animated — just watch the monks when they get stuck in a hole or are wading through treacle.

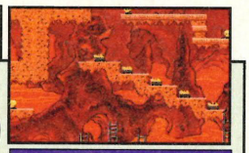
Although presentation isn't everything, it certainly helps.

Finally, here's one word of warning. I initially tried playing Lode Runner under Windows for Workgroups (3.11) and had several problems along the lines of it bombing out or hanging the machine. It did, however, run perfectly under Windows 3.1. Secondly, if you do opt to run it under Windows as opposed to DOS, Sierra recommends a 486 with 4Mb RAM rather than the minimum spec described in the techspec box opposite.

■ **Cal Jones**

TECHSPEC

8 RATING



I'll tell you when I've had one more go.

Publisher:	Sierra
Price:	£34.99
Contact:	(0734) 303322
Minimum PC:	386, Windows mouse
Minimum memory:	2Mb
Minimum graphics:	VGA
Sound:	All Windows-compatible sound cards

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Available on PC CD ROM January '95.

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Re-discover the fantastic world of sci-fi movies with this interactive epic. Blending the talents of



professional cinematographers and the best graphic design and programming teams, The Last Dynasty tells the tale of a young man raised on Earth who is suddenly pulled into a cosmic war across the galaxy.



Available on PC CD ROM November '94.

ACES OF THE DEEP

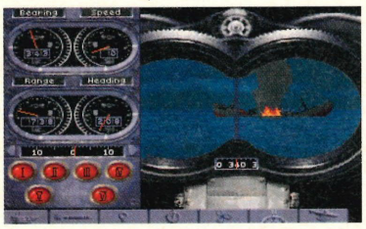
Created in collaboration with German World War II submarine commanders, Aces of the Deep is the most realistic and technically advanced German U-boat simulation to be developed today. Meticulously detailed historic missions, an array of combat modes, combined with



REFLEXION FAITE

ering the New Dimension

special effects, digitized voices and stunning 3-D graphic art, result in a gripping and highly atmospheric game.



Available on PC 3.5 and PC CD ROM Nov. '94.

WOODRUFF AND THE SCHNIBBLE OF AZIMUTH

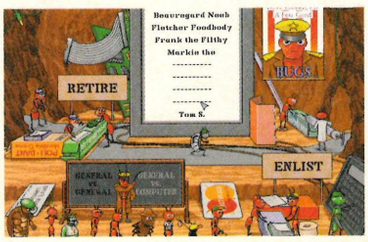
In this hilarious adventure you find young hero Woodruff in a crazy search to avenge the killer of his teddy bear... Find the kidnapped Dr. Azimuth, renowned throughout town for the «Schnibble»- a mysterious word, with a hidden meaning that desperately needs unravelling! An interactive high resolution cartoon in Tex Avery style.



Available on PC CD ROM December '94.

BATTLE BUGS

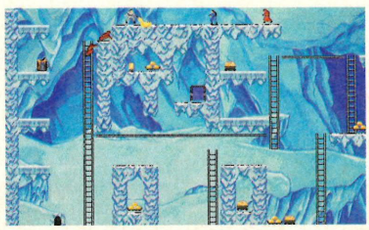
A humorous strategy game that puts you at the head of an army of insects! With multiple levels, defeat the enemy troops and take control of their food supply.



Available on PC 3.5 and PC CD ROM Sept. '94.

LODE RUNNER

The legend is back. The new version of the famous arcade/action game features 150 levels in 10 different underground worlds. Your objective: collect lost treasure as you climb, dig and out manoeuvre the enemy, along with the option to create your own levels!



Available on PC 3.5, PC CD ROM and Macintosh November '94.

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The year 2119. You are: captain of the ship Calypso, searching for a planet to settle the last human colony. Your mission: govern the colony, fight off hostile life forms, build defenses, crush rebellions. The future of the human race is in your hands....



Available on PC 3.5 September '94.

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The year 2341. Earth has been invaded by the Cybrids, intelligent robots programmed to destroy you and take control of the planet.
Available on PC 3.5 November '94.



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Available on PC 3. 5 December '94.

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Above: A scene from the closing stages of the War of Independence: Cayenne is my principal fortress and armoury, from where I've been delivering muskets and horses to St Louis and Guadeloupe. All the other colonies are within one wagon move of Cayenne. The road is also connected to Indian villages, for trading.

As with Civilization, it's important to get a good start in Colonization. Because of the limited resource range of colonies without a town hall, you must try and build in squares adjacent to sources of both lumber and ore. Tree and ore resource icons are particularly valuable. Also try to build as far away from Indian villages as possible: the racial bonuses are significant. Burning Indian villages counts against your final score and you're also eliminating potential trading partners. Live in harmony with the natives and you can all but cut out the Indian raids, which at the harder playing levels can be a real nuisance. I try to keep the Indians sweet by giving them anything they ask for — except muskets! Also try to establish missions in nearby villages as early as possible because they guarantee a steady stream of converts to swell your population.

If you're not in imminent danger of attack you can unfortify your soldier and use him as an ordinary colonist. Employing this technique, I like to start my first colony with the soldier and use the pioneer to clear the forest and plough fields. Don't bother to man the stockade until either the colony is big enough to bear the loss of a worker, or other Europeans show up. Fortified artillery is a much better defence than colonists if you can afford it, and it also frees up labour.

"Try to pop back to Europe regularly, so you can check on the price of recruitment"

Real World

If you play in the real world you'll begin in roughly the correct historical area.

If you're the French in Quebec, you'll know that the English are not far to the south, and vice versa. Early on, colonies are not well fortified, so if you strike quickly you can take out your nearest rival.

Aggressive action is the easiest way to swell your population (combat bonuses usually favour the attacker).

Within the colony I try to build in this order: lumber mill (doubles the speed of production), stockade (for defence), blacksmith's shop (increased tool production) and docks (excellent food source, especially if you're adjacent to a fish icon). After this it depends on circumstances, but I recommend building a town hall as soon as possible, plus a wagon train for switching resources between colonies (use the pioneer to build roads) and selling to the natives. If you want to know the trade requirements of individual villages, send in a scout.

Try and get into the habit of popping back to Europe regularly (press E) to check up on the price of recruitment, which fluctuates. Recruit as many specialists as you can, even if you don't yet need them. Soldiers, pioneers and scouts are bargains, because they come with muskets, tools and horses. Dismount your scouts for a few turns once in the colony, and provided you're producing excess food you'll start breeding horses.

Pioneers are extremely valuable. If you've got one working in a hostile area it may be worth fortifying a militia unit in the same square to protect him. Similarly,



Sirrion Shaw sets you on the road to independence with his essential guide to Colonization

Colonization





Above: All year major colonies should have a fortress, and, if possible, an armoury with a master gunsmith.

if you discover a huge treasure, use the unit that found it as an escort. Treasures can make a big difference to your finances, so it's well worth exploring. If you offend your native neighbours, send a wagon to the nearest village and donate some goods to restore calm (escort the wagon train to be on the safe side). If you don't have a galleon and you're far from home, just build a colony where you are and move the treasure wagon into it. Next turn you can abandon the colony and resume your explorations. But get a galleon if you can — the crown takes an vast percentage.

Penny pinching

Early on you'll need every penny you can get, but in the later stages try not to send your big ships back to Europe half-empty. The price goes down when you sell any commodity, so offload as much as possible in any one go to maximise profits. By the time you're ready with another big load the market should have recovered. Silver is incredibly profitable in the early years. If you're near a mine, found a small colony to work it to exhaustion, then move on. It's worth training an expert silver miner.

"Try to keep your colonies fairly close to each other and connected by road for easy trade."

The Indians usually offer less for goods than you'd get in Europe, but when taxes rise the rates look more attractive. The same laws affect buying as well as selling: if you want muskets or trade goods, buy in bulk while the price is low.

I have mixed feelings about warships (frigates and privateers). They can be useful for picking off enemy vessels and securing the odd bonus cargo, but as a rule the outlay is rarely justified by results. However, if you do use one in the real world, a good place to hang out is the tip of South America, where you have a chance of nabbing a Spanish treasure fleet as it rounds Cape Horn.

Whatever you do, make sure that you don't move adjacent to an enemy fort! Be wary of attacking an enemy vessel next to a fort, as you'll automatically move into that square if you win the combat. Spare ships in harbour can be used for storage to take any warehouse overflow.

Move closer

Try to keep your colonies fairly close to each other, and connected by road for easy defence and trade. Many of the principles of Civilization apply equally here, in as much as it's better to have a few strong cities than a lot of weak ones. If your colonies aren't at least on the same continent you could be in trouble come the War of Independence.

The political side of the game is hardest to master. You must start producing liberty bells as soon as possible, because you get a minus one production penalty for every seven Tories (not that sort — it's the American for loyalists). If your government is inefficient it's better to move the excess colonist(s) outside temporarily — just let them sit on the fence for a turn or two with the soldiers and artillery until you've produced some more bells. You can always send them off to the nearest village to learn a trade. Elder statesmen are particularly valuable, and it's worth paying to train one in Europe. When you've built a university you'll be able to mould your own. Use the education system to ensure that at the least you have a carpenter, a blacksmith and a farmer or fisherman in every colony. And don't ignore the church — immigration is generated by the number of crosses you produce.

Founding fathers, on the other hand, are generated by liberty bells. These are the ones you should go for:

Cortes — *only if you're Spanish. Get him first, before you start attacking the Indians.*

Peter Minuit — *means you get Indian land for nothing.*

William Brewster — *gives you a choice of immigrants.*

Tom Paine — *bonus to liberty bell production in line with the tax rate.*

Thomas Jefferson — *flat 50 per cent liberty production bonus.*

Simon Bolivar — *20 per cent boost to rebel sentiment in all your colonies. Don't go for him until you've got all your colonies set up.*

De Witt — *allows you to trade with foreign colonies (useful in the war of independence).*

The political founding fathers are the most vital, because more liberty bells equals greater production.

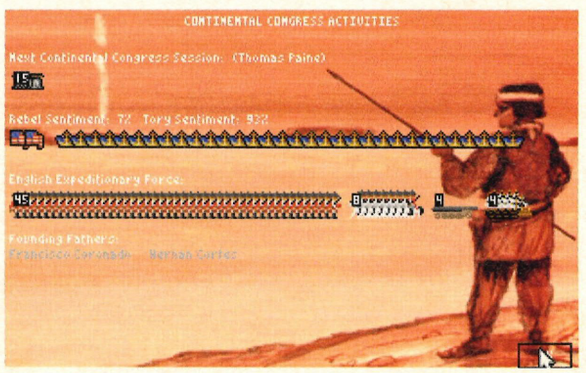
Perhaps the toughest decision in the game is choosing the exact moment to revolt. Rebel sentiment must be above 50 per cent in *all* your colonies to minimise the chances of Tory revolt and reduce the enemy attack bonus (the percentage of loyalist feeling). All your major colonies should have a fortress, plus plentiful supplies of muskets and horses (to make dragoons) and, if possible, an armoury with a master gunsmith.

The enemy will go for your ports first. Develop the roads round key colonies so you can slip in wagons with vital supplies when under siege.

However, even with the above conditions and half a dozen or so fortified cannons it's still possible to lose a colony.

This means that you must try to allocate time to building more weapons and creating as many liberty bells as possible — use every spare colonist! Or just hope for foreign intervention.

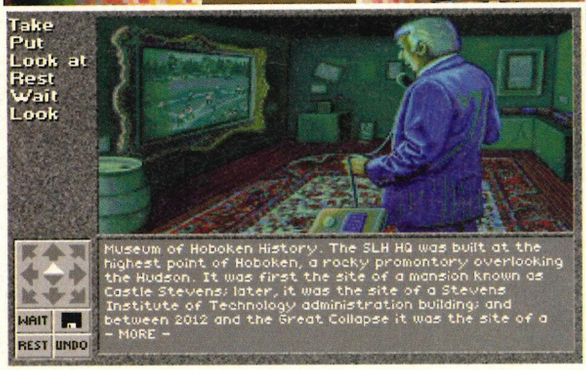




GAMES

Superhero League of Hoboken

Thwarted by Dr Entropy? Cal Jones saves the world with the final part of her super solution.



Above: Why on earth is there a Frank Sinatra waxwork in the basement? Could it come in handy in a mission, perhaps?

Remember to attempt the following missions in the order described below — you could get stuck if you don't — and always return to your HQ after each mission so that it can be recorded.

LEVEL 4

Mission Clover

The Superhero League of Flushing has been infested by mice. Go to the Flushing HQ (3C, 7,10). Blow the whistle. Take the mouse carcass and the ecru bedistor.

Mission Robin's Egg

A religious cult is rioting in Times Square. You need the aluminium-eating microbes from the cabinet in your HQ. Go to Yankee Stadium (3D, 3,2). Put the microbes on the strongbox and take the strange ball. Go to the entrance to New York (3C, 1,10). Go to Times Square (Downtown, 3,9) and give the ball to Dick Clark. Take the ochre bedistor.

Mission Wee Wee

Descendants of Yale University are going to wreck the library at Princetown. Go to the entrance in New York. Go to the Empire State Building (Downtown, 7,3). Go down and enter the green train. Go to Yale Old Campus (New Haven, 8,3) and listen to the conversation. Go to the science museum (2,9). Go east. Take the seedless banana, termite hatchery and solar washing machine, then go west. Put the washing machine on the right spot and stand on the left spot. Wait until the Yale men arrive. Go to Princetown Library (1A, 1,9). Talk to the coach. Take the maroon bedistor.

Mission Mud

Retrieve a relic from the Philadelphia sewers. Use the red train to get to Philadelphia and go to the sewer entrance (7,1). Go to (13,1) and beat the lava lamprey, then (14,1) and beat two lampreys, then (16,1) and beat four lampreys. Take the diet book and the mauve bedistor.

Below: Marketoons are nasty types who assault you with junk mail. I'm giving them a dose of the old cholesterol poisoning.



Mission Stop Light

Doctor Entropy is reviving corpses at Yankee Stadium. You'll need the four bedistors. Go to Yonkers Marketplace and buy the purple tube pass from the pawnbroker. Go to Yonkers tube (3D, 5,10) and enter the purple train. Go up. Go to the Second Chance Office (Poughkeepsie, 12,2). Go to the tube station (3,6) and take the purple train back. Go to the entrance of New York (3C, 1,11). Go to the vault entrance (Uptown, 15,5). Go down. Put the metal rod in the fourth hole. Take the frozen corpus. Go to Yankee Stadium, open the booth and put the corpus inside.

Close the booth, then use the four bedistors on the matching holes. Press the blue button and open the booth.

LEVEL 5

Mission Summer Sky

Poughkeepsie's warlord has declared war on Afghanistan. Take the Washington outfit, wig and teeth. Go to Yonkers tube and enter the purple train. Go up. Go to the mansion (16,7) and go north. Wear the uniform, wig and teeth. Talk to the warlord and tell him it's a bad idea to invade.

Mission Buoy

Three New York tribes are engaged in a war. Go to the entrance of New York (3C, 1,10). Go to the Empire State Building and go down. Enter the green train. Go up. Go to the cave (7,12). Take the sheet music. Practice the sheet music. Sit at the piano and play it. Take the sandbag and the two totems. Enter the circle of light. Go to New Haven tube (9,7) and enter the green train. Go up. Enter the UN building (16,9). Give the Yu Wen Totem to the Yu Wen leader. Go to Radio City (5,12). Give the Rah Kett totem to the Rah Kett leader.

Mission Praying Mantis

The Freehold shaman is charging too much. Go to Newark entrance, then go to the tube, go down and enter the red train. Go up. Go to Ben Franklin's house (6,5). Win the combat against the cyclopses and salmon to rescue King Midas. Return to

your HQ. Add King Midas to your party. Use the "Midas Touch" superpower on any object. Use it again on another object (you should wind up with a scarf). Take the fur coat. Go to Freehold market (2A, 2,4). Enter the shaman's tent and talk to the shaman. Enter the weapons shop and talk to the merchant. Enter the hostelry and talk to the innkeeper. Enter the brothel and talk to the madam. Enter the shaman's tent and talk to the shaman. Enter the brothel and talk to the madam. Give her the fur coat and scarf. Enter the hostelry and give the rate sheet to the innkeeper. Enter the weapons shop and give the rate sheet to the merchant. Enter the shaman's tent and give the rate sheet to the shaman. Return to HQ.

Mission Margarine

Return an ancient video tape to Princeton. Go to the Mansion (4D, 12,6). Look at the wobbly table. Take the video. Go to Princeton Library (1A, 1,9) and give the video to the curator.

Mission Fudge Brownies

Doctor Entropy has developed a mutant tree. You'll need the termite hatchery and casino chip. Go to Staten Island marketplace (2B, 8,10). Buy the orange tube pass from the pawnbroker. Go to Princeton marketplace (1A, 1,10). Buy the termite eggs from the pawnbroker. Go to Newark entrance, go to the tube, go down and enter the red train. Go up and enter the orange train. Go up, then go to Trump casino (4,4). Put all the casino chips in the slot. Go up. Open the termite hatchery, put the eggs inside and close it. Turn it on, then open it again.

"You get a bonus for exploring every square in a sector or ridding an area of all its monsters"

LEVEL 6

Mission Dollar Bill

A hostelry on Staten Island has a serious map problem. Add Princess Glovebox to your party. Go to Staten Island marketplace (2B, 8,10). Enter the hostelry. Use the "Refold Road Maps" superpower on the maps. Take the Budweiser.

Mission Deep Dark Savage Tan

A miracle at Scranton Temple is getting out of hand.

Go to Newark tube, go down and enter the red train.

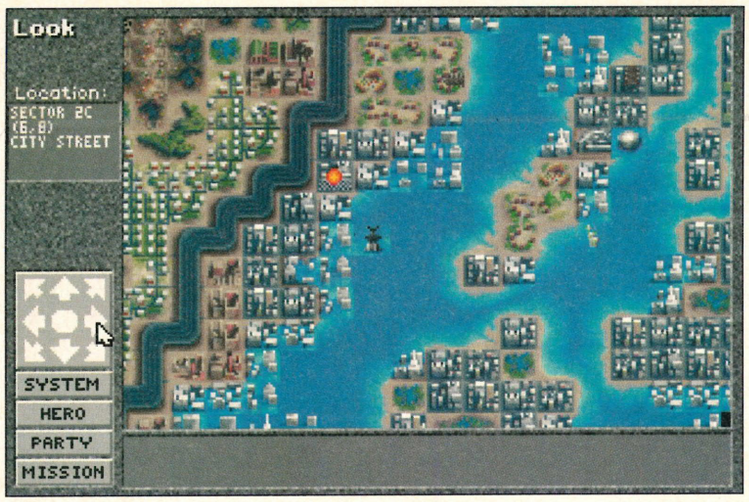
Go up and enter the orange train. Go up. Go to Geraldo's vaults (15,9) and pick up the National Enquirers.

Go to the tube (11,7), take the orange train, go down, take the red train, go up, take the grey train and then go up again. Go to Scranton Marketplace (4,11).

Put the National Enquirers in the basket. Then just wait until you're given some mushroom soup.

Mission Jaundice

Giant alligators have been spotted in the New York sewers. Include your toughest members on this mission, as it involves a lot of combat. Go to the New York entrance (3C, 1,11). Go to the sewer entrance (12,7) and go down. Go to (5,10) and defeat one gator. Go to (8,3) and defeat two gators. Go to (9,5) and defeat three gators. Go to (13,3) and defeat four gators. Go to (14,10) and defeat five gators. Take the alligator dropping.



Above: This is your home stomping ground — your HQ is located to the right of the map.

Mission Lava

A religious cult is hatching a doomsday plot. You should have the brown tube pass from a combat. Go to Staten Island marketplace (2B, 8,10). Buy the silver tube pass from the pawnbroker. Go to the New York entrance (3C, 1,11). Go to the sewer entrance, go down and go to the tube station at (5,6). Take the brown train. Take the chewing gum. Go down and enter the silver train. Go to the hostelry (9,4). Take the master tube pass. Go to Three Mile Island (15,2). Win a combat to get the paper clip. Open the deactivation unit. Use the paper clip on the electrodes. Pull the orange lever. Use the chewing gum on the hole. Pull the lever again. Take the uranium pellet.

Mission Cold Water Faucet

Doctor Entropy has built a machine which can emit dangerous gas. You need to take the Budweiser, alligator dropping, uranium pellet, cone and soup. Go to the Statue of Liberty (2C, 13,6). Take the android manual and go up. Open the Budweiser. Put alligator dropping and uranium pellet in the Budweiser. Then put the cone in the Budweiser and put the soup in the cone. Take the cone. Give the Budweiser to the android. Go up.

LEVEL 7

The Final Mission

This mission is incredibly tough because it involves a lot of combat. Fill out your team with your toughest members — Toastbuster is worth including, and you must take the Mighty Magnitude.

Go to Newark tube and enter the grey train. Go to the pit at Scranton (15,9). Use the "Superpower of 10" power on the bananas three times, then pick them up. Go to Scranton tube (11,8) and go down. Enter the gold train. Go to Chippawa marketplace (4,9). Buy the white isotope from the pawnbroker. Drink it.

Go to the rest station (12,1). Use the "Beaver Jaw" power on the elm tree. Use the "Superpower of 10" power on the elm tree. Go to the falls overlook (3,11) and get the barrel. Go to the highway (7,7) and take the plowshare and pruning hook. Go to Ben's Farm (7,6) and give the barrel, plowshare and pruning hook to Ben. He'll give you an elevator key. You'll run into a lot of monsters in this area, so you're going to get beaten up a bit. Rest where you can and if necessary, return to HQ to replenish your supplies. Go to New York (3C, 1,10), save your game immediately, enter and go to the Empire State Building. About one square away, you'll be set upon by a huge band of nasties. When you've got rid of those, you'll be set upon by another before you've had a chance to rest. And then another. You must defeat all these monsters before you can enter the Empire State Building, because if you flee, you'll have to start again from scratch (the fight, not the whole game).

Next, enter the Empire State Building. Call the elevator (you need the key from Ben) and enter (east).

Use the "Superpower of 10" power on the bananas three times. Turn off the projector. And there you have it. You will have completed the game.



Below: King Kong has captured Dr Entropy and is threatening to trash the Empire State Building — again. Looks like these bananas might come in handy.

HELP WANTED

I'm having problems with Ultima VII. How the heck do I destroy the tetrahedron generator? I have the protection ring and the blackrock wand, but no matter what I try to do, I can't seem to destroy it. Can you please help me?

Greg Johnson, Australia

Answer: **No worries, mate. First, you should have first taken the ring to Penumbra so that she could enchant it for you. This will allow you to enter the generator. Inside you should meet a powerful creature which you have to kill in order to destroy the generator. Once you've done this, a small tetrahedron will appear in place of the big one. You should take this because you will need this later.**

I'm playing Monkey Island and don't know how to find my way around the catacombs. I can't get the navigator's head from the cannibals what am I doing wrong?

Ian Malone, County Down

I'm stuck near the end of Monkey Island. I'm on LeChuck's ship and I have got the grog from the sleeping ghost pirate. What do I do next, and how? Also do I need grease for the squeaky door on deck?

Badri Natarajan, Abu Dhabi

I'm hopelessly stuck in trying to get the arrowroot on the ghost ship in Monkey Island. I've got the grog from the sleeping pirate, but haven't been able to get into LeChuck's quarters or unlock the glowing crate.

Paul Thomson, Ashford, Kent

Answer: **OK, listen up chaps. First, let's deal with the navigator's head. Go to the monkey's head and get the wimpy little idol. Next, visit the cannibals and tell them you'll give them anything. Then give them the idol. I take it you already have the monkey head key from Toothrot (give him the banana picker to get this). Leave the village and return. Talk to the cannibals until they mention the word "head" — then give them the navigation leaflet. They should give you the head and necklace.**

Once inside the catacombs, look to see which way the head is pointing and follow its nose. This should take you to the ship.

When you get to the ledge, ask the head for the necklace. Keep pleading until you get it.Once inside the ship, walk west and use the compass to get the key. Then get the grog from the sleeping pirate by tickling his feet with a feather (go down the hatch and then east to get this). After you've taken the grog, go east and use the key on the hatch. Use the grog in the dish. Take the glob of grease, then go up on deck and use the grease on the squeaky door. Open the door, go inside and pick up the tools. Use the tools to open the crate containing the voodoo root.

I am currently drowning my sorrows in the Restless Bird, Corinth, Elder Scrolls: Arena. I have collected six keys in the Halls of the Colossus and found Theodorus' inscription, but I can't get through the door which wants to know how old it is (twice as old as three times the age of the Sphinx of Gazia). None of my magic works on it and I've even returned to the Temple of Agamamnus. Am I missing something?

By the way, you were correct: the answer to the question asked by the Norwegian reader (September issue) was, indeed, a glove. Perhaps he could meet me in Corinth. The only problem with Arena is that it gets quite lonely, so perhaps Bethesda will take note and allow a computer controlled partner or multiplayer option in an update.

Gorgon Big. . . (Er, that's enough. Ed)

Answer: **Sorry to disappoint you, Mr, er, Well Endowed, but I don't have an answer for that one. Perhaps someone would care to enlighten us? Send in your answers to Help Supplied. Thanks.**

I'm having trouble with Beneath a Steel Sky. I have found Anita's body and ID in the church. How do I get the fingerprints in the bar, and what do I do in the dead bodies place?

Alex Jacob, Stevenage, Herts

Eloquently put. I assume that when you say ID, you mean the card Anita left in the reactor. You don't need to do anything in the room where you found her, but you have to go back to the security building and log on to LINC space where Anita has left a message for you. As for the fingerprints, you must first talk to the gardener and the boy, then defend Hobbins in the court, before going to the club. Earlier you should have examined the door near the band and then asked the barman where it leads to. You should also have talked to the card players. When you return to

PUBLISHER'S HELPLINES

Hopelessly stuck in a game? Many software publishers run games helplines to help out with hints and tips.

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Helpline number:	**(0865) 390029**
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Helpline number:	**(0454) 329510**
MINDSCAPE	
Helpline number:	**(0444) 246333**
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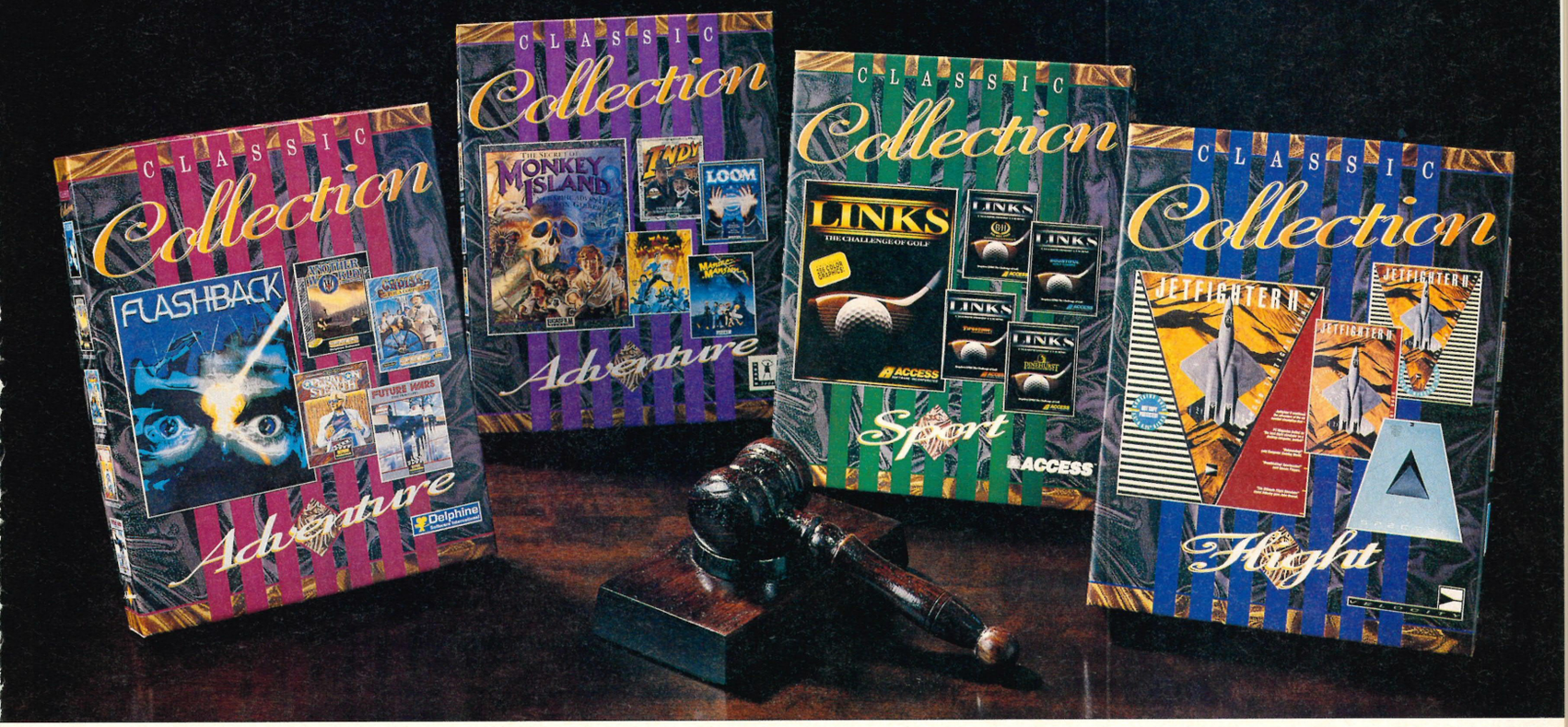
With automated numbers (0891) get the permission of whoever pays the phone bill first. Calls cost 39p per minute cheap rate, 49p per minute at all other times.



QED Guides

Every issue we print solutions or playing guides to one or two new games. If you have completed a game recently and would like to see your name in print, send your solutions to QED at the usual address. You can send them on paper or, even better, on floppy disk as a word processor file (preferably ASCII). We will be giving away a software prize for every solution we print, but please, no Day of the Tentacle solutions as we have enough of those to paper the PC Review offices.

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All New World of Lemmings

FAXBOX

Developer:	DMA Design
Publisher:	Psygnosis
Release date:	November
Genre:	Arcade puzzle game



Right: the classic lemmings, doughty survivors from the original game released over three years ago.

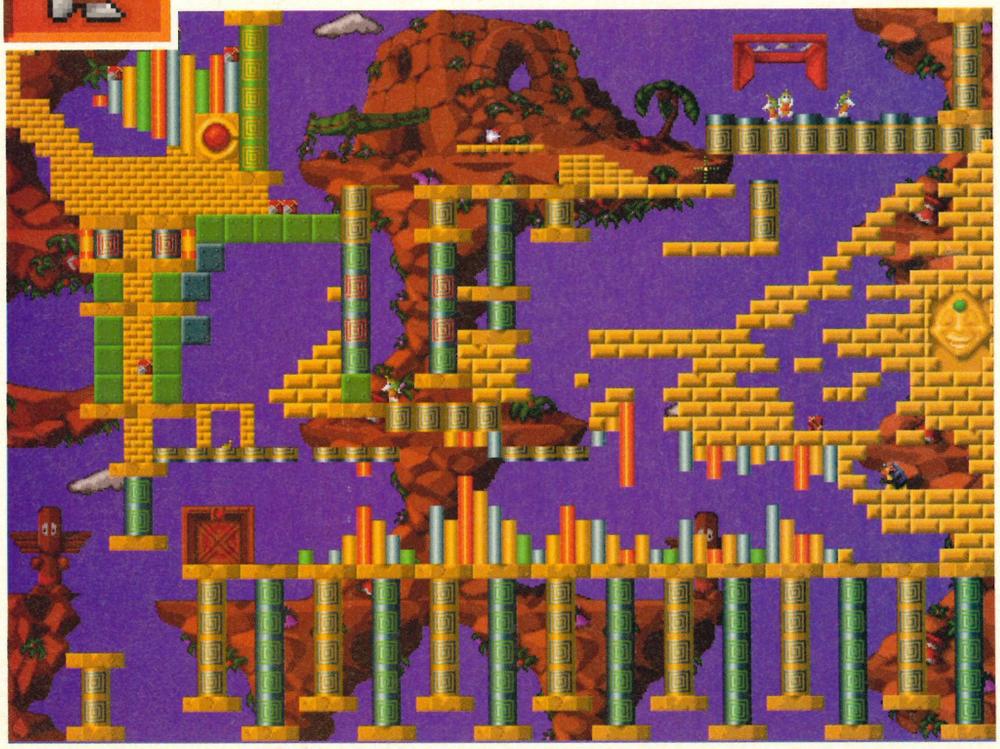
It's been a good 18 months since the last outing for the green-haired, blue-clad, squeaky-voiced rodents — if you don't count the Lemmings compilations that have recently appeared on CD-ROM. And while the rest of the office has been marvelling at Little Big Adventure and the Pentium-optimised delights of Magic Carpet, I've been getting back to basics with the new Lemmings levels.

DMA Design has been tinkering with the design of the game, so it's not quite a case of more-of-the-same-but-with-different-backgrounds, yet nothing has changed fundamentally, which is good news.

The lemmings themselves have doubled in height since Lemmings 2, but they are still divided up into tribes. However, in the intervening period between the two games, only the Classic, Egyptian and Shadow lemmings have survived. They have also had a bit of a costume change: Egyptian lemmings look the part if you peer closely enough and walk in caricature Egyptian-style, with one arm leading, one trailing, for example. In All New World, these three tribes are attempting to colonise a new homeland, which means that for the first time, there are baddies to be dispatched as you negotiate the lemmings' safe passage between the start and finish point of each level.

Below: Egyptian reggae — lemmings now wear their tribal costumes and assume suitable poses as shown here.





The two major features that experienced lemming rescuers will notice are the streamlining of lemming skills and the addition of trapped lemmings.

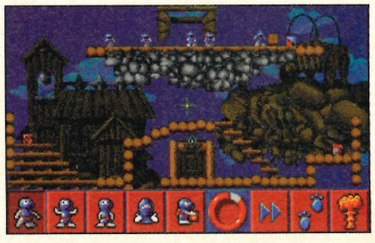
The lemming attributes have been pared down to the walkers, blockers and jumpers. But on each level there is a special pick up which can be collected, and then activated, thus creating your bridge builders, diggers, and so on.

The targets set for successfully completing each level have changed in emphasis as well. In All New World, rather than stating a set number of lemmings to reach the exit, there are lemmings trapped behind brickwork in each level, who must be rescued if you are to claim your points. This means that you need to send some lemmings off to pick up the extra skills boxes, and set some to finding and freeing the ones that are stuck, as well as ensuring that the rest aren't falling down a hole somewhere else. The overall effect seems to be to make the game appear more time-critical and trickier.

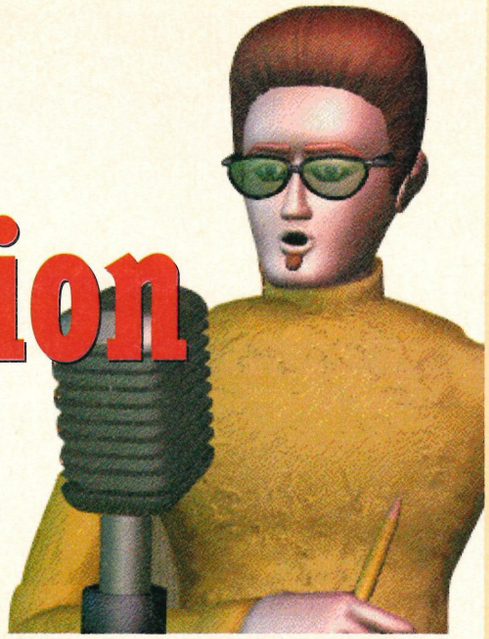
One the presentation front, there's the now-obligatory super-slick intro sequence and the game screens are shown in 256-colour VGA with highly detailed backgrounds, making these the crispest, most clearly defined lemmings yet.

■ **Christina Erskine**

Below: probably the most popular of the new tribes from Lemmings 2, were the spooky shadow lemmings, who reappear in the new game.



Total Distortion



Welcome to Weird Corner, and a game which will either become a cult classic or simply remain misunderstood. Billed as a 'music video adventure game' it's a little difficult to ascertain exactly what's happening in Total Distortion, but the general idea is something like this. You are a music video producer. You have teleported to the Dimension of Distortion, where you have been stranded. But you are stranded in this dimension. You only have with you your video production equipment. This is based in a sort of tower construction customised for travel through the dimensions. You are stranded because you didn't bring enough money with you and no-one in the Dimension of Distortion takes Visa. So you need to earn your keep by producing music videos.

Or something like that, anyway. The idea of the game is to outfox various motley rock stars (also in the DofD), do battle with guitar warriors, sign up million dollar deals on-line with earthling producers and edit your music videos until you've made enough music (and therefore money) to get back to earth.

In play, you can explore your tower: it has a fully fitted kitchen, bedroom, engine room and all mod cons — if you can count a radio aquarium, library of interactive books and food processor (*food processor?*) as mod cons — as well as your video editing kit. You can also venture outside the tower, to Hell's Garage, LA Stage, and Sonic Cemetery.

These locations are a great excuse to hear Total Distortion's wonderfully loud and thrashing musical effects, grunge in the garage, stadium rock on the LA Stage and gothic guitar in the graveyard.

The game has over 50 original songs, and while, you might conclude that they're original because no-one else wanted to invent them, they do indeed ensure that Total Distortion sounds like no other game has ever done.

Blended somewhere in all this is a traditional adventure game, with inventories, health meters, characters to interact with, and treasure — in the form of film clips — to collect.

The whole thing takes up over 500Mb on the CD-ROM, thanks to the music, and while it won't be to everyone's taste, it's worth looking out for — it should at least be different.

■ **Christina Erskine**





FAXBOX

Developer:	Pop Rocket
Publisher:	Mindscape
Release date:	November
Genre:	Adventure with loud music

Coming soon



Virtuoso
Elite
The Doom 'tributes' just keep on coming, although Virtuoso looks more like Jon Bon Jovi with a sawn-off shotgun. You play a rock star sent to a virtual world to do battle in a variety of scenarios and terrains, over three separate worlds. Due out this month.



Primal Rage
Time Warner
Primal Rage is a prehistoric-themed beat 'em up which has been going down a storm in the arcades. The cuddly latex dinosaurs have been brought to life through advanced stop-motion animation techniques, and the result looks impressive.

The PC version is due September 1995. So not that soon at all, really.



Apache Gunship
Digital Integration
Based on the Apache Longbow helicopter, DI's latest sim uses a new 3D engine which allows for incredible graphic detail. The game is networkable and allows for multi-player campaigns as well as single player games. It needs a 486DX2 with 8Mb RAM and CD-ROM. Due imminently.



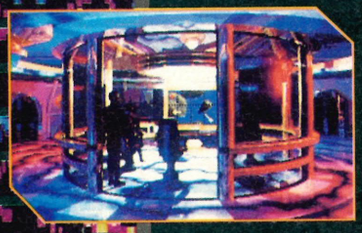
Voyeur
Interplay
Converted to CD-ROM from Philips' CD-i best-seller, Voyeur is an interactive movie of murder and detection, which is intended as a 'homage' to the Alfred Hitchcock movie Rear Window.

With beautiful graphics and atmosphere it also carries a film classification rating of 18.

AN EYE FOR AN EYE

RETRIBUTION

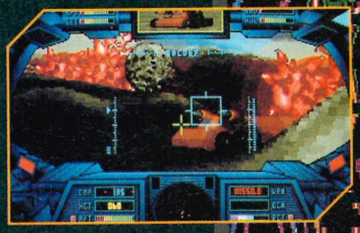




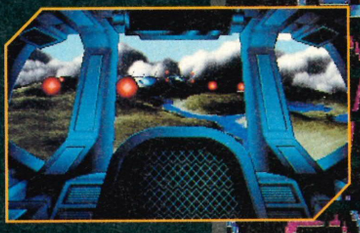














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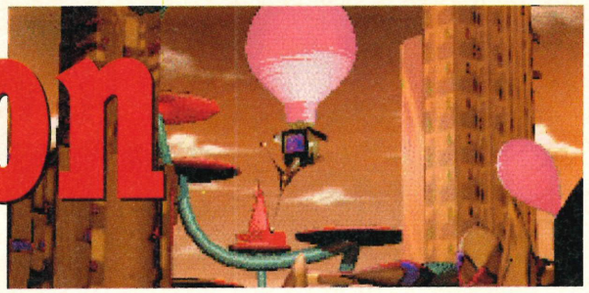
THEY'VE HAD THEIR POUND OF FLESH

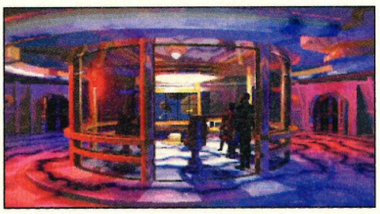
Gremlin INTERACTIVE

IT'S TIME TO TURN THE TABLES

© 1994 Gremlin Interactive Limited, Carver House, 2-4 Carver Street, Sheffield S1 4FS, England.

Retribution





With Retribution, Gremlin has moved away from ninjas of the nth dimension and pizza-eating imps to craft a strategy action game.

As is obligatory with games of this type, there is a convoluted plot involving world domination in the future and earth sowing the seeds of its own destruction. All you really need to know is that you have a number of futuristic combat vehicles to drive around a wasteland vista, and a mass of tanks, missile pods and ATVs belonging to the Krellans, alien conquerors of the earth whose true mission is to breed mankind for food.

So it's a case of defeating them before they eat you for lunch.

There are over 50 missions covering 11 major campaigns against the Krellans in the main CD-ROM edition of the game, but a 30-mission version is also to be released on floppy disk. There are also training levels you can use for practice before you launch yourself on a campaign proper. Missions include rescuing scientists stranded in their all-terrain combat vehicle, taking out Krellan installations, and — ultimately — destroying the processing plants where the earth's population is being turned into a protein-rich slurry for Krellan breakfast.

Above and left: in true CD-ROM tradition, Retribution comes complete with lavish intro sequence.

Below: it's not all blasting; there are also trapped scientists to free.





Retribution's designers have used Voxelspace-style graphic techniques to create the textured, smoothly flowing terrain as you skim up hill and down dale in the search for foes — it's all rather scenic in a bleak kind of way. The CD version also has a rich array of music and sound effects to increase the atmosphere.

■ **Christina Erskine**

FAXBOX

Developer:	Astros
Publisher:	Gremlin Interactive
Release date:	November
Genre:	Action-based flying game

Descent



To the casual eye, Descent looks like another Doom wannabe — a first person perspective, shoot the baddies game set in a labyrinth of corridors. It does, however, bear further investigation, since it doesn't play much like Doom and your goals are different.

Firstly, you're in an airborne skimming kind of craft, with a smooth rush of acceleration as you power forward and a perceptible whoosh as you brake. This hover-craft takes some getting used to however. It swerves, swivels, nosedives, and half the time you end up flying upside-down or sideways on without realising it until it's too late. It's a fight between you and a band of crazed futuristic machines, so it doesn't have Doom's bloodlust, and frankly, that's probably enough invidious comparisons.

The robots are occupying the vast and complex network of mines on Pluto. Your main task is to flush them out, rescue any surviving miners and then destroy the mines. You have some hot new weapons, but the tunnels in the mines are very, very tiny, so pin-point accuracy is required for success.



There are 30 levels in all, which take you further and deeper into the labyrinth of tunnels. It's a dark game and the twists and turns do their best to disorientate you, but once mastered, your craft moves slickly and quickly, and not everything you encounter is out to get you. You can boost your energy levels and firepower by collecting (all right, flying over) bonus crystals and rays.

Descent has been written by American company Parallax Software, who, incidentally, originally wanted to call the game Inferno. Unfortunately, they were pipped at the post on that one.

Anyone who has enjoyed the real Inferno, or Doom, or any flying shoot 'em up would be well advised to look out for Descent.

■ **Christina Erskine**

Above: you never know what might be round the corner in Descent.

FAXBOX

Developer:	Parallax Software
Publisher:	Interplay
Release date:	Late November
Genre:	Arcade style shoot 'em up

PC REVIEW Recommended

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If you'd like to win a copy of this month's Recommended games, simply answer the questions printed on the entry coupon and send your entry on the back of a postcard or sealed envelope to PC Review Recommended, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. The closing date is December 10, 1994, and any entries received after this date won't be eligible.

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Q: Which of the following is NOT a type of carpet or rug: Axminster, Wilton, Persian, shagpile, chippendale, doormat, kelim, dhurrie, goatskin.

A:.....

Name.....

Address.....

.....

.....

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Q: The following movies all feature public transport in distress. Name the vehicle (or vehicles) which come a-cropper.

Speed .....

Die Hard 2 .....

The Fugitive .....

Name.....

Address.....

.....

.....

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❑ I am over 18 ❑ I am under 18

THE PC REVIEW PLAYLIST

We've ranted about a fair number of games this month, and raved about a very select few. But what are the titles currently taking pride of place on our hard drives, and keeping us at work late into the evenings?



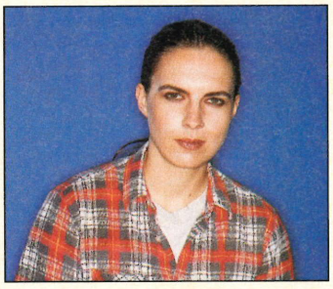
Christina Erskine

Christina has been captivated by the "all new" Lemmings we've previewed this month and has also been looking at the new games creation program Klick and Play (full report next month.)



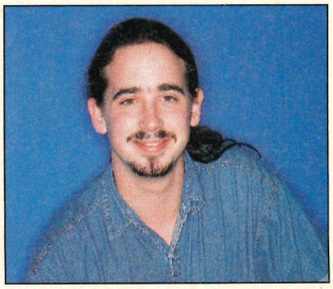
John Bennett

This month John put down his Doom chainsaw, put on his anorak and played with trains in Transport Tycoon. And he's still suffering from future shock after interviewing Microsoft's top brass about the potential of interactive TV. Full report next month.



Cal Jones

It's been a busy month for Cal. She's been rug-surfing with Magic Carpet, role-playing in Dark Sun 2, puzzled by Breakthru! and Lode Runner, not to mention getting thoroughly nostalgic while compiling our Top 100 games feature.



Tony Dillon

Tony Dillon, PC Review's new boy, has the arduous task of putting together our cover disks and CDs each month. Tony, who used to write for our sister magazine, CU Amiga, is a recent convert to the PC and enjoys nothing better than a game of Doom 2.

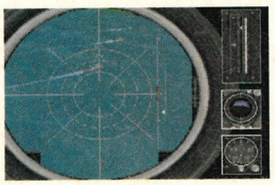
THE BEST OF THE LAST THREE MONTHS



Colonization
MicroProse, £44.99
The follow-up to a Sid Meier all-time classic (Civilization), proves yet again that you don't need fancy graphics to make a great game. Starting from the 17th century, it's all about the discovery and colonisation of the New World.



Theme Park
Electronic Arts, £44.99
Theme Park puts you in charge of your own fun fair. Cute and superbly addictive, it covers just about everything from building rides, to settling pay disputes, wheeling and dealing, and ejecting vandals.



1942: Pacific Air War
MicroProse, £44.99
Arguably the most comprehensive World War Two flight sim around, Pacific Air War features Gouraud-shaded aircraft, a virtual cockpit and a campaign option that allows you to control the movement of your aircraft carriers.

REVIEWED THIS ISSUE

DISK-BASED GAMES

Transport Tycoon	MicroProse	9
Breakthru!	MicroProse	8
Lode Runner	Sierra	8
Lords of the Realm	Impressions	8
The Clue	Kompart	7
Quarantine	Gametek	7
Alien Legacy	Sierra	6
On the Ball League	Daze	4
IndyCar Paint Kit	Virgin	4

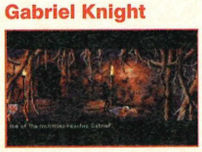
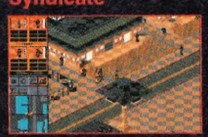
ON CD-ROM

Magic Carpet	Bullfrog/EA	9
Alone in the Dark 2	Infogrames	8
BloodNet	MicroProse	8
Cyclemania	Accolade	7
Dark Sun 2	SSI/Mindscape	7
Star Crusader	Gametek	7
Soccer Kid	Krisalis	6
Space Simulator	Microsoft	5

Live fast, die young

Five great ways to die in a PC game

Can you remember the first time you died in a PC game? Or has it happened to you too many times? Here is the PC Review team's five most spectacular and unpleasant ways to die on the PC.

	When it happens...	Shock value and gore rating	What went wrong?
Mortal Kombat 2 	Funnily enough, it happens when you're fighting someone ... (in this case, it's kid's favourite, Sub-Zero.	Totally tasteless. Your opponent rips your head right off and pulls your spinal cord out. Who thinks these moves up? Why aren't they spending the rest of their days in a rubber room, wearing a padded jacket, and talking to the furniture?	Stop playing by Queensbury rules. He does unto you what you were about to do unto him. Only he does it first.
Doom 2 (networked) 	There you are running merrily down a corridor, shotgun at the ready. You turn a corner and — blam! — the screen goes red.	You get a second's warning just before the rocket hits. Usually this results in a panicked attempt at a handbrake turn, before the inevitable splattering. Top class gore, with bits of body all over the place — but that sums up the game.	Next time, look where you're going. Some clever so-and-so heard you make that jump earlier on and timed a long range shot with a rocket launcher.
Prince of Persia 2 	Run, jump, jump and dangle, that's the way it is in Persia 2. Jumping across a chasm at full tilt, you hit the brakes when you land on the far side, but too late...	Chomp! The first time out is truly unpleasant. One second everything's going swimmingly, the next these jagged gates slice you into two very separate and bloody pieces. Misses a trick by not having the legs twitch a bit afterwards, though.	This is a game full of traps, so go carefully. You don't see Indiana Jones doing a blindfold triple jump in the Temple of Doom, do you?
Gabriel Knight 	Investigating the Serpent Mound, you find a stick and a handy hole to poke it into. As soon as you do this, a herd of mummies come to life . . .	Very nasty. If a mummy catches you, it pins you to the floor, rips your T-shirt open and then tears out your heart with its bare hands. Big splurting noises and lots of blood.	If you must go round sticking sticks into handy holes, what do you expect? Be ready to run away next time.
Syndicate 	Any of the later missions. You emerge from cover to find squads of enemy agents coming at you from three different directions firing guns. Life expectancy? Three seconds.	Not a lot of gore from an otherwise extremely violent game (people running around in flames, that sort of thing), but scores highly on the shock and helplessness factor.	Next time, buy a bigger gun before you go out. Presumably this is your come-uppance for not taking out enough civilians on the way to the 'hit'.

Next month, we're after the truly great Bad Guys in PC games. So if you think you've come across the most underhand, sneaky and downright evil piece of pixeleted nastiness, drop us a line marking your envelope Bad Guys and tell us why. Good taste is not compulsory.

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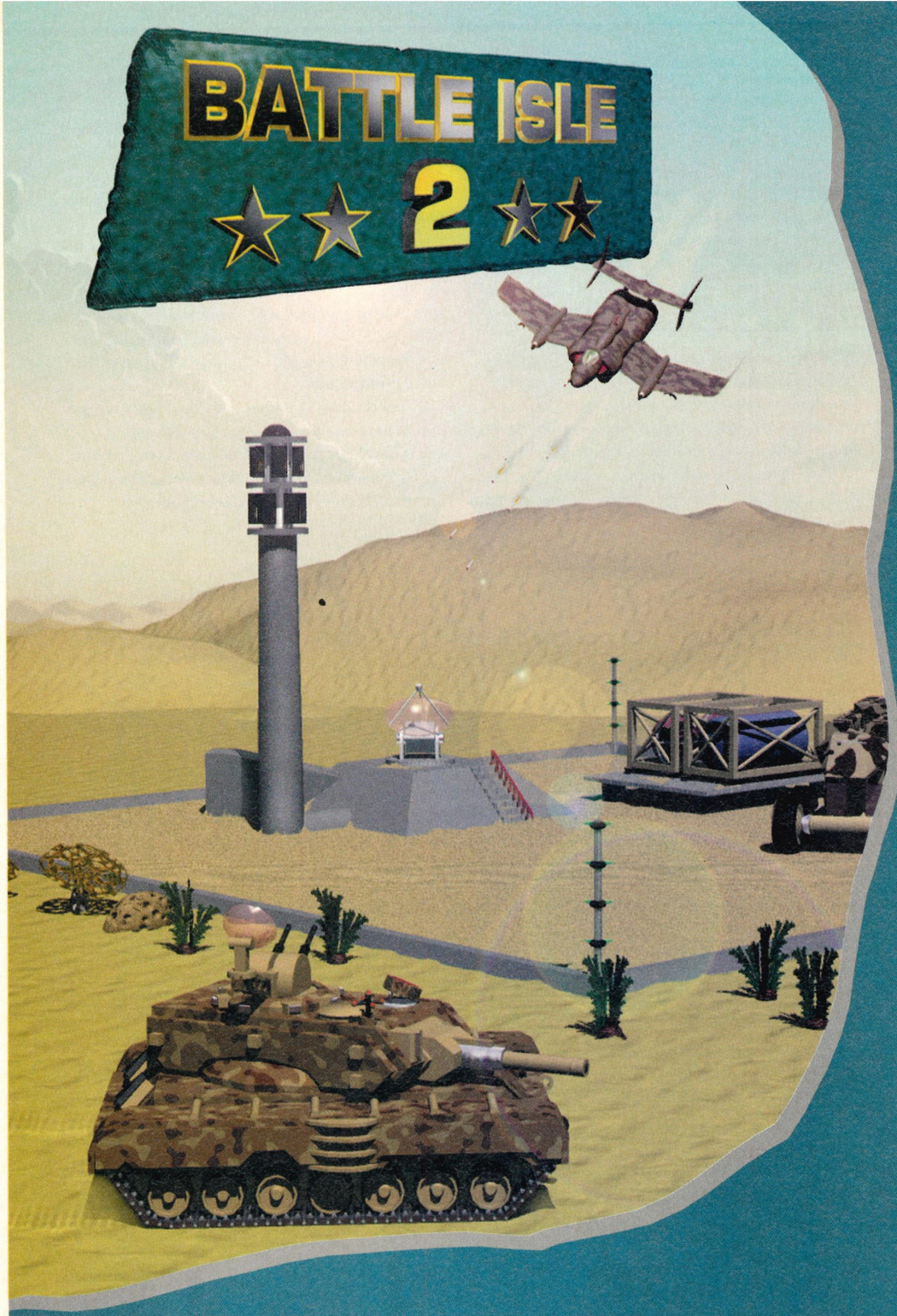
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Scenery CD "Titan´s Legacy"

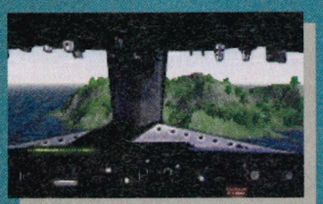
After the destruction of TITAN-NET and decades of ferocious wars, the people and army of the Drullian Federation have become weary. Yet peace still eludes them.

Former allies of the Robot Empire representing many areas of its races are continuing to resist. Engulfed in political chaos, the Empire is threatening to collapse into martial law and civil war.

To counter the still influential cadres from the former era, STAG has been established. This pressure group of the now decentralised ROOM media organisations, has evolved into a powerful tool for the opponents of Val Harris, the Great Strategist. He can only watch helplessly as his powers are stripped from him. When he is kidnapped, following uproar in Parliament and riots in the streets, the Drullian Federation faces the most profound internal crisis it has ever encountered.

"Titan´s Legacy" is a highly detailed Scenery CD ROM for the famous Battle Isle 2.

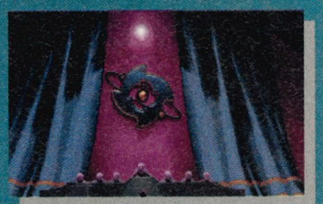
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- **Faster computer opponent**
- **Full integration of Scenery CD with Battle Isle 2 environment**
- **10 new multiplayer maps**
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- **50 new intermediate sequences**
- **6 extra new units**
- **Enhanced music and sound effects**
- **Scenery CD needs only 550 K main memory**
- **Enhances existing Battle Isle 2 main program**



Spectacular aerial views of the Battle Isle World



A new dawn for Chromos?



The Great Strategist is accused of high treason



Mysterious events throughout the game

UPGRADE-OFFER

Those of you who have the disk version of the Battle Isle 2 can get a CD upgrade by simply sending us your disks (without the packaging and manual), together with the attached card and a cheque or postal order for £10, preferably by recorded delivery. This fee includes postage, packaging and administration.

Blue Byte Software Ltd.
Fulling Mill Barn
Fulling Mill Lane
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In The City

PCs aren't just getting closer to movies; the music industry has suddenly realised the potential of CD-ROM. Herbert Wright reports from Interactive City, an experimental music convention where all manner of musical titles were showcased on CD-ROM.

Interactivity was the buzzword at the third annual In The City business convention in Manchester. It hit the 2,000 delegates from around the world as soon as they walked into the hotel foyer — a bank of multimedia touchscreen guides to the city and gigs stood adjacent to the open-access computer message board and had quite a few music executives struggling to get to grips with a mouse. More importantly, for the first time, a sort of sub-convention called Interactive City had been integrated into the main event, attracting prestige multimedia participants including ESP, Ocean Software, Creative Labs and legendary Residents developer Rebus from New York. In The City's organiser Tony Wilson, president of record label Factory2 (and responsible for the Madchester scene centered around the Happy Mondays and the Hacienda club in the late 80s), admitted, "Interactive City is a very experimental first go".

A great success

Wilson's experiment was clearly a success. As well as Interactive City's program of exhibitions, presentations and panel discussions, it provided a focus for urgent questions facing the music industry, such as what are CD-ROM and the Internet, and how will they affect the revenue streams? This is where a second buzzword, shmoozing, comes in. Shmoozing could be defined as interactivity between people, often in a bar, who think there may be some business in common but don't really understand the other's business. At the In The City convention, the music business, worth a steady $30 billion a year, was shmoozing with the interactive entertainment business, worth $7 billion a year and growing. It is likely that the results of this shmoozing will affect not just the CD-ROM market and the Net, but the entire music business as well.

Face the music

While the infotainment and games publishers have been building up the consumer CD-ROM market, the music business has stood at the sidelines, caught up with the intractable problems of rights and royalties issues in the new electronic media, confused about the plethora of platforms from MPC and Mac to CD-i and 3DO, and lacking a clear vision as to what interactive music is anyway. That situation is changing rapidly — multinationals like BMG and Sony have started channelling big resources into new interactive divisions, and already interactive CD-ROMs from big names like David Bowie, Peter Gabriel, S and even the Beatles (in A Hard Day's Night) are on the shelves of HMV, Virgin and Tower Records.

In the keynote speech to the conference, Gary Gersh, president of Capitol Records, talked about the "massive revolution that will rewrite the ways we receive entertainment". Gersh pointed out that 51% of US music consumers own computers and that there are now 348 corporate alliances in the US in multimedia.

While the music business continues with perennial debates such as European vs American acts and indie vs. major record labels, he ventured that "in five years, maybe we will be talking about the record industry vs Microsoft controversy".



The, er, legendary, Alien Sex Fiend (they created the music to Inferno) at Ocean's Interactive City stand.



Interactivity: the way forward

One of the most respected companies working to bring music and multimedia together has been Electronic Sound and Pictures, itself the subject of corporate 'alliance' in that it was bought by Blockbuster-owned Virgin Interactive Entertainment a week before In The City. Senior vice president and multimedia guru Graham Brown-Martin gave the other keynote speech, opening Interactive City, about the impact of interactivity on the music business. He pointed out that we live in a "media saturated culture of 30 TV channels, magazines, videos etc," that is also a "convergent culture", where not just televisions, computers, CDs and optical fibres are converging, but music and dance as well. "The E Generation or the X generation have grown up in it... there's been 20 years of interactivity since Space Invaders. The audience wants interactivity... the music industry is not immune to the effects of the digital revolution". In any case, the cost of interactive album sleeve technology is about the same as a promo video, and artists from U2 to the Shamen and the Grid were cited as currently working in multimedia. Brown-Martin went on to predict that by the year 2000 all albums will have an interactive interface.

Multimedia music

So what is music on CD-ROM? Mark Bushman, a partner in exhibitor Day At The Beach Productions, who developed and published Don't Play Track One, sums it up: "There's a lot of confusion about what an interactive (music) CD-ROM product should be — some people want it arty, some very computery, some want pop video on a disk." Indeed, music on CD-ROM already comes in several different forms — in computer games, rockumentaries, interactive albums and finally music that you can actually interact with.

Ocean's development partner DID recruited legendary goth band Alien Sex Fiend to collaborate in developing the current massive space opera on PC CD-ROM, Inferno. ASF furnished 17 pieces of music, as well as alien voices. The soundtrack, with remixes by Youth and Suddi Raval, is out in November as Inferno — The Soundtrack on Anagram records.

Alternatively, rockumentaries recycle (or in music business jargon 'repurpose') archive material such as video footage in the context of providing an infotainment tool about an artist or event. Time-Warner's Woodstock: Three Days of Peace and Music is an example of this.

And there's plenty of rockumentaries in the pipeline, including ones on Lennon from Compton's New Media, Bob Dylan from developer Grafix Zone, and the Sex Pistols from Castle Multimedia. Because content is usually the largest cost in a project, owners of back catalogue material are in a powerful position. However, with In The City's emphasis on new music, there was little evidence of the flood of rockumentaries about to engulf the market, especially the MPEG video CDs that keep interactivity to a minimum and are more like improvements on video cassettes.



The Shamen Interactive CD-ROM is due out in early 1995, and will contain tracks from the album Boss Drum as well as the videos from Boss Vid.

> "The interactive album is perhaps the clearest example of where music and multimedia meet."

David Bowie's Jump is being released by BMG Interactive before Christmas this year. Thus, the giant music distributor BMG already has its fingers in the interactive pie.



Making the concept a reality

The interactive album is perhaps the clearest example of where music and multimedia meet. By laying down ROM data as one track on an audio CD, an album can offer not just audio, but also on-screen sleeve artwork, lyrics *and* video material. It's a brilliant idea — instead of pressing CDs separately for the music and interactive markets, only one CD is pressed for both. Indeed, it's a concept which is already a reality. Day At The Beaches' interactive compilation of 11 new acts runs across musical genres and Factory2 is working with the Boot Room on an interactive album from cult band Durutti Column.

Perhaps the most exciting and certainly the most provocative interactive CD-ROM glimpsed at In The City however was ESP's much-awaited Nine Inch Nails project Hacked, due for release early next year. It ties in with the two mini-albums Broken and Fixed, and should have six video tracks. There are few things darker than Nine Inch Nails' atonal industrial grunge, and the CD-ROM had to reflect that. Brown-Martin explains, "With Nine Inch Nails we wanted to break all the rules. We wanted to create extreme frustrations with the consumer, interactive masochism, so we decided to design an interface that was user hostile — like having a dialogue with a maniac. (It's) unintuitive, unpredictable, different every time". To access a video, you have to perform certain things, but by doing so, there's no guarantee that you'll see it.



Left: Nine Inch Nails Hacked is designed to be "user hostile." We should point out that with some reservations, PC Review has doctored this image so it no longer contains a word we would hesitate to print.

A freakish sight

Rather different is another ESP title due in early 1995, The Shamen Interactive, on PC CD-ROM. This contains tracks from the album Boss Drum and all the videos from Boss Vid, as well as various 12 inches and remixes.

ESP have also worked on Virgin Sound and Visions's One Tribe, which includes Pip Dawn from MTV and takes you into the lives of real people around the globe, and One World , a go anywhere World Atlas "designed in a stylish way by creative people for humans". One World is full of world music, but no Morris dancing.

Titles

- **Residents Freak Show Windows**
  Out now, price £39.99 inc VAT
- **This is Spinal Tap**
  Full feature film, dual format in Quicktime 2.0
  Out now, price £31.29 inc VAT
  From Voyager
  Contact: Kimtec 0202 888873

- **Nine Inch Nails' Hacked**
  Due early '95
- **Downward Spiral**
  Due Christmas '95
- **The Shamen Interactive**
  Due early '95
- **Geffen's Vid Grid**
  Due early '95
  From ESP
  Contact: 0223 301144 — from November 081 960 2250

- **One Tribe**
  Due out this month
- **One World**
  Due out this month
  From Virgin Sound & Vision

- **Gingerbread Man**
  Due out now
  From ION/BMG Interactive
  Contact: 071 973 0011

- **Durutti Column**
  From The Boot Room/Factory2
  Contact: 061 225 7945

Organiser Tony Wilson pulled off a particular coup for Interactive City when he flew in Rich Shupe of Rebus Communications from New York City. Shupe worked with Jim Ludke and the mysterious Residents on developing Voyager's The Residents Freak Show. In the Mac market, the eerie, bizarre rendered world of the Freak Show is acknowledged as perhaps the best work done to date on CD-ROM, and it should finally have arrived on Windows this Halloween.

Freak Show is based on both the Residents' 1990 album where each song is about a different fairground freak, and a graphic novel in which different artists interpreted songs. The interface for the CD-ROM had to be compelling, and they decided on a 3D rendered virtual circus tent. They also decided that the interactive element would be entirely explorative, rather than goal-orientated like a game. "Voyager was a bit perplexed at the 100% voyeuristic concept without a goal". Amazingly, Freak Show was created on an initial budget of $30K — "it's all we had for 18 months compared to a $500K average budget" more often quoted for CD-ROM projects.

> "It's up to the music business to get into interactivity – before Nintendo signs the next Elvis."

According to Shupe, Windows is just not a viable development platform, and "MPEG boards will be rendered useless by things like QuickTime 2.0". With Freak Show running in 24-bit colour, with about 20 videos and 4000 events in the product, and 653 Mb of data shoehorned into the CD, Shupe can talk with some authority.

There are two new Residents projects: Gingerbread Man, an interactive album where the Gingerbread Man takes you off exploring the nether regions of people's psyche and Bad Day on the Midway which, it is hoped, may use object-orientated rendering courtesy of Inscape of Vancouver.

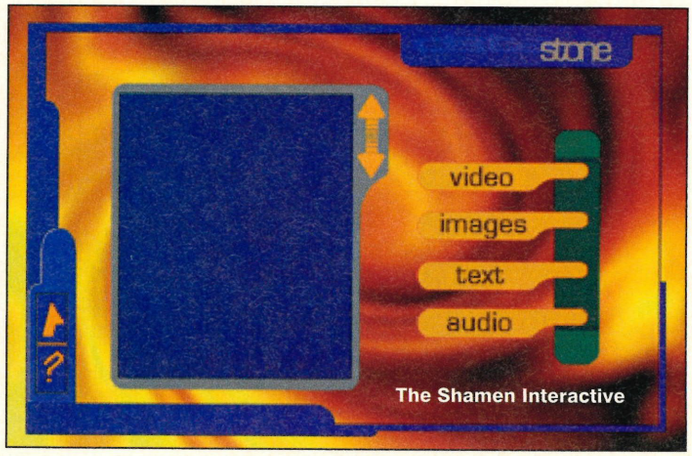
While CD-ROM looks as if it may turn into another cash cow for the majors, like CD-audio, the Internet is something completely different. Capitol president Gersh talked about music entering "an interactive optical fibre stew". With virtually no control over an exploding worldwide network of 30 million users, and songs and videos theoretically downloadable from the net into computers, it looks like becoming a bottomless vortex into which royalties will spin. On the other hand, downloading music with a revenue collection system in place would cut out the retailer completely, saving billions in distribution and trade margins. Brown-Martin ventured, "The days of the of the record dealer are numbered. BT is probably the biggest threat to the music industry, not games", although he admitted that, for the present at least, people "all want to own something". Geffen has already put an Aerosmith song on CompuServe, and Zutaut sees the Internet like a radio station.

Optical fibres bring the promise of massive data delivery rates, and Nynex, the New York telecommunications company, was demonstrating its self-explanatory named Multi-Point Video and Image Conferencing system at Interactive City. Nynex's fibre optic main around Manchester has just been completed, perhaps the first real Infobahn infrastructure in the world. It would be ironic if Manchester, the birthplace of the computer in 1948 and the source of groups such as The Smiths and Oasis, were to be the first city to eliminate physical goods from the musical experience.

Generally, the digital future for music was optimistic. When asked what to expect to see in the year 2000, various members of a panel group gave their thoughts. Richard Norris of the Grid, recently in the charts and who admitted, "I make techno music for people on drugs" cited interactive gigs, while Geffen's Zutaut, who had earlier said, "it's up to the music business to get into interactivity, otherwise Nintendo will sign up the next Elvis Presley", now awaits "an artist or group setting the world on fire (in a way) which no-one can envision now". Abandoning PC thoughts of both sorts, Omnimedia's executive director Allen MacAskill hoped for a "complete body suit so I can interact with Kylie Minogue".

After In The City, MacAskill would still not be drawn on the expensive top-secret multimedia rock projects that Omnimedia is engaged in, but he did offer this verdict on the conference: "I was excited that the conference finally agreed that the true nature of interactivity will involve the artist's participation."

More important than massive media industries shmoozing and electronic-optical technology making science fiction come true, music is about the artists, and their medium is at least part of the message. The Beatles created the concept album out of 33rpm vinyl — we should only have to wait a short while now to see someone make the creative leap out of interactive media.



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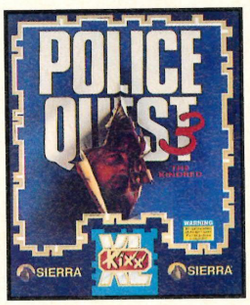


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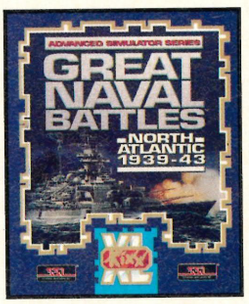
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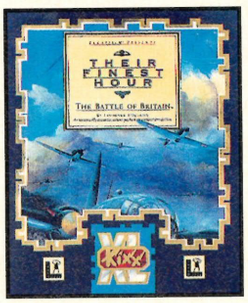
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Reviewed this month

PRODUCT reviews



It may not be on the scale of a house or a new car, but the home PC makes a sizeable dent in any wallet. However, the sheer enjoyment and convenience of the PC is enough to justify the initial outlay, and the extra hardware and software you suddenly find you just *have* to have. That's fine. Nobody minds spending money on something worthwhile. On the other hand, if you make the wrong decision you could end up throwing good money away on something you don't want. And with the sheer number of PC products arriving daily, usually to a fanfare of technical gibberish, it's all too easy to make a mistake.

That's how this section is going to help you — summarising the effectiveness of new PC products, by looking at the latest hardware and software, in a direct and straightforward way, and presenting you with the facts. PC Review Product Reviews will point you in the direction of that essential gadget, and warn you off the unsuitable and ill-conceived.

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The rating system explained

To make life even simpler, we've standardised the PC Review ratings system across the magazine. Whether it's games or general interest products, everything's scored out of the magic ten:

0: How anyone could produce something this bad is beyond us.
1-3: Poorly done, irrelevant and generally lacking in any redeeming features.
4-5: Averagely useful, but lacks anything special.
6-7: Does the job it's supposed to well, has interesting/powerful features.
8-9: Good bordering on exceptional. Must be on any shortlist.
10: Unique and impossible to live without.

Explorer

Multimedia upgrade kit

Aztech is offering this multimedia baptism package at a starting price of £269 — or if you are willing to part with £50 extra you can get the deluxe kit and a few more CDs to mess around with when you first set-up, including that excellent piece of gaming, Outpost, by Sierra.

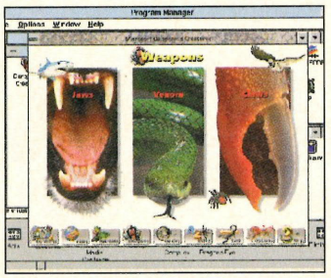
Inside the box the first thing you'll discover is an elementary 16-bit wave table sound card (passable in emulation and in MIDI playback, but don't expect it to be quite as lush as its stand-alone £200 cousins) and full accessories. That means amplified four watt speakers, which reproduce sounds well enough at low volume to stop you needing to upgrade the upgrade straight away, a surprisingly efficient microphone, and cabling set-up.

Interestingly, though, you plug the speakers, microphone, and any joystick you might have, directly into the back of the external CD-ROM drive, using the board as an interface card only. This saves space and hassle inside your PC, but makes the drive bigger on your desktop. What I can guarantee, though, is that together with the good installation software given here, you're getting a system that's easy to get up and running. There's practically no messing with the cables at all.

And that leaves the drive itself, which is really quite nice to use. The tray and loading mechanism are excellent, all sockets clearly marked and easily accessible, and performance is plenty fast for a double speed drive.

If you've decided you can live no longer without a CD-ROM drive, this won't break the bank.

Martin Klimes



EXPLORER

- For your money you're getting a double-speed external CD-ROM drive, 16-bit sound card, speakers, microphone, cabling and software

Supplier: Aztech
Contact: (0734) 814121
Price: £269.00

PC REVIEW 7

Epson Stylus Colour



Colour inkjet printer

If you're serious about colour printing, look no further than the Epson Stylus Color. It's a 720dpi inkjet printer which produces some of the strongest colours and crispest printer output that you're ever likely to see at a street price of just over £400.

The printer can work quite happily with ordinary photocopier paper, but for best results you need specially coated paper from Epson. This can be expensive (£22 for 200 sheets), but you only really need to use it on special occasions.

The print quality is the result of work carried out in conjunction with Epson's parent company — the watch manufacturer Seiko. This and the clever Windows driver makes achieving the best results a breeze. Software innovations help to improve the quality by reducing banding and diffusing any errors.

The printer head features four sets of nozzles — one black and three colour — fed by two replaceable ink cartridges. The ink is fast drying so it doesn't smudge, and while the cartridges should last for ages, they are rather expensive costing £16 to replace a black cartridge and around £35 to replace a colour cartridge.

As you can imagine, it's quite a large machine, although it's also well designed and easy to set up and use. The front auto sheet feeder can hold 100 A4 sheets, 10 envelopes or 50 transparencies.

If you've been thinking about buying a colour printer, but were waiting for a top quality machine at an affordable price, then this is probably the printer that should push you over the edge. You won't go far wrong — indeed you'll wonder how you managed without it.

David Bradwell

EPSON STYLUS COLOUR

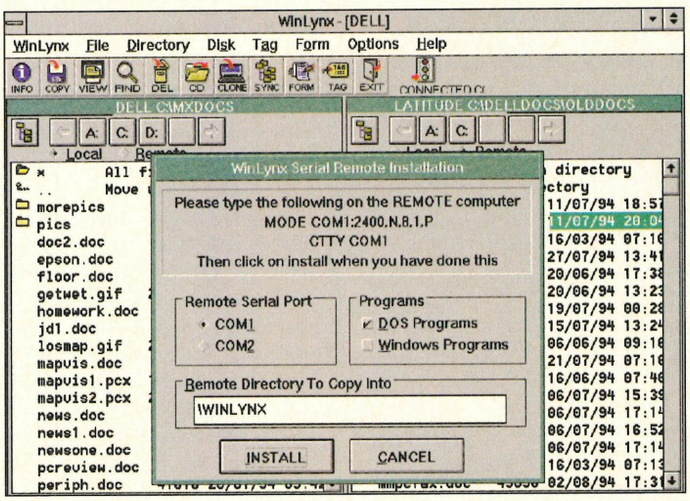
- A large printer, but well designed and easy to set up with excellent colour quality and a built-in 100 sheet paper feeder.

Supplier: Epson
Contact: (0800) 289622

PC REVIEW 8

WinLynx

File transfer hardware/software



If you've got two computers (and who hasn't eh?) you may well want a painless way to transfer files between them.

Floppy disks are okay if it's just the odd document here and there, but they soon become a bit of a pain. So if you need to do large scale backups or move files bigger than a floppy can handle, then you need to invest in specialist equipment.

WinLynx is cheaper than creating a proper network and in many ways more convenient. You don't need Windows for Workgroups, and in fact, you can even use computers just running under DOS.

Drop-down menus and a row of icons make file management easy. You can use your mouse to drag and drop files between various hard disks, and even between Windows and DOS-based computers.

The software comes packaged with all the cables needed to connect your computers via serial or parallel (printer) ports. Data transfer is quicker via parallel ports, achieving speeds of up to 8Mb per minute.

Once installed on both machines, the program also offers a range of more advanced features. The Update command can be used to keep files in a drive or directory up to date, transferring only the most recent versions. The WX Sync feature is similar to this, but it's bi-directional — thus allowing you to synchronise two drives or directories. By doing this you can ensure both PCs have identical files, keeping each up to date with the latest versions.

If you find that you regularly transfer a large group of files, you can store the necessary commands as an automated procedure, known as a form. Once the form is created you can repeat the entire procedure with a single command.

Finally there is a cloning command. So if you buy a new computer and want to install WinLynx on it, using this command will transfer the WinLynx system to the new machine over a serial cable.

WinLynx also comes bundled with RUPPnet, a devilishly useful companion program which connects computers so they can share disk drives, printers, and other resources. If you want to use the CD-ROM drive on your multimedia Pentium with your crusty old 386, this is the thing for you. WinLynx is the sort of program that you soon start taking for granted. It's easy to use, fast, flexible, and efficient. Definitely one to add to your wish list.

David Bradwell

WIN LYNX

- Recommended hardware: DOS 3.1 or later/Windows 3.0 or later, 512Kb RAM, 100 per cent compatible parallel or serial port.

Supplier: Guildsoft
Contact: (0752) 895100
Price: £117.44 inc VAT

PC REVIEW 8

DANGEROUS CREATURES

Reference guide to world wildlife



CD-ROM reference programs are fast sorting themselves out into a premiership and a set of Endsleigh also-rans. In the Premier League we have Microsoft and Dorling Kindersley, whose products ooze polish, class and sophisticated presentation, and whose developers seem to understand far better how different media can be combined to make subjects more interesting, more attractive and more comprehensible. So it's perhaps not too surprising that these two are battling it out for top spot, since DK itself produced Microsoft's early Dinosaurs and Musical Instruments.

And so Dangerous Creatures is everything you might expect from the mighty corporation that is Microsoft. It gives you an overview into the habitat, life cycle and characteristics of hundreds of 'dangerous' creatures. There are a number of ways to approach the subject: you can use the atlas screen to access creatures according to where they live; the terrain screen to find all the animals which live in a particular type of habitat; the weapons screen to find creatures whose danger lies in their claws, venom or teeth; and of course the good old A-Z index.

For each creature, there's a wealth of information, with videos, sound effects, and beautifully clear photographs. There's speech back-up to the on-screen text and everything is neatly cross-referenced for clarity.

The only thing that's not clear is the objective of the program. Why dangerous creatures rather than, say, endangered species? It actually says "the endangered world of wildlife" on the box, but there's nothing very rare about the brown rat, which makes an appearance on nearly every screen. It's far too interesting to browse through to be purely an educational tool, and in addition I don't really see this as only being useful for you to find out which animals to avoid when you're away on holiday. This is more like a lavish David Attenborough TV series — on CD-ROM.

Christina Erskine

DANGEROUS CREATURES

- Requires a minimum 386 PC, with 4Mb of RAM, CD-ROM drive, sound card and VGA graphics. Runs with Windows 3.1 only.

Supplier: Microsoft
Contact: (0734) 270001
Price: £49.99

PC REVIEW RATING 8

CD REVIEWS

Ancient Lands

Reference guide to ancient civilisations

Another in the Microsoft Exploration Series, Ancient Lands has a different feel to Dangerous Creatures. I was a bit disappointed to find that the program covers only Ancient Greece, Rome and Egypt — having had a bellyful of these at school, I was hoping to find out more about, say, the Incas, the Chinese dynasties, or native Americans. But they aren't here, except in very limited cross-reference screens.

The information contained covers lifestyles of the people, religious beliefs and practices (and compares this to modern day Greece, Rome and Egypt), and ancient monuments, expansion of the empires, politics, geography and economics.

As ever, everything is presented clearly and cross-referenced, so that there are lots of different browsing routes.

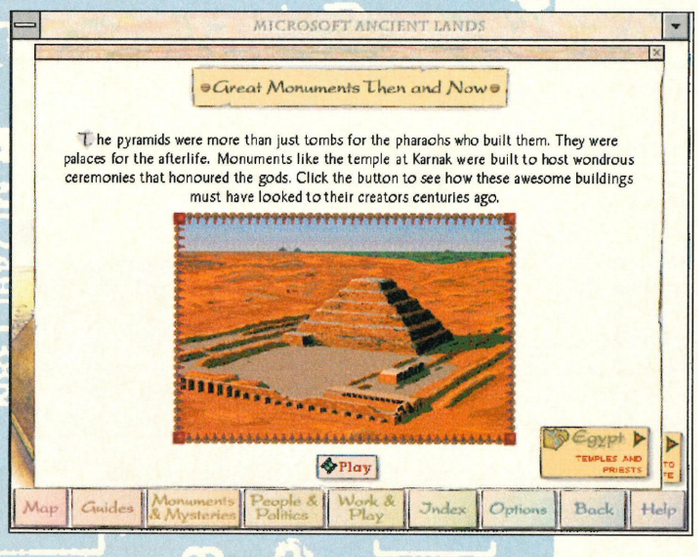
But the nature of the subject matter means that there is less in the way of multiple media sources — even I can forgive Microsoft for not getting a photograph of the Hanging Gardens of Babylon, or a video of a troop of Roman soldiers going head long into battle.

The layout and presentation (slightly cartoony drawings) looks as though the package is aimed at a younger audience than, say, something like Dangerous Creatures, while the use of more on-screen text and description gives it more overtly educational tone.

On the whole, I wouldn't say it goes into any great detail on any of the topics, but would probably act more effectively as an introduction or initial reference point which could lead to further research.

Still, Ancient lands is better than dry and dusty textbooks, even if the information on each topic does seem sometimes superficial in comparison.

Christina Erskine

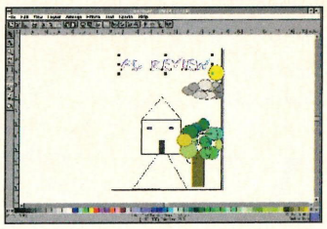


ANCIENT LANDS

- Requires a minimum 386 PC, with 4Mb of RAM, CD-ROM drive, sound card and VGA graphics. Runs with Windows 3.1 only.

Supplier: Microsoft
Contact: (0734) 270001
Price: £49.99

PC REVIEW RATING 6



CorelDraw 5

Drawing/DTP Package

If CorelDraw were an animal it would be a Crufts-winning rottweiler, more pedigree than a dozen tins of Chum. However, rather like the dog, your average punter isn't after spending a fortune for the perfect genes (£499 in Corel's case — ouch!).

The point here is that CorelDraw 5 is very much the cutting edge in its field. From design work to photo manipulation to DTP, it's been souped up from its previous incarnations to take on all upstart newcomers. The industry even has a new name for this — 'fatware'. Not that we, the home user, would notice most of the new bits and pieces if we didn't have them. And since I can get Corel 4 for a good sight less money, and Corel 3 at a complete steal, why part with so much dosh? Spending an extra £400 on whistles and bells that you'll hardly use seems a bit much to me. CorelDraw 5. Top breeders recommend it, but for you and me, let's stick to the elder generation. It'll still fetch sticks and bark when asked.

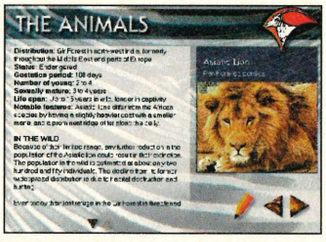
Martin Klimes

COREL DRAW 5

- You won't get far without a 386 PC installed with a minimum of 8Mb of RAM. A 486 is a very good idea. Corel works within Windows 3.1.

Supplier: Corel Corp.
Contact: (0800) 581028
Price: £499.99

PC REVIEW RATING 5



Behind the scenes at the Zoo

Interactive wildlife documentary

You'd think that it would be a bit of a bum job having to clear out all the animal enclosures at a zoo, but no. Just listen to the keepers at Marwell Zoo, and they sound like they're loving

every minute of it. That's what Behind the Scenes is all about — the glory-less tasks that go into making your day out with the animals a fun and educational time. However, despite majoring on dung and vet's visits, this plucky little multimedia number is actually pretty good fun and also quite educational in itself.

Through a lovely interface (congratulations, MDI. Very intuitive. Very nice.), you get to skip around the backstage area of a modern zoological park on a typical day, seeing who's up to what and when. It makes for compulsive viewing.

Spanning two CDs you find yourself sucked into the lives of these people as they describe the chores and the joys of working at such a place, all illustrated by a shed-load of gorgeous photos.

In fact, the more you play, the more At the Zoo becomes an interactive soap-opera with animals as extras. And the best part is that these guys and gals aren't actors or professors. So here you're getting the low-down of zoo life straight from the horse's mouth, so to speak.

It's definitely one that's going to be staying in my collection for a long while yet. I want to know how Vesta the zebra gets on with her injection.

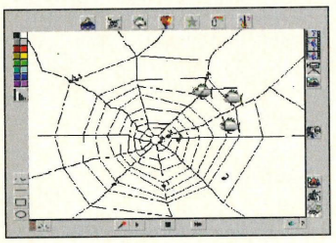
Martin Klimes

AT THE ZOO

- Zoo requires a 486 PC (386 is possible but VERY slow) with 4Mb of RAM, a 256 colour VGA screen, a sound card and CD-ROM drive.

Supplier: MDI
Contact: (0252) 737630
Price: £39.99

PC REVIEW RATING 8



Magic Theatre

Children's animation

What a great idea. Not exactly 100 per cent original, mind you. Microsoft got there (or somewhere nearby, at any rate) a few months back with Fine Artist. But it's a neat idea just the same.

Kids adore movies and TV and cartoons. So, why not let them make little mini-movies for their friends, then? At least thus goes the theory behind Magic Theatre. And a good theory it is, too.

The practical side of it isn't quite so easy, however. Ask any TV production editor or even a cutting room flunky, and you'll soon find out how tough even a few basic bits and pieces can be. Knowledge Adventure, the folks behind Magic Theatre, have tried hard to make the interface easy to use and the manual simple to understand, but there were always going to be some tough parts.

In all fairness, they've done all they can. Pretty icons, large enough to be detailed and self-explanatory, help a lot but there were always going to be animation concepts that needed explaining, and there's no easy way around that.

To put it into perspective, Magic Theatre isn't a poor or seriously confusing product, but don't expect to just hand it to your children and let them get on with it. Read the manual, sit by their side, and go through a few movies with them. They'll probably need a bit of personal tuition, which means you have to figure it out first. It could be the start of some great quality time with the kids, although so's an afternoon with the crayons and coloured paper.

Martin Klimes

MAGIC THEATRE

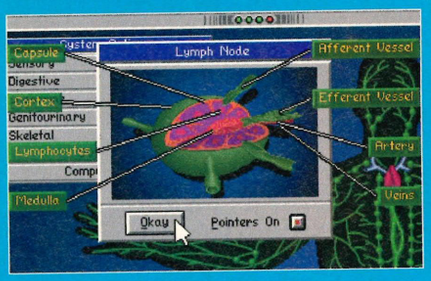
- A 386 PC blessed with a CD-ROM drive, 4Mb of RAM, 4Mb of hard disk space, an SVGA display, Windows 3.1 and a sound card is needed.

Supplier: Guildsoft
Contact: (0752) 895100
Price: £44.95

PC REVIEW RATING 6

Bodyworks Voyager

Childrens' anatomical encyclopaedia



Contrast the approach between Bodyworks 3 (also reviewed here) and Voyager. Both by the same bunch of people, they take the self-same subject and aim it at a completely different audience.

Voyager is the children's version of Bodyworks, the program that took you inside the human body to take a good look around. Now it has reappeared, suitably re-worked, to cater for the new audience.

Inside the shrink-wrap you'll come across a slim-line version of the database used in the full version, interestingly in an uglier somewhat ragged-at-the-edges interface, and superimposed over the top, is a game that makes you use the knowledge you gain in a test of shoot 'em up skill.

It's effectively a miniaturised sub injected into the human body plot, á la Microcosm, without anywhere near as flashy graphics, but similar gameplay. The aim is to spend the time with the medical database to get through the game, and hopefully learn while you're there.

Although it's a sneaky ploy, it's an idea that might have worked, had the game been of a similar quality to commercial stand alone games. Since it's not, interest flags too soon, and when the game is forgotten, the database goes into the storage cupboard with it. A couple of years later, when your children want questions answered for their science project or just out of natural curiosity, they'll turn to the 'adult' version instead. Time to shell out an extra £45.

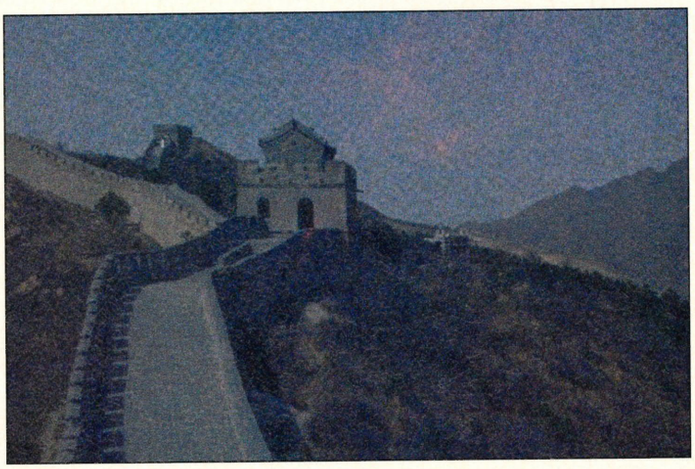
Martin Klimes

BODYWORKS VOYAGER

- To run Voyager you'll need a PC with a CD-ROM drive, 4Mb of RAM, a VGA display, sound card and either a mouse or joystick

Supplier: Guildsoft
Contact: (0752) 895 100
Price: £44.95

PC REVIEW RATING 5



GIF Gallery

Graphical image collection

There are three volumes of this CD, each covering roughly a third of the entire Capstone professional Photo CD collection. Not that you get 1,000 Photo CD images. No, there are only ten samples of that on-board. Instead, the rest of the images are rendered in GIF format — hence the name.

But GIFs are of good enough quality for most of our uses, and take up a lot less space. And there are 1,000 right here for a bargain £15.

Each collection has a distinctly world-traveller feel, with many categories based on countries or regions of the world, the indigenous people, the best views, and so on. There are more general images too, but the overall bias is definitely towards those pictures that would come from a travel photographer's portfolio.

The rationale behind GIF Gallery is that you look at the collection, decide which ones you like, and purchase the Photo CD of the originals. To be honest, though, for us mortals who aren't producing professional publications, there's simply no need to go to that second stage. Use GIF Gallery in its own right and be glad to get so many pictures that are so good for so little money.

Martin Klimes

GIF GALLERY

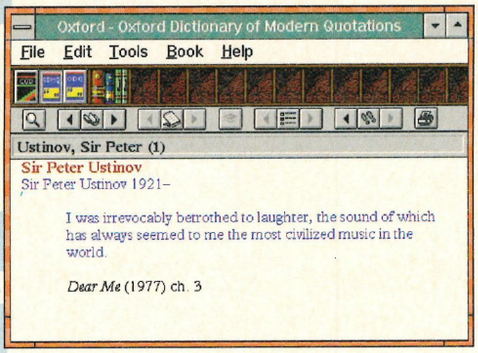
- If you have a CD-ROM drive and some software that can read GIF files then you're set!

Supplier: Unica
Contact: (061) 429 0241
Price: £15.00

PC REVIEW RATING 6

OXFORD DICTIONARIES

Multimedia dictionary



When you think of dictionaries, who do you think of first? The answer is probably the Oxford English Dictionary — frequently seen as the most definitive publication of its type.

This CD-ROM, however, only contains the concise version of the dictionary. In fact, concise is the word: the entire CD-ROM contains only 8Mb of data which seems a woeful waste of storage potential.

You can choose whether to run the dictionary from your hard disk or the CD-ROM drive. The hard disk is faster, but the CD-ROM option saves disk space. The problem however is that this does mean that you need to leave the CD in the drive when you are using it, and then it won't work with the other CDs in the series.

In use the dictionary is pretty much as you'd expect. You can link it into major Windows word processors or you can use it alone with the integral CompLex interface. This is a sort of reference bookshelf: every Oxford book you install on your hard disk appears on the screen and you just click the one you want to use.

There are 120,000 entries and 190,000 definitions — not a bad selection, but browsing through I noticed it's not quite up to date enough to mention the Internet yet.

The Oxford Thesaurus contains 270,000 synonyms and a wide range of dialectical, idiomatic, literary, and technical expressions. You can install it on the reference bookshelf alongside the dictionary or use it on its own. It works like a normal paper-based Thesaurus — except you don't have to turn the pages. Very handy.

Finally, the Oxford Dictionary of Quotations features over 20,000 sayings by famous people. Not all of them are witty, but if you know the subject or person you're looking for, it's easy to come up with something relevant. You lose the browsability of the paper version but gain in the speed of search, which can be by author, title, key word, or even wild card.

Overall, the three CD-ROMs make a powerful and authoritative reference package. But if it's an all-in-one reference work you're after, you'd do far better to look at the Oxford Compendium CD-ROM. This features all of the above on one CD, yet costs just £79.99.

David Bradwell

OXFORD UNIVERSITY PRESS

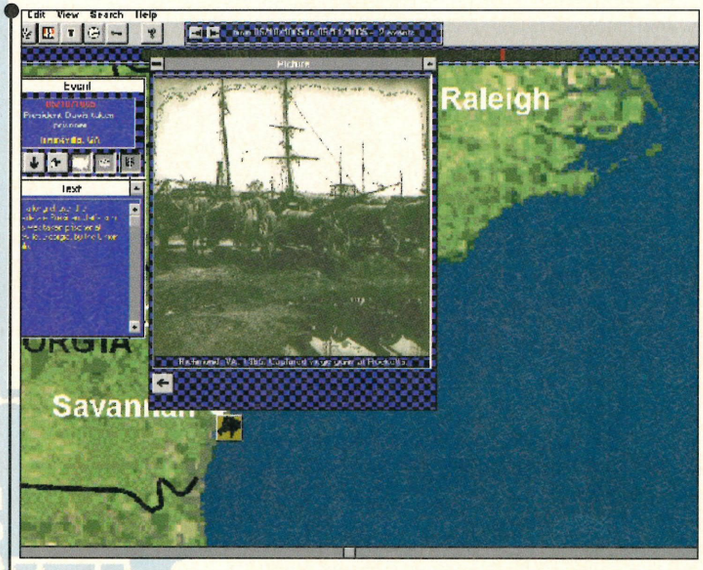
- Requires a minimum 386PC (a 486 would be a definite advantage), Windows 3.1, and a CD-ROM drive, of course.

Supplier: OUP
Contact: (0865) 56767
Price: £49.99

PC REVIEW RATING 7

America's Civil War

War reference



There can't be a more heart-wrenching, personal tragedy conflict than the American Civil War. Sure, the first World War was appalling, with millions killed in days. The Second World War saw some truly chilling scenes with innocent civilians caught up in terrible atrocities.

The Civil War, however, had all of that and a tragic brother fighting brother aspect that made it all a hundred times worse. It's easy for us here in England, who don't get taught American history in school usually, to stand back and say, "What do we care. That was their war," but take a look at this piece of software and you could see things in a whole new way.

There's something about America's Civil War as a program that immediately appeals. The depth and intricacies of the database come later, when you've spent some time on it. The flexibility of the interface is a nice bonus, but hardly more than you would expect from a multimedia title. No, what stood out immediately were the photos. That's right, the photos.

There's something about the 1860s, when photography was still young, that meant that early photographs carried a lot of the character of the age with them. They're a chronicle in themselves. In wartime, the emotion seeps through effortlessly too. Truly bewitching.

And each event comes with a little collection of digitised photos to bring the situation home. All the text and maps help put the battles and people into context, but the whole thing comes to life at the hands of these arresting images.

Carefully thought out and collated in an inspired manner, the information in America's Civil War is superb. It's a gem of a program.

Martin Klimes

AMERICAN CIVIL WAR

- For ACW you have to have a 386 SX, 4Mb of RAM, a CD-ROM drive, 256 colour VGA display, and a mouse. A sound card is recommended.

Supplier: Guildsoft
Contact: (0752) 895100
Price: £44.95

PC REVIEW RATING 9



WARplanes

Military aircraft encyclopaedia

Very pretty, very boring. There you are, I've said it. Over 500 state of the art warplanes from Vietnam to the present day, all illustrated, all broken down into their essential statistics.

The same goes for hundreds of weapons and components. WARplanes gives you the low-down on everything military that flies.

So you want a warplane reference, then what's wrong with Warplanes? It *looks* spectacular, and the sound is excellent too. It's easy to find your way around. There's more data here than you ever hoped possible. So what's wrong with it?

There are no people in it. Hardly a peep about the human side of it at all. I don't mean any of this 'remember that every time a weapon is fired lives are lost' clap-trap. It's worse than that. The stats are well and good, but how about giving us an idea of what it feels like to be in the cockpit of a MiG 29? Perhaps a few adjectives would be nice on top of the endless statistics and facts. Perhaps even an interview with the pilots of these aircraft every now and again.

The only concession to 'feel' is in putting three mini simulators of different planes on board, which really don't come up to scratch with fight sims like Tornado or even Falcon 3.

These sections do tell you a bit about the history behind the development for a lot of the stuff contained in the database, but you still don't find out about the designers themselves, or the test pilots, or anything really *interesting*.

The Warplanes series is going to be in six parts, going slowly back through history, and updating the software engine as it goes. I say that the interface and database are fine. Concentrate on putting a bit of life into the product though, guys. This is just a bit too sterile.

Martin Klimes

WARPLANES

- Only a 386 SX with 4Mb of RAM, SVGA graphics, a sound card, CD-ROM drive, and Windows 3.1 or better will run Warplanes.

Supplier: Maris
Contact: 071 488 1566
Price: £52.95

PC REVIEW RATING 5

THREE SOUND REASONS TO UPGRADE YOUR PC



ULTIMATE UPGRADEABILITY

Designed as an upgrade for existing Sound Blaster owners this kit features a Creative double speed, multi-session CD-ROM drive and the new Groliers Multimedia Encyclopedia on CD for a great value CD-ROM solution.



POWERFUL PLAYABILITY

This multimedia kit is designed specifically for the serious games player and it features the hottest and most up-to-date CD based games available today such as Theme Park, Sim City 2000, Rebel Assault, Syndicate and Strike Commander.

It also includes a high performance joystick, speakers and all the quality multimedia hardware required to take your PC to a new dimension in games playing.



COMPLETE CREATIVITY

This is a complete multimedia upgrade kit that has everything you need to transform your home PC into a fully functional multimedia PC.

It features a Sound Blaster 16, CD-ROM drive, speakers and microphone.

The bundled CD-ROM titles include educational software and games that make it a perfect solution for multimedia beginners of all age groups.

All of Creative's multimedia products are guaranteed and fully supported by a free Technical Support Team. If you would like to know more about any of our Sound Blaster sound cards, Multimedia upgrade kits or Video Blaster cards, please visit your local dealer, computer superstore or high street electronics outlet.

Or call our pre-sales and Tech Support Team on **0734 344744** for more information.

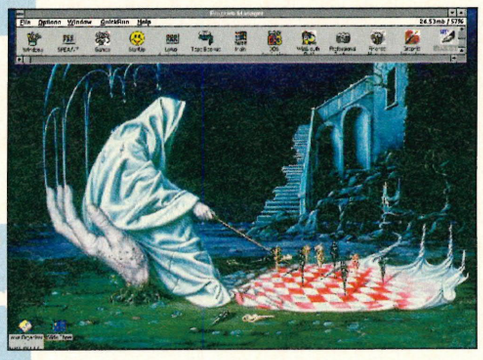
MICROSOFT WINDOWS

CREATIVE

CREATIVE LABS

SECOND NATURE

Screen savers



These days, screen savers tend to be a indication of how inventive and interesting a Windows user you are, to anyone passing your monitor. They're akin to having a personal stamp on an environment that's yawningly similar on most people's machines.

So if your screen saver doesn't save your screen, then it might as well save the environment, right? No, not the Windows environment. I mean the Environment with a capital 'E'. That's right, the proceeds from the Second Nature screen saver go towards helping avoid eco-disaster.

And if the warm glow you get from knowing that isn't enough to make you rush out and get it immediately, then the quality of the product should. You can get collections of 22 or 50 still images, beautifully rendered and in a huge range of categories from the terribly twee cats combo to the macho testosterone-laden Air Power.

The collections with 50 images are slightly more expensive, but £20 is hardly a fortune for your choice of designer silliness — and let's face it, that's all screen savers are. The images are incredibly well compressed to take up a tiny amount of hard disk space, and look thoroughly impressive in full screen mode. What more need I say?

Martin Klimes

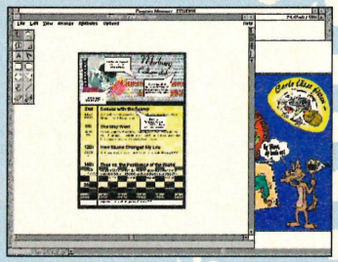
SECOND NATURE

- Does your machine run Windows 3.1 or higher and have VGA graphics? Then you can use Second Nature screen savers.

Supplier: Performance
Contact: (0844) 212121
Price: £12.95/19.95

PC REVIEW RATING 7

SOFTWARE



CCP Studio

Drawing package

Logging into CorelDraw recently I had to wonder: isn't there a more compact, easier to learn way to design decent pages for letterheads, invitations, and the like? And then CCP Studio entered my life. One single manual, only 5Mb of hard disk space needed, it's a dream come true.

Often, though, ease-of-use dreams turn into functional nightmares where you find that all you have is a light-weight package that won't offer you the full features you want when you've passed the early learning part and can use the interface.

In this case, Studio offers many of the similar features that earlier versions of CorelDraw offered. No bad thing. Unfortunately, you can get the whole Corel suite in the earlier version for much the same money as Studio, and you get so much more. If you strip away Corel's Chart, Photo-paint and other programs, you still get a heap more clip-art and fonts for your hard-earned pound. Only thing is, you have to wade through a heavy-duty manual instead of something easier.

If this is a major problem, then maybe Studio has something to offer, but beneath the bumf it's not really that much easier to use than its rivals. There's nothing wrong with it, it merely gets outshone in a market full of good packages.

Martin Klimes

CCP STUDIO

- To draw with CCP Studio you'll need a PC running Windows 3.1 with at least 2Mb of RAM, a VGA graphics card and a mouse.

Supplier: Willow Graphics
Contact: (0367) 710697
Price: £75.00

PC REVIEW RATING 5

Visual Energy Savings

How to save money on fuel bills!

The issue of VAT on fuel bills is likely to come to prominence again as the nights draw in, the days get colder, and the central heating wakes up from its summer slumber. So do your granny a favour and buy her this program to help preserve her totally inadequate pension.

Visual Energy Savings shows you how you can save up to 40 per cent on your fuel bill. The program demonstrates the benefits of double glazing, putting extra insulation in your loft, adding draught excluders, and insulating external walls — as well as the most cost-effective combination of all of these.

You set an energy target and then decide which energy saving measures will achieve this target in the most cost effective way. Unfortunately the software asks some pretty technical questions, but these are necessary to do a proper evaluation of your premises.

You need to know about your external openings, building volume, ventilation, roof type, wall construction and floor type. The results are then displayed in graphical form with a bar chart displaying the total heat loss of the various elements. If you know a bit about buildings, and follow all of the recommendations, it will pay for itself time and again.

David Bradwell

VISUAL ENERGY SAVING

- Requires a 386 PC, Windows 3.1, 4Mb of RAM, 8Mb of hard disk space and a mouse. Other than that there should be no problems

Supplier: M. Solutions Ltd
Contact: (0693) 752470
Price: £58.69 inc VAT

PC REVIEW RATING 7

WordPerfect Main Street Express Fax Plus 3.0

Screen saver modules

WordPerfect Main Street's ExpressFax Plus is a basic software package to let you send and receive faxes from your PC — assuming you have a suitable modem. The package also features data capability so you can access bulletin boards and on-line information facilities such as CompuServe, and the TextBridge optical character recognition program which converts faxes into editable documents.

During installation you're asked for information about your modem and hardware set-up — and this serves as the basis for the configuration on your PC. ExpressFax Plus Communications supports many terminal emulations and protocols.

A phone book lets you store all of your frequently dialled numbers so you can recall them at the click of a mouse button. You can also store numbers for bulletin boards.

For short messages you can click on Fax A Note. You type in a message, supply a phone number and click on Fax, and the software does the rest. Faxing longer documents is as easy as printing them. Instead of appearing in your printer's output tray, the document is sent along a phone line to emerge on the fax machine at the number you define.

ExpressFax Plus is easy to learn but not as intuitive as Delrina's WinFax Pro. It serves its purpose quite well although it's far from the most sophisticated fax and data package.

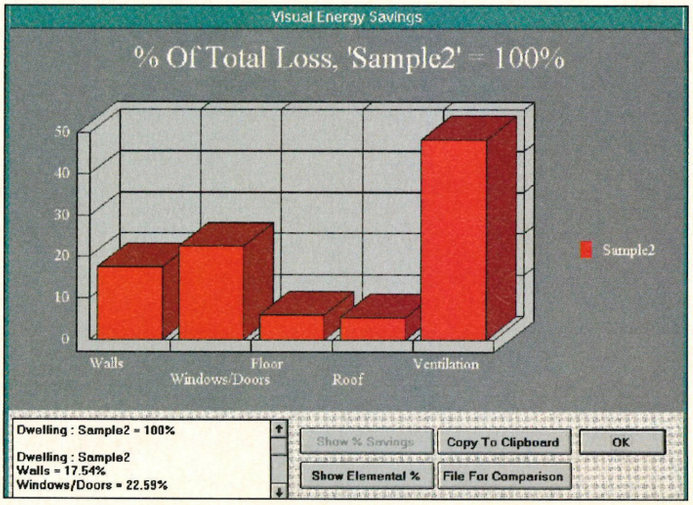
David Bradwell

WORD PERFECT

- Requires a 386 PC, Windows 3.1, 4Mb of RAM, 4Mb of hard disk space, and a class 1 or 2 compliant fax modem.

Supplier: WordPerfect
Contact: (0932) 850500
Price: £49 inc VAT

PC REVIEW RATING 6



Star Wars Screen Entertainment

Screen saver modules

Screen savers used to consist of a single moving picture which appeared when you didn't press a key for a given amount of time. They were mildly interesting, and the excuse was that they prevented phosphor 'burn-in' on the monitor (something I have only ever seen on mono screens).

LucasArts' Star Wars screen saver is much more sophisticated than that. It's more like an illustrated book, with on-screen text and graphics. The danger is that you'll spend hours looking at and reading the Star Wars interludes on the screen saver, rather than getting on with whatever you were doing.

This is exacerbated by the fact that a number of the Star Wars modules are so complex that when you wave your mouse or press a button to go back to the PC, there is a longish pause and much hard disk cranking before you are taken back to Windows. This rather defeats the purpose of the snappy screen saver which is not supposed to interfere with your normal PC activities.

However, some of the modules are sumptuous in their detail, and true to the LucasArts style, no holds are barred in the use of original material from the Star Wars canon. There's the full screenplay to the Star Wars movie, for example, illustrated with stills from the film. There's the full-screen photo of the cantina, with individual habitues selected at random, zoomed in on and described in detail. There's blueprints from the Star Wars craft, poster art, recreation of the journey to the Death Star, and the Darth Vader module in which he tells you (full audio speech) that he's decided to wipe out your hard disk and that formatting will commence immediately. What an old wag he is! Modules such as the Imperial clock are a bit pointless, but since you can select which screens to cycle through, you can turn that off.

It's beautifully done and lavish in detail. As an on-screen coffee table book, it's great; as a screen saver however, it's large, unwieldy and utterly distracting.

Christina Erskine

STARWARS SCREEN ENTERTAINMENT

- Minimum 33MHz 386 PC, but fast 486 PC with at least 4Mb of RAM strongly recommended, 256 colour VGA, sound card.

Supplier: Virgin I E
Contact: (081) 960 2255
Price: £29.99

PC REVIEW RATING 7

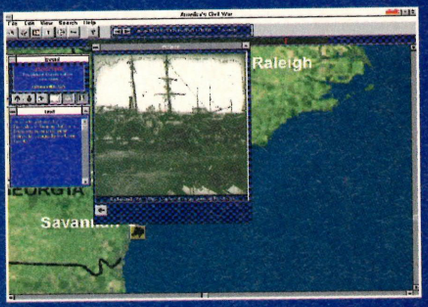
PC REVIEW TRIED & TESTED

Some software gets deleted from the hard disk the minute the review is written, some hardware we wish we'd never laid eyes on. But, every month there are products that do prove to be reliable and enjoyable, and above all genuinely useful. All of the products featured in the PC Review tried and tested section are worthy candidates for anybody's shortlist.

America's Civil War

Guildsoft, issue 38, £44.99

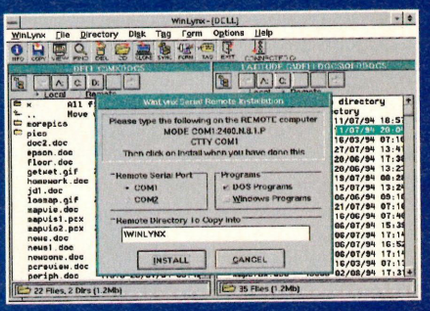
For sheer quality, you can't do much better than this. Even if the Civil War doesn't sound like your cup of tea, then give it a whirl — it'll presently surprise you. It's a reference with beautiful feel that comes from 1200 original photos and a fine database behind it all. The map and timeline are easy to use, and thoroughly informative.



WinLynx

Guildsoft, issue 38, 117.44

One of those 'how did I ever get by without it' utilities, WinLynx combination of fast effective file transfer capabilities and advanced features such as remote accessing of another computer make it an invaluable tool for anyone needing to work with more than one PC.



QY8 sequencer

Yamaha, issue 37, £208

Far more than just a fancy music toy, the gamepad-style QY8 is a remarkably sophisticated multi-track portable music sequencer. Ideal for anyone wanting access to music making on the move, the QY8 can be used in connection with a PC — transferring MIDI files — or electronic keyboard.



Stowaway! CD-ROM

Dorling Kindersly, issue 37, £49.99 Beautifully animated, incredibly detailed and absolutely fascinating — for kids and adults alike, although it's really aimed at the 11-15 age group. Set onboard an 18th Century Man-of-war and featuring the stunning artwork of Stephen Beisty, Stowaway! is one of a whole new range of classy reference and educational CDs from book publisher Dorling Kindersly.



Recommended so far: Gateway 2000 486SX/33 (486 PC), Fauve Matisse (art package), Art Gallery (art CD-ROM), Fine Artist (kid's art package), Orchid Gamewave 32 (sound card), Sound FX Classic 3000 (sound card), Micrograph Tabby (graphics tablet) Dan Vantage Multimedia (486 PC), KidDesk (front-end for children), NEC 3Xi (CD-ROM drive) WP Infocentral (organiser), Mitsumi FX001D, QY8 (sequencer), Vivid 3D (surround sound), MJM 486/66 (PC), How Multimedia Computers Work (CD reference), Stowaway! (edutainment CD).

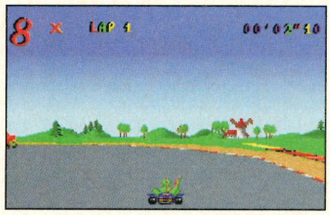
Shareware reviews

It's a bit of a mixed bag this month. We've got some games; two DOS and one Windows-based plus a mixture of utilities for both DOS and Windows.

Skunny Kart

Skunny Kart is a first-person perspective kart racing game. Competing against seven other opponents including a hippo, dragon, crocodile and other animals, you race around various tracks vying for first place and ultimately the championship cup. Around each course you'll have to watch out for obstacles and hazards; bollards, banana skins and teddy bears that leap onto your kart and attack you with a spanner until you manage to throw them off, whilst collecting bonuses and weapons and upgrades; coins, size potions, turbo boosts, invincibility and invisibility potions, bombs and seeking missiles. Everything about this game is fun. And the two-player, split screen option adds a further element to this enjoyable, cutesy race game.

Available from Transend
Telephone 0274 622228



Registration £24.95 — PC REVIEW RATING 8

Mystic Tower

One of the biggest influences within the shareware games market, Apogee strikes back with its latest release Mystic Towers. In this 3D isometric graphic adventure you play the part of Baron Baldrick out on a quest to vanquish your evil foe Lazarus. To do this you travel from tower to tower across many lands killing hordes of monsters and destroying the monster generators. Once inside the towers you then travel from room to room, collecting spells and treasure and eating and drinking on your quest to bring peace to the land. The graphics are wonderfully drawn with a host of cute monsters to despatch with your trusty spells; my favourite has to be the steam dragon on the unicycle. Mystic Towers is very reminiscent of the old Ultimate games Knight Lore and Alien 8 from the days of the good old Spectrum. So if you also have fond memories of these games you'll love the Mystic Towers. If you don't remember those classic 8-bit games, you'll love Mystic anyway.

Available from Transend
Telephone 0274 622228



Registration £26.50 — PC REVIEW RATING 8



Entombed

Entombed is a very good example of how shareware games are developing in calibre. Very reminiscent of both The 7th Guest and Myst, Entombed is a room by room puzzle quest throughout a buried temple of some lost and forgotten race of beings. You play the part of an archaeologist who stumbles upon the remains of a temple. Whilst cleaning the sand from some inscriptions you accidentally trip a switch that sends you crashing into the depths of a vast subterranean temple. With a book containing notes about the various rooms you must explore the depths, solving puzzles and collecting artefacts to aid your escape. The quality of the graphics is astounding; raytraced graphics bring to life each room as you explore deeper and deeper. The music and CD-audio add further atmosphere to the beautifully rendered graphics.

Unfortunately the gameplay is more than a touch linear and some of the puzzles are very frustrating, but this is a refreshing game nonetheless. If you like puzzle games, try this one, you definitely won't be disappointed.

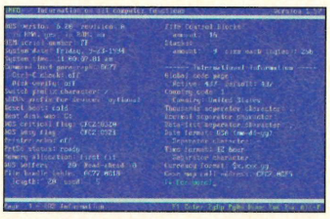
Available from Transend
Telephone 0274 622228

Registration Disk £32.90/CD £49.35 — PC REVIEW RATING 7

Info Plus

Here we have another one of those DOS based utilities that will tell you practically everything you wish to know about the ins and outs of your PC; memory, processor, BIOS, ports, sound cards, memory managers, TSRs and drivers, the lot. Plus there's comprehensive help pages accompanying each page of information telling you just what it is that is being scrutinised. If that wasn't enough, Info Plus will also print each page giving you a hard copy of all your various settings and what not. If you like nosing around within your PC and you want to know exactly what's what with your memory manager and keep track of all those TSRs, Info Plus will certainly tell you what's going on. But, so will all the other utilities of this type. There's not really anything here that hasn't already been done before, but this one does it with a little more friendliness.

Available from Transend
Telephone 0274 622228



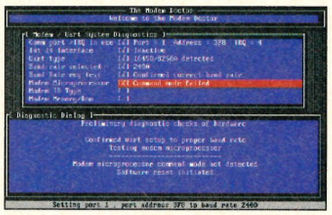
Registration Disk £32.90 / CD £49.35 — PC REVIEW RATING 7

Modem Doctor

If you've ever tried to get a modem working or have had problems with your com ports you'll be interested in this piece of shareware. Modem Doctor is a modem and comm port diagnostic utility. A whole range of diagnostics can be performed to assess the state of your comms hardware with the registered version supporting a large range of modems and baud rates of up to 57,600.

A handy utility for any comms fanatic or support personnel for troubleshooting faults with comm ports and modems.

Available from Transend
Telephone 0274 622228



Registration $19.95 — PC REVIEW RATING 7

Disk Cloner

Disk Cloner is a simple Windows utility for copying disks.

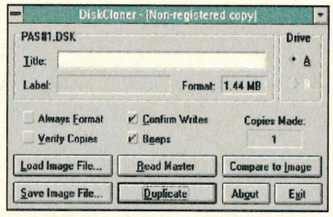
You start by reading the master disk that is then stored in a temporary area from which you can create as many duplicates as you wish.

But the beauty of this package is that you can then save the master image to your hard drive and in future when you need to duplicate the disk all you have to do is load up the relevant disk image.

Disk Cloner can also format new disks, verify the data as it is written and compare the duplicates to the master image.

Disk Cloner then, is an easy to use convenient floppy duplicating utility.

Available from Transend
Telephone 0274 622228



Registration $29.95 — PC REVIEW RATING 8

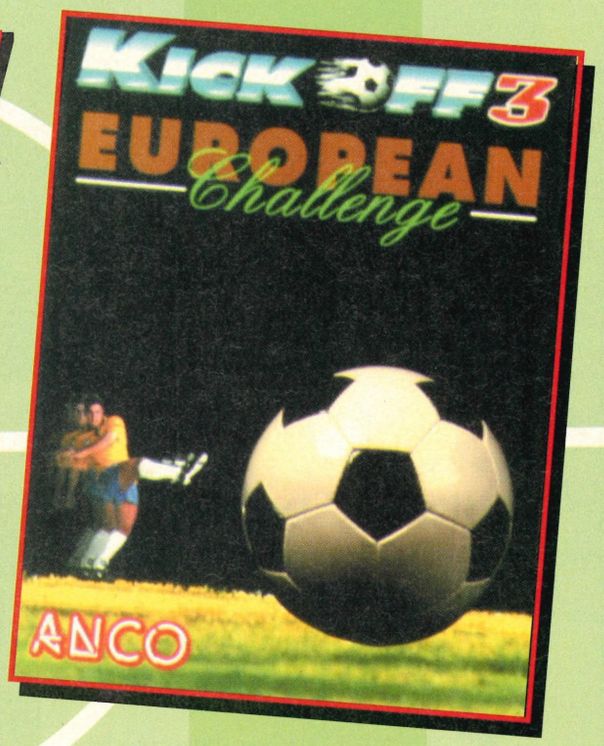
KICK OFF 3 EUROPEAN Challenge

AMIGA 500/500+/600 £24.99
AMIGA 1200/IBM PC £29.99
CD32/PC CD ROM £34.99

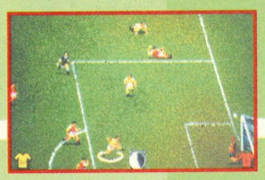
It's Kickin'!

The top 24 International Teams and the best 96 Euro Club sides battle it out in Kick Off 3 European Challenge. Build your side around the star men. It is these key players who provide the skill and the style needed to win one of the 12 League and cup trophies, and maybe even the World Cup itself!



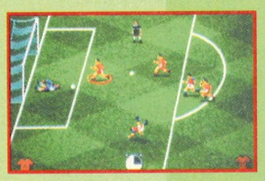


Looks Good...



Superb animation giving fast flowing soccer action. Bit-mapped International class pitches. 1500 detailed sprites bring the game to life with referees, linesmen, trainers and much more

Sounds Good...



Nearly 1 MB of sound. Digitised crowd noise samples and chants lets you soak up the big match atmosphere.

Plays Good...



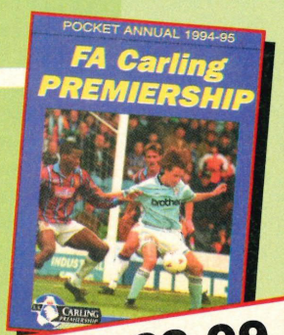
Master the moves and you'll master the game. 16 individual player actions at your fingertips. With powerful runs by the full backs, penetrating passes from the playmakers and devastating wing play... this is a game with blistering pace and instinctive appeal.

Features...

- 40 Set plays for dead ball situations.
- Practice mode, team talk and match facts.
- Edit player names. Play alongside the top International stars.
- Save your best strikes and get ready for the Golden Goals competitions.
- Skill Speed and ball control options help you progress to the very top.
- Ease of control with 4 button joypad (optional).

Is Good... And Gives You More!

The first 10,000 Amiga copies and the first 10,000 PC copies of Kick Off 3 European Challenge come with a FREE FA Carling Premiership Pocket Annual 1994-95. Worth £3.99 with a complete Premiership club directory, season reviews, player records - this is a guide that no soccer fan should be without!

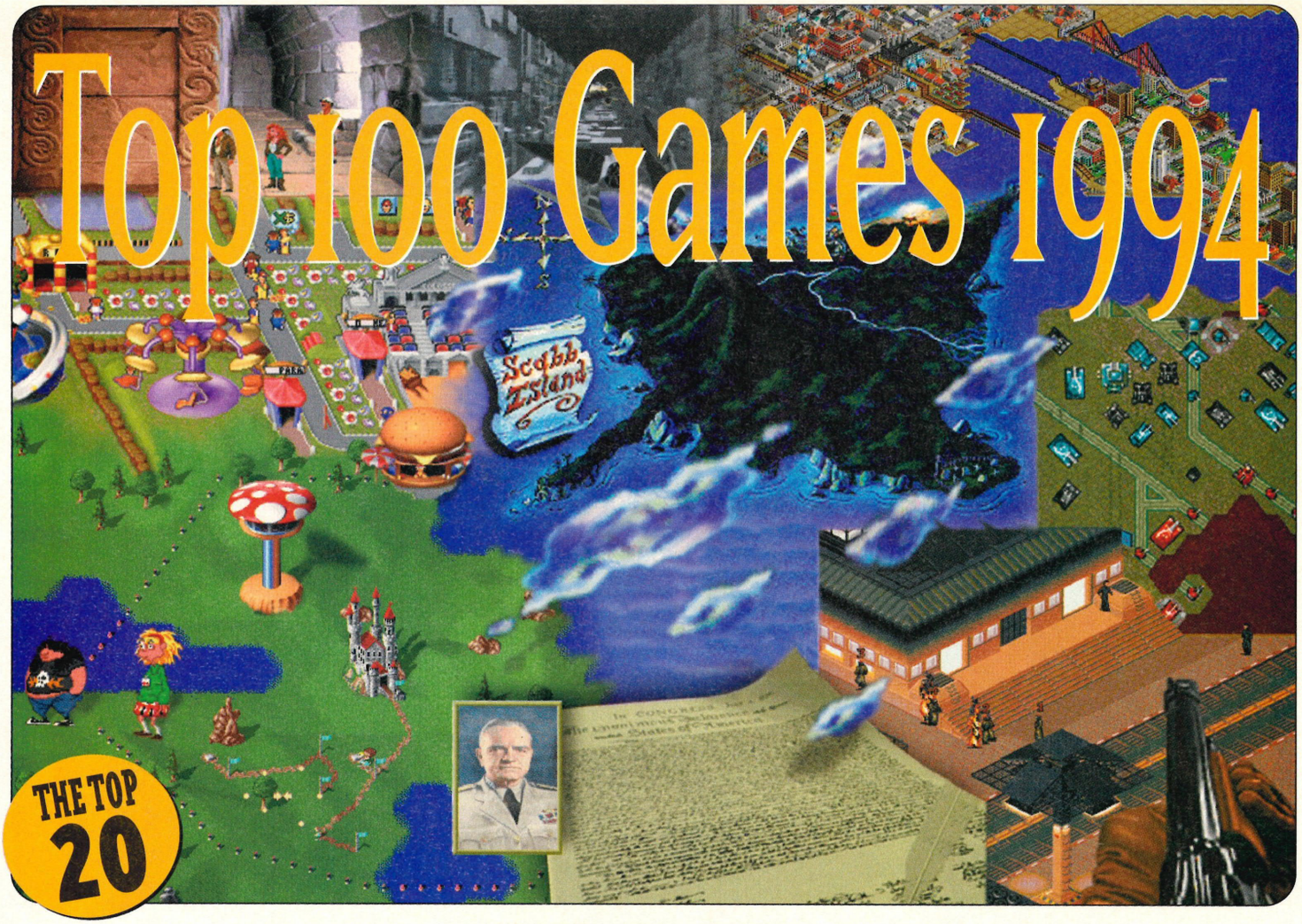


Worth £3.99

ANCO

© 1994 Anco Games Anco Software Ltd, 7 Millside Industrial Estate, Lawson Road, Dartford, Kent DA1 5BH
Tel: 0322 292513 Fax: 0322 293422 Amiga: Min 1 Mb, 1 button, 2 button and CD32 joypad compatible
IBM PC: Min 386/33 MHZ VGA 2 button or Gravis joypad compatible. Soundblaster compatible.
* Screen shots displayed are representative of IBM PC and Amiga 1200 versions only.

Top 100 Games 1994



THE TOP 20

It's that time of year again, the time when we compile a list of the very best games available for your PC.

It seems 1994 has been a vintage year for PC games. Yes, we have seen an awful lot of games which look amazing but are sadly lacking in the fun department, but then we've also seen a greater than average number of exceptional products: of the 26 games which have earned the coveted nine out of 10 rating since PC Review's launch in 1991, nine of those have appeared in the last 12 months.

Syndicate, Civilization, X-Wing and Indiana Jones and the Fate of Atlantis are still in the top 10, and deservedly so, but they've now been joined by recent classics such as SimCity 2000, Theme Park, Gabriel Knight and, of course, Doom. Let's just say that no-one was surprised when Doom came in top of the list.

The Top 100 isn't based on review ratings, but on the opinions of the PC Review team, our sister magazine PC Games and our regular writers. Although these opinions are subjective, we've weighted the scores so that anyone feeling especially mean or generous on the day wouldn't influence the results too heavily. You may not agree entirely with our chart, but we hope you find it useful if you're looking for a game to add to your collection, and who knows, you may even rediscover an old classic or two.

1 Doom
id Software/Transend
Rated 9, Issue 29



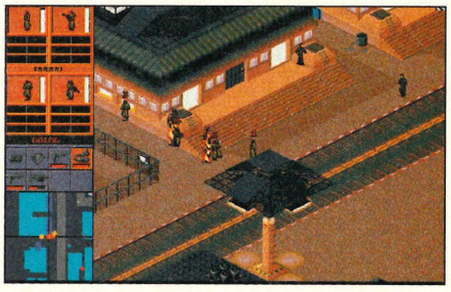
The ultimate blast-fest, Doom's amazing 3D engine, menacing atmosphere, imaginative monsters and copious amounts of gore make it a deserving winner. The idea is to shoot your way out of this multi-level hell, avoiding traps, collecting bonuses and killing anything that moves. Great as a single player game, but even better in multi-player deathmatch mode where you get to kill your friends as well.

2 SimCity 2000
Maxis
Rated 9, Issue 29



The follow-up to SimCity takes the concept of the original (to build and maintain a growing city without going bust) and updates it with high-res, 3D graphics and extra features. You start with a plot of empty land, and have to get your city going by building a power plant, industrial, residential and commercial zones, a transport system, recreation facilities and so on. Utterly absorbing.

3 Syndicate
Bullfrog/Electronic Arts
Rated 9, Issue 21



Set in a cyberpunk-style future where giant corporations rule the world, Syndicate starts you off as the boss of a European company aiming for global domination. Using teams of heavily armed cyborg agents, you must complete missions such as brainwashing scientists, kidnappings and assassinations to win territories from rival syndicates. Fast, furious and very, very violent.

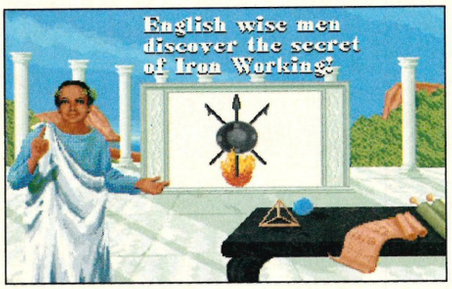
4 TIE Fighter
LucasArts/Virgin
Rated 8, Issue 35

LucasArt's sequel to X-Wing sees you as a top pilot fighting on the side of the Empire. Fly through a number of missions to help destroy the Rebel forces. Not the easiest game to get to grips with, but very rewarding (and exciting) once you do.



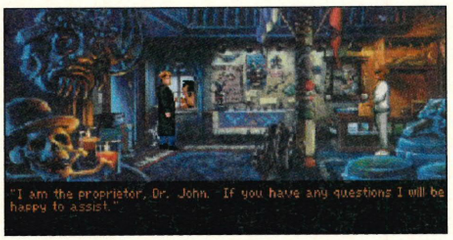
5 Civilization
MicroProse
Rated 7, Issue 1

Sid Meier's classic empire builder is getting on a bit now, but even so, despite its primitive appearance, it's still one of the best empire building games around. The aim of the program is to take your colony of settlers from the bronze age through to the era of space exploration, expanding your empire and beating off rival civilisations in the process. Compulsive playing.



6 Gabriel Knight
Sierra
Rated 9, Issue 29

By far the best adventure Sierra has produced to date, Gabriel Knight tells the story of a struggling New Orleans-based writer who gets involved in the supernatural when researching a book about voodoo murders. This atmospheric game features a brilliant, twisting plot, strong characters and great music. Tense and mesmerising.



7 X-Wing
LucasArts/US Gold
Rated 8, Issue 19

Space combat games are popular, Star Wars is one of the most successful movies ever and so LucasArts was obviously on to a winner when it combined them together in X-Wing. This accessible but challenging flight game pits you, a rookie Rebel pilot, against Darth Vader's forces over several missions. Exciting and varied.



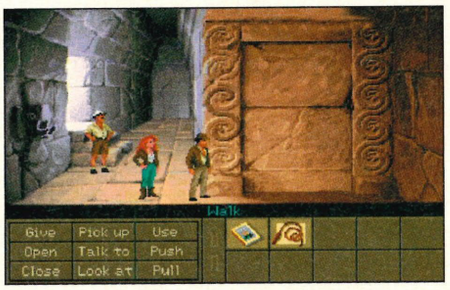
8 Theme Park
Bullfrog/Electronic Arts
Rated 9, Issue 34

Imagine SimCity with roundabouts and you get a fair idea what Theme Park's about. The aim is to create the world's most successful theme park, designing rides, keeping the punters and staff happy, making sure the shops don't sell out and dealing in stocks and shares — it's more complex and enjoyable than it first appears.



9 Indiana Jones and the Fate of Atlantis
LucasArts/US Gold
Rated 9, Issue 11

LucasArts borrowed the Indiana Jones character from Lucasfilm's movies, but created a whole new adventure for him involving Atlantis, feisty redhead Sophia Hapgood and, yes, Nazis. Although over two years old, it's still a good-looking, tricky adventure with a cinematic feel.



10 Ultima Underworld 2
Origin/Electronic Arts
Rated 8, Issue 18

Origin's second Underworld game finds you trapped in Lord British's castle by the evil Guardian. The game uses the same, smooth-scrolling 3D engine as its predecessor, but with sharper, more varied graphics. Superb atmosphere and a compelling plot make it a joy to play. A better 3D RPG has yet to appear.



11 The Settlers
Bluebyte/Kompart
Rated 8, Issue 33

A traditional but attractive God-sim, Settlers puts you in charge of a tribe of people who must build a successful village. To do so however, they must first master the myriad skills of mining, farming and so on. As the village grows, and comes under attack, on occasions the people also have to resort to fighting their way to domination. Cute graphics, accessible gameplay and raw addictiveness make it a superior example of the genre.



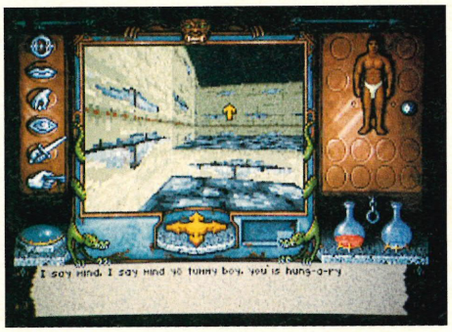
12 Battle Isle 2
Bluebyte/Kompart
Rated 8, Issue 31

If hex-based war games leave you reaching for the Pro Plus, think again: Battle Isle 2 is accessible, beautifully presented and fun. The hypothetical, future-based scenario is broadly appealing and the addition of a multi-player option gives you the chance to take on your friends. A top-notch strategy game on all levels.



13 Ultima Underworld
Origin/Electronic Arts
Rated 9, Issue 8

While other RPGs were struggling with flick-scrolling graphics, Origin came up with a marvellous multi-direction scrolling 3D engine which allowed you to run, climb, swim, jump and even fly. Incredibly atmospheric, Underworld was ground-breaking when it was first released and is so good it's still great even today.



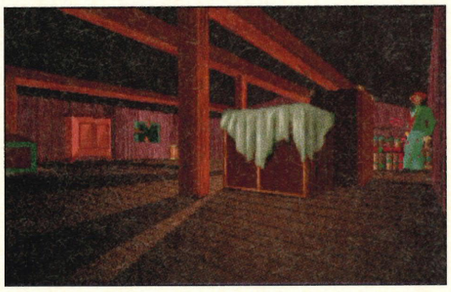
14 Rebel Assault
LucasArts/US Gold
Rated 9, Issue 27

Star Wars gets the multimedia treatment in this graphically splendiferous arcade game. Each level is different — on one you'll be taking on Stormtroopers on foot; in another you'll be blasting an Imperial frigate from your X-Wing. Inter-cut with movie sequences.



15 Alone in the Dark
Infogrames
Rated 9, Issue 14

Infogrames' spooky haunted house adventure was revolutionary for its use of polygon-based sprites with bitmapped backgrounds and ever-changing viewpoints. Intensely atmospheric, the game uses creepy sound effects and music to good effect. Guaranteed to make you jump.



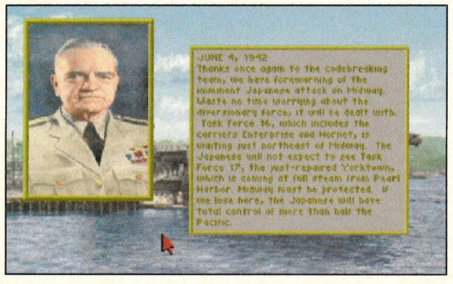
16 Day of the Tentacle
LucasArts, US Gold
Rated 9, Issue 23

In this long-awaited sequel to Maniac Mansion. Dr Edison has unleashed a megalomaniac mutant tentacle on the world, and only the bumbling efforts of three gormless kids can save the day. Surreal graphics, wacky puzzles and gags ahoy!



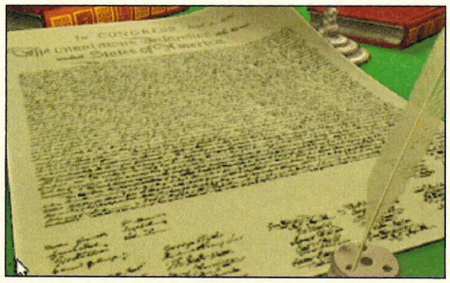
17 1942 Pacific Air War
MicroProse
Rated 9, Issue 33

The most flexible and realistic WWII flight sim around, Pacific Air War's advanced campaign option allows you to control your ships as well as your planes and define your own missions. Well presented with fast moving and detailed 3D flight sections, plus a true long-term appeal.



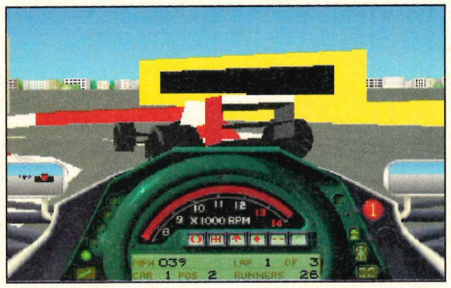
18 Colonization
MicroProse
Rated 9, Issue 36

The follow-up to Civilization is based around the conquest of America. Playing either English, French, Spanish or Dutch, found a colony, fight off your rivals and eventually take on your own nation in your bid for independence. Excellent.



19 Formula One Grand Prix
MicroProse
Rated 8, Issue 15

Released back in 1992, Geoff Crammond's F1GP was the fastest, most realistic racing around, and even now it only has one serious challenger in the shape of IndyCar Racing. Not only is it accurate, but it's also great fun.



20 Le Chuck's Revenge: Secret of Monkey Island 2
LucasArts/US Gold
Rated 9, Issue 3

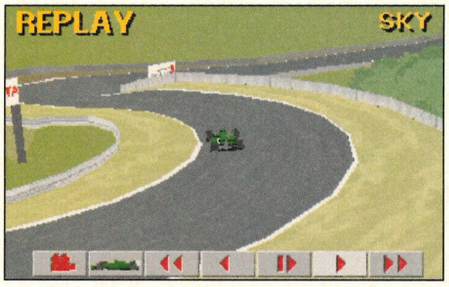
Arguably better than the original Monkey Island, LucasArts' classic mixes comedy, piracy and voodoo to come up with one of the funniest, most original adventures ever. Improved graphics, memorable music, silly puzzles and even sillier gags make this an essential in your collection.



from 20 to 50

21 IndyCar Racing
Papyrus/Virgin
Rated 9, Issue 27

All the thrills of the IndyCar circuit.



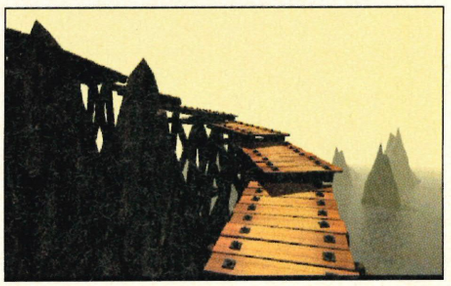
22 Chessmaster 4000 Turbo
Mindscape
Rated 9, Issue 27

Strong, well presented chess simulation that brings you tutorials, as well as tense match play.



23 Myst
Electronic Arts
Rated 9, Issue 32

Beautiful and surreal adventure/puzzle game.



24 Sam and Max Hit the Road
LucasArts/US Gold
Rated 8, Issue 27

Wacky adventure with cult cartoon characters.



25 Secret of Monkey Island
Kixx XL
Rated ***, Issue 25**

The original comedy pirate adventure.

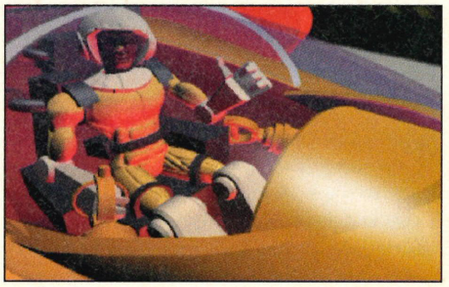
26 Flashback
Delphine/US Gold
Rated 8, Issue 22

Superior sci-fi platform action.



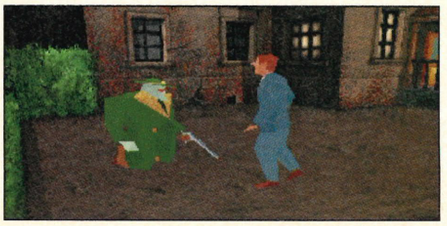
27 Inferno
DID/Ocean
Rated 8, Issue 36

Fast-moving space combat game.

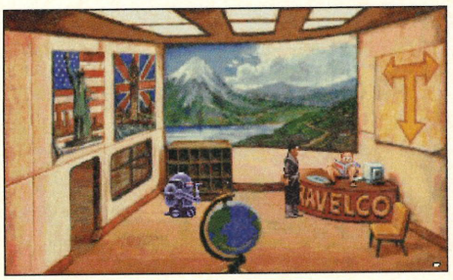


28 Alone in the Dark 2
Infogrames
Rated 9, Issue 28

Carnby returns to take on zombie pirates.

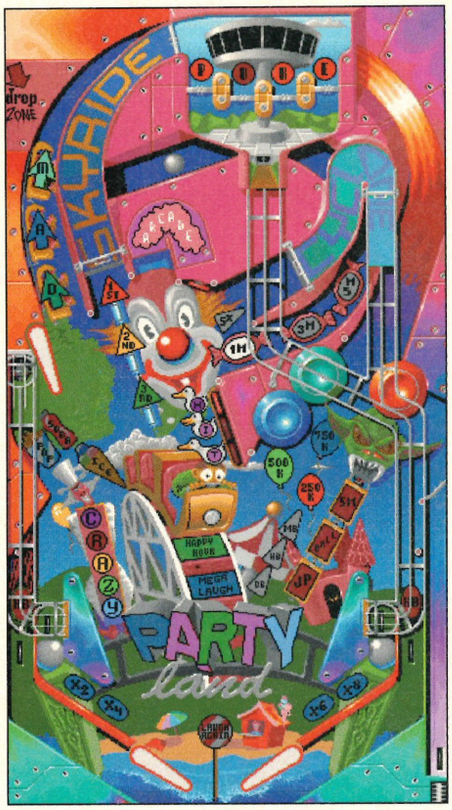


29 Beneath a Steel Sky
Revolution/Virgin
Rated 8, Issue 27
Light-hearted cyberpunk adventure with artwork by Dave Gibbons.

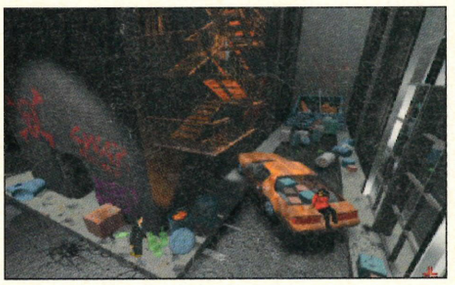


30 Elite Plus
MicroProse
Never reviewed (before our time!)
David Braben's classic space-trading game.

31 Pinball Fantasies
21st Century Entertainment
Rated 8, Issue 30
Definitely the best PC pinball sim.



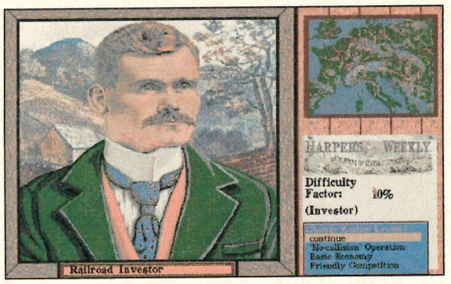
32 BloodNet
MicroProse
Rated 8, Issue 30
Cyberpunk RPG with added vampires.



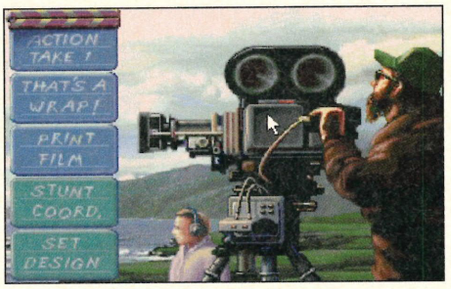
33 Cannon Fodder
Sensible/Virgin
Rated 8, Issue 31
Sensible's arcade war game.

34 UFO: Enemy Unknown
MicroProse
Rated 7, Issue 30
Strategy/combat game in which you take on the hostile aliens which have been buzzing the Earth in their spaceships.

35 Railroad Tycoon
MicroProse
not reviewed
Sid Meier's strategy railway building game — out soon on budget.



36 Stunt Island
Disney/Infogrames
Rated 8, Issue 17
Fly, film and edit your own stunts in this unusual game from Infogrames.



37 Prince of Persia 2
Electronic Arts
Rated 7, Issue 21
Arabian Nights-inspired platform romp.



38 Dark Legions
SSI/US Gold
Rated 8, Issue 36
Complex fantasy board game with good graphics.

39 Ultima VII: The Black Gate
Origin/Mindscape
Rated 4, Issue 9
Huge, excellently plotted RPG set in Britannia. The low mark was for the bugs in the initial release version, since removed.



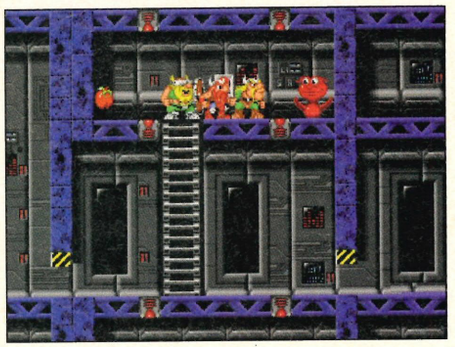
40 Simon the Sorcerer
Adventure Soft
Rated 8, Issue 24
Britain's answer to Monkey Island.

41 TFX
DID/Ocean
Rated 9, Issue 29
Slickly presented flight sim with futuristic planes.

42 Jimmy White's Whirlwind Snooker
Hit Squad
Rated 7, Issue 33
Accurate and engrossing snooker simulation.

43 FIFA International Soccer
Electronic Arts
Rated 8, Issue 34
Isometric arcade football game.

44 Lost Vikings
Interplay
Rated 8, Issue 23
Fun, three character platform game.

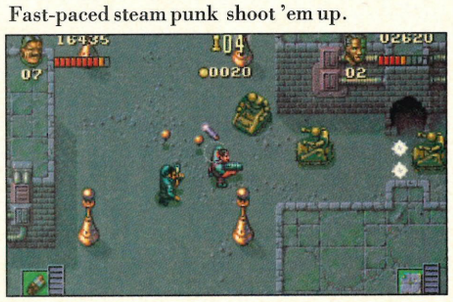


45 Space Hulk
Electronic Arts
Rated 7, Issue 20
Arcade strategy game board game conversion.

46 Populous 2
Bullfrog/Electronic Arts
Rated 8, Issue 15
Improved version of the original god sim.



47 The Chaos Engine
Renegade
Rated 8, Issue 35
Fast-paced steam punk shoot 'em up.



48 Ultima VII part 2: Serpent Isle
Origin/Electronic Arts
Rated 7, Issue 20
Bigger and tougher than Ultima VII.

49 Hand of Fate
Westwood/Virgin
Rated 8, Issue 28
Pleasant and humorous graphic adventure.



50 Master of Magic
MicroProse
Rated 7, Issue 37
Civilization with added magic.

51 Gunship 2000 — MicroProse



52 On the Ball: World Cup Edition — Ascon/Daze

53 Links Pro — Access/US Gold

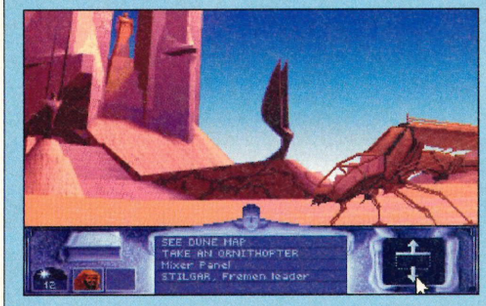
54 Shadow President — Empire

55 Archer Maclean's Pool — Virgin

56 Another World — Kixx XL

57 Coaches Club Football — MicroProse

58 Dune — Cryo/Virgin



59 Wing Commander 2 — Origin/Electronic Arts

60 Prince of Persia — Broderbund

61 MegaRace — Cryo/Mindscape

62 Elder Scrolls: Arena — Bethesda/US Gold

63 D/Generation — Mindscape

64 Fields of Glory — MicroProse

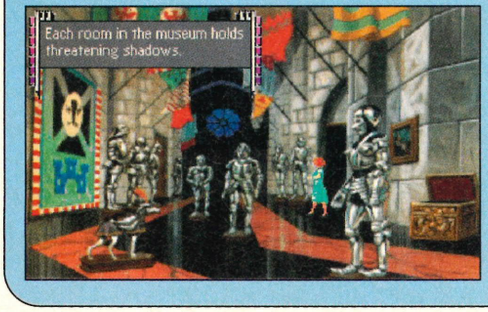
65 Police Quest 4: Open Season — Sierra

66 Doom 2 — id/Virgin

67 Legacy — MicroProse

68 Subwar 2050 — MicroProse

69 Laura Bow 2: the Dagger of Amon Ra — Sierra



70 Shadow of the Comet — Infogrames

71 Lemmings 2: The Tribes — Psygnosis

72 Strike Commander — Origin/Electronic Arts

73 Incredible Machine — Sierra

74 A-Train — Maxis

75 Star Trek 25th Anniversary — Interplay

76 Red Baron — Sierra

77 Populous — Hit Squad

78 Historyline 1914-18 — Bluebyte/Kompart

79 Even More Incredible Machine — Sierra

80 PGA Tour Golf — Electronic Arts

81 Lemmings — Psygnosis

82 Legend of Kyrandia — Westwood/Virgin

83 Gods — Renegade

84 Pinball Dreams — 21st Century Entertainment

85 Rex Nebular — MicroProse

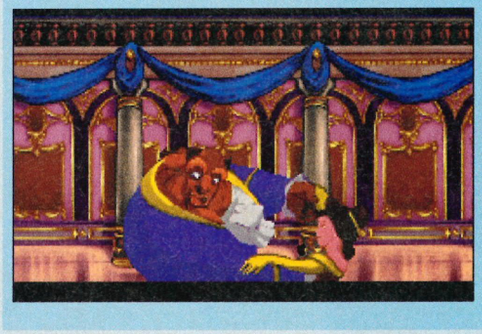
86 Police Quest 3 — Sierra

87 SimCity Classic — Hit Squad

88 Sensible Soccer — Renegade

89 Midwinter — Hit Squad

90 Beauty and the Beast — Disney/Infogrames



91 Ultima VIII: Pagan — Origin/Electronic Arts

92 Flight Sim 5 — Microsoft

93 Al-Qadim — SSI/US Gold

94 Chuck Yeager's Air Combat — Hit Squad

95 Powermonger — Bullfrog/Electronic Arts

96 Speedball 2 — Kixx XL

97 Tornado — Digital Integration

98 Battle Isle — Bluebyte/Kompart

99 Frontier: Elite 2 — Gametek

100 Zool — Gremlin

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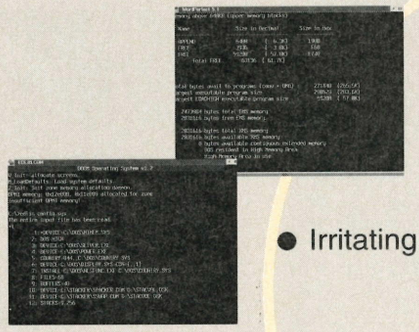
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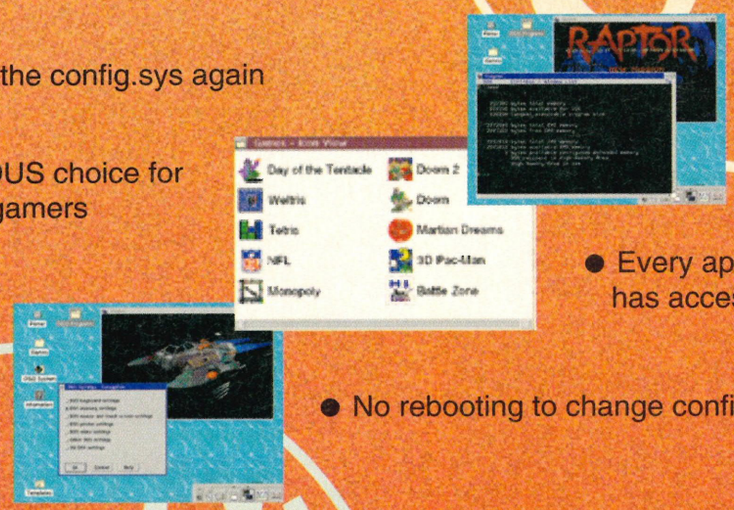
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1. Doom
2. Rebel Assault
3. Flashback
4. Pinball Fantasies
5. Prince of Persia 2



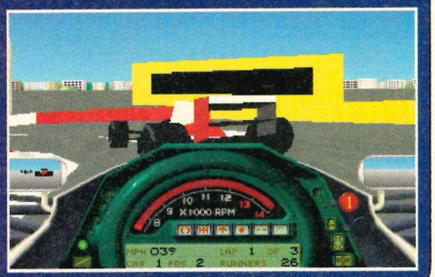
TOP 5 SPACE GAMES

1. TIE Fighter
2. X-Wing
3. Inferno
4. Elite Plus
5. Wing Commander 2



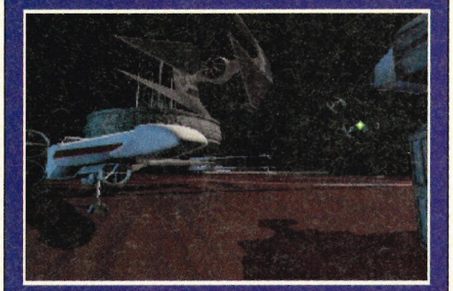
TOP 5 SPORTS SIMS

1. Formula One Grand Prix
2. IndyCar Racing
3. Jimmy White's Whirlwind Snooker
4. FIFA International Soccer
5. On the Ball World Cup Edition



TOP 5 RPGs

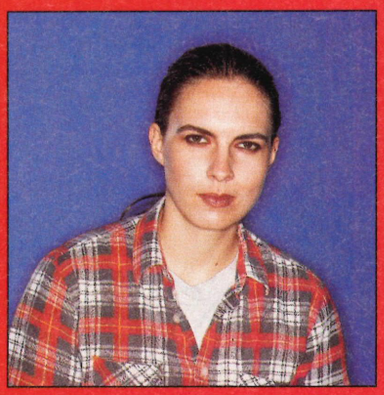
1. Ultima Underworld 2
2. Ultima Underworld
3. BloodNet
4. Ultima VII
5. Ultima VII part 2: Serpent Isle



TOP 5 STRATEGY GAMES

1. Sim City 2000
2. Syndicate
3. Civilization
4. Theme Park
5. Settlers





CAL'S TOP TEN

1. Civilization
2. Ultima VII: The Black Gate
3. Gabriel Knight
4. Doom
5. Syndicate
6. Elite Plus
7. Sim City 2000
8. Secret of Monkey Island
9. Ultima Underworld
10. Theme Park

Cal Jones, staff writer



ERSK'S TOP TEN

1. Civilization
2. Sim City 2000
3. Stunt Island
4. Monkey Island 2
5. Theme Park
6. Alone in the Dark
7. Links 386 Pro
8. Jimmy White's Whirlwind Snooker
9. Shanghai 2
10. Lemmings 2

Christina Erskine, editor



JOHN'S TOP TEN

1. Doom
2. Syndicate (CD)
3. X-Wing
4. Battle Isle 2
5. Flashback
6. Strike Commander
7. Rebel Assault
8. 1942 Pacific Air War
9. Settlers
10. Stronghold

John Bennett, deputy editor

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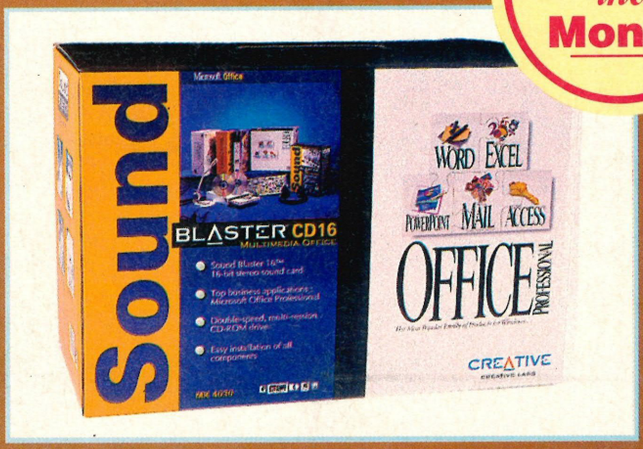
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16 Value
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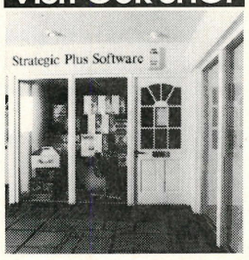
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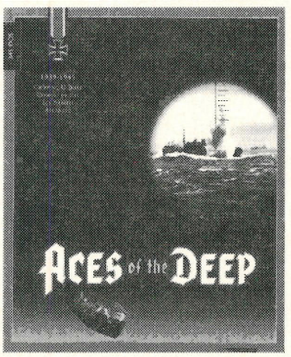
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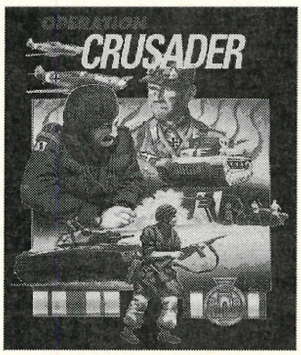
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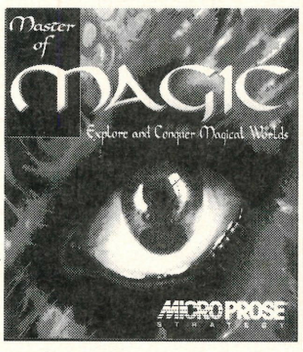
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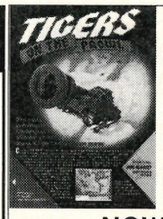
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- Entries are restricted to one per person.
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TOP 10 COMPETITION

1 The first episode of Doom is called
a) Knee Deep in the Dead ❑
b) A Day Trip to Priory Court ❑
c) Knee Deep in Raw Sewage ❑

2 SimCity 2000 was created by
a) Bill White ❑
b) Chris Knight ❑
c) Will Wright ❑

3 Which of the following would you expect to find in Syndicate?
a) Gauss guns, flamethrowers and lasers ❑
b) Balloons, bouncy castles and burgers ❑
c) Motorbikes, guard dogs and air rifles ❑

4 In TIE Fighter, TIE stands for
a) Thermal induction engine ❑
b) Transverse internal engine ❑
c) Twin ion engine ❑

5 The ultimate aim of Civilization is to colonise
a) Mars ❑
b) Alpha Centauri ❑
c) Cygnus Alpha ❑

6 Gabriel Knight is
a) A private investigator ❑
b) A door-to-door encyclopaedia salesman ❑
c) A writer ❑

7 In X-Wing, do you fly
a) X-Wing, Y-Wing and Z-Wing ❑
b) X-Wing, Y-Wing and A-Wing ❑
c) X-Wing, Y-Wing and G-String ❑

8 Theme Park was written by
a) Bulldog ❑
b) Bullfrog ❑
c) Lesser Spotted Amazonian Treefrog ❑

9 Indiana Jones is
a) An archaeologist ❑
b) An archaeopteryx ❑
c) An archaeometrist ❑

10 In Ultima Underworld II, you are
a) Trapped in Lord British's castle by a Guardian ❑
b) Trapped in Buckingham Palace by the Sun ❑
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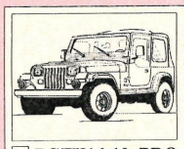
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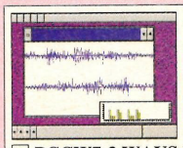
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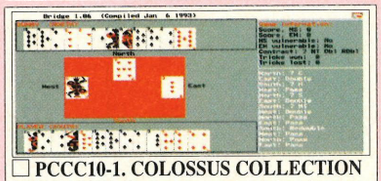
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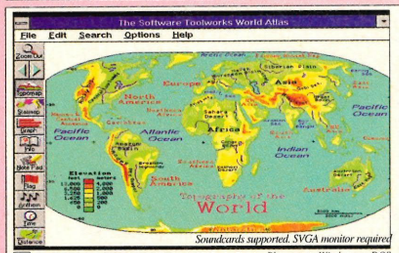
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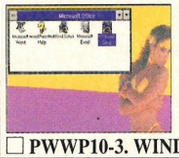
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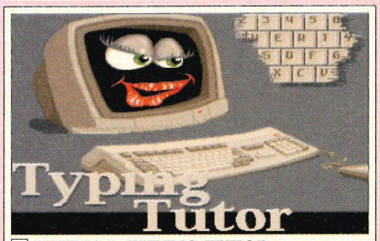
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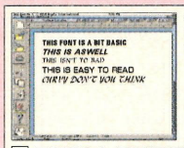
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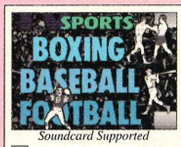
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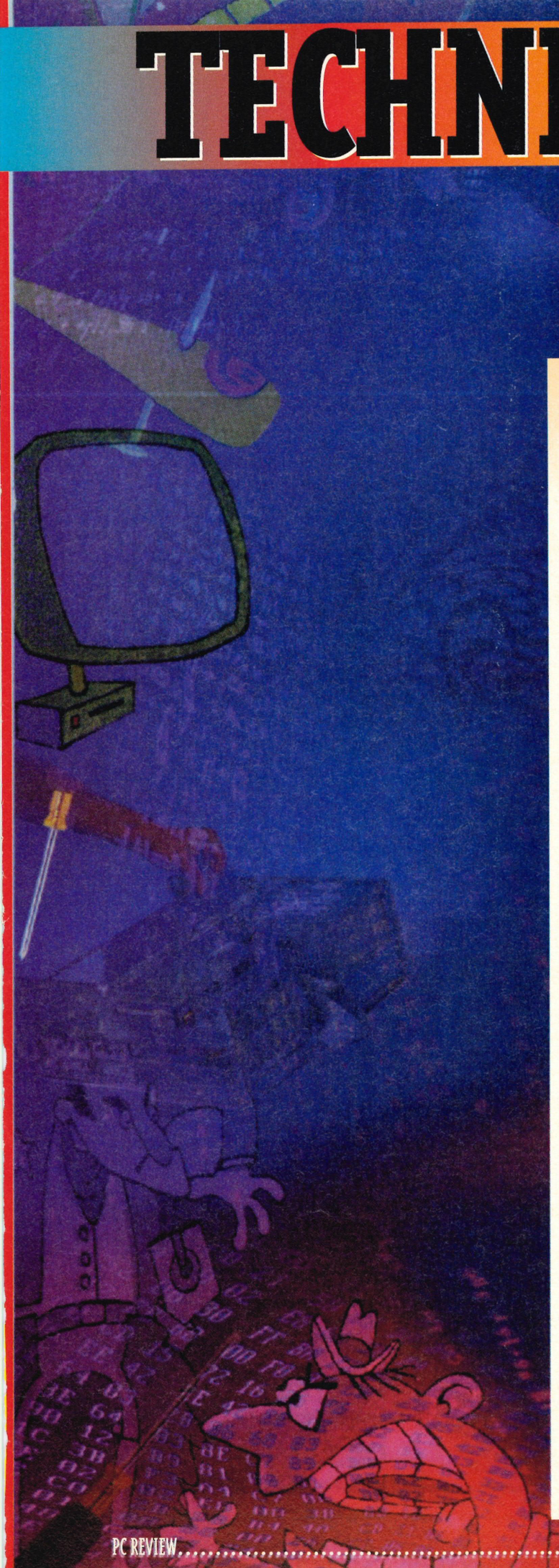
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PCG O2/94

Graphics Workshop

This month Alan Clark takes a look at 3D modelling software and puts four modelling packages through their paces.

3D Modelling

3D modelling is probably one of the most specialised areas of computer graphics there is; it's also one of the most creative. With this type of software, not only can you create three-dimensional models of anything from spaceships to kitchens, you can also use the software to create 3D animations in games and films. The dinosaurs in Jurassic Park for instance, were created using Silicon Graphics machines and 3D modelling software. But Silicon Graphics workstations are expensive — the software also costs a little more than most people's yearly salary.

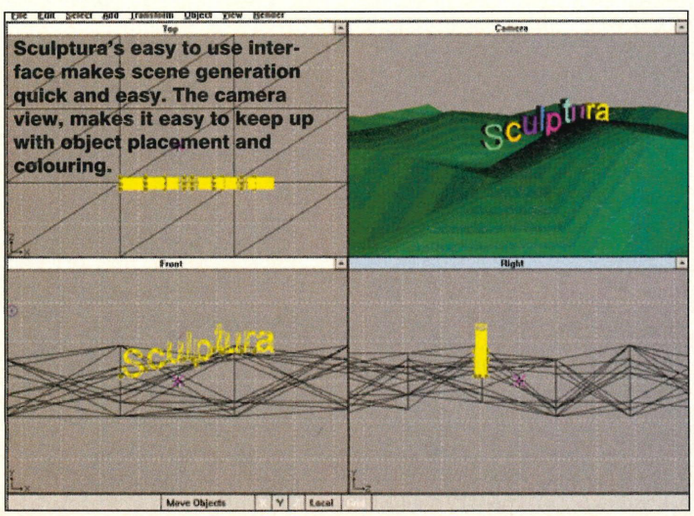
Luckily, there is a cheaper PC alternative, 3D Studio, from Autodesk, which has been used by companies such as Virgin to create the beautifully rendered graphics in 7th Guest and by Cryo to create 3D model for MegaRace. Indeed it's because it's become so popular that some developers have begun consciously to move away from the 3D Studio look .

In the 3D Studio

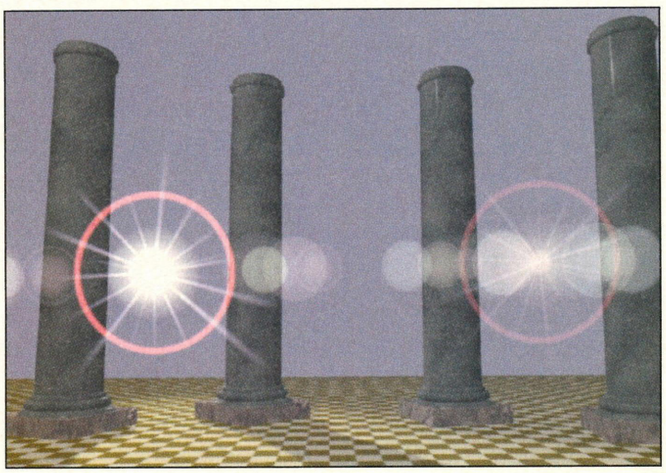
3D Studio consists of five separate modules all linked together within the one application; 2D shaper, 3D lofter, 3D editor, materials editor and keyframer. The 2D Shaper is *the* place to start; you can dive straight into the 3D editor if you want to, but object creation can become unnecessarily complicated.

Within the 2D shaper you design the outline of your shape, in 2D. Tools are available for creating a range of primitives, or you can place vertices to create your own. You can also link multiple primitives together, delete parts of the shapes or individual vertices and generally edit and manipulate your designs until you have the required shapes.

From here you 'export' your shape into the 3D lofter. Here you'll give your shape depth; in other words you'll extrude your 2D design into a simple 3D model. Then manipulating the various vertices as necessary your initial 2D design becomes a complex 3D model.



Sculptura's easy to use interface makes scene generation quick and easy. The camera view, makes it easy to keep up with object placement and colouring.



This example of lens flare was created using 3D Studio 3 and the flare filter from IPAS disk#1; all you need to create in your scene is the light source — the filter takes care of the effect!

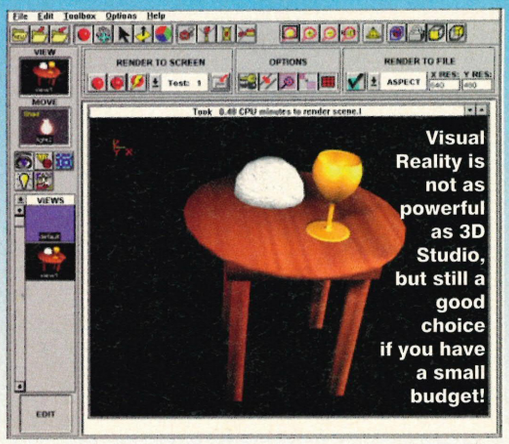
Now it's over to the 3D editor where you'll create the scene using the various objects you've built. Here you can also place the camera and any lights, assign materials to your objects, and carry out any rendering you need to.

As the name suggests, the materials editor is where all the textures are created for the various objects. 3D Studio gives you control over colour values, transparency and transparency fall-off (this means you can make your object less transparent at the edges), you can also create texture and bump maps, and edit a variety of attributes to control reflections, luminosity, brilliance, and so on. Once you've created your textures these are named and saved within a materials library.

It's now back to the 3D Editor where you assign a material to each object. Finally you're ready to render your scene. From the dialog box that pops up, you can select the resolution for the image, file format and name, plus a whole host of options that allow you to control just how the final rendering will look. And because 3D Studio, and 3D modelling software in general, doesn't calculate light rays, as with ray tracing software, rendering, even on an entry level 486, is pretty respectable (all depending on the complexity of the scene and its objects); certainly not the sort of thing you'd have to leave on overnight — unless of course you were rendering a complex 1,000 frame animation on a 486DX33 with 4Mb RAM; then you may have difficulties.

Artists' tools

To be able to run 3D Studio comfortably, you need at least a DX2/66 with 16Mb RAM and a large hard drive. One of the handy features of 3D Studio though, is its ability to render frames over a network. This process involves a little setting up, but once finished you assign each machine within the network a range of frames to render whilst you keep working on the host machine; an invaluable function if you do need to render a complex 1,000 frame animation.



The final section of 3D Studio is the keyframer. This is where you generate and control your animations. Unlike a lot of other 3D modelling and animation software that animate your scene by changing your camera and target locations, with 3D Studio you can create proper animations; that is actually move objects around the screen, fly through scenes, morph two or more objects together and so on.

Within Keyframer you are presented with a wealth of features that allow you to exactly control the animation of your objects. Once you've set the frame length and made any last minute adjustments, you can go on to render it; this is done in exactly the same way as you would a single frame, only this time you're rendering each frame of the animation. All these frames are stored as one file, an .FLI, that can then be played back using a specific FLI player.

One particular feature that makes 3D Studio stand out from the rest of the crowd, and something that is invaluable to professional animators, is its ability to render each frame direct to a VCR; the idea is to render the animation within the computer first of all, to make sure everything runs smoothly, and then switch to maximum quality and send each frame to the video. This can then be edited, soundtracks and audio can be added, and it can be mixed in with other video footage as necessary.

3D Studio has a wealth of other features too. For instance, you aren't just limited to the features you get when you first install the program. 3D Studio has a very open architecture; that is, you can add further routines that allow you to create complex animations or effects simply and quickly. These are known as IPAS routines and they include such tools as starfield generators, filters for creating lens flares, glows and highlights, animation routines for creating flames and smoke, and other effects; if 3D Studio doesn't do what you want to, write an add-on routine that will.

What it boils down to is that 3D studio seems to be the package for any type of 3D modelling or animation on the PC. Autodesk boasts that whatever you can do on an SG with SoftImage (costing a minimum of £20,000) you can do on a decent PC with 3D Studio for less than half the cost.

3D STUDIO

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Contact: 081 308 1800
Price: £2937.50

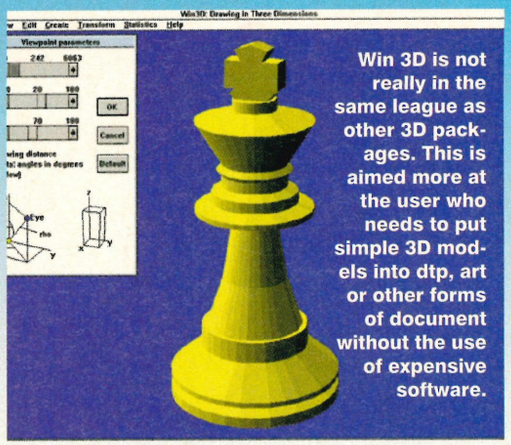
PC REVIEW RATING 8

Visual Reality

Compared to £3,000 for 3D Studio, how does £495 sound? Because that's how much Visual Reality costs. This particular package is a Windows based 3D modelling and simple animation tool. There are two main components here; Visual Model and Renderize Live.

Visual Model is where you create your objects. As with 3D Studio, you're presented with a range of tools for creating and editing primitives, you can delete and join primatives to create further objects.

Then from here it's over to Renderize Live. Within Renderize Live you bring all your objects together to create the scene. Here you also add your camera and lighting and you create and assign materials to all your objects. All the various components that make up the scene; lights, cameras, objects, materials, are all handled through their appropriate Resource Managers; these are effectively extended dialog boxes that make scene generation extremely easy.



One of the interesting features of Visual Reality, more specifically Renderize Live, is the ability to generate more than one scene within the same project. For example you have designed a 3D representation of a kitchen that you are showing a prospective client. Within the one project you could show the kitchen from a number of locations with different materials and colour schemes in a variety of lighting, all without having to wait around whilst you edit this and that or load different files; just set all the views and render them before hand, then switch between them with Views manager.

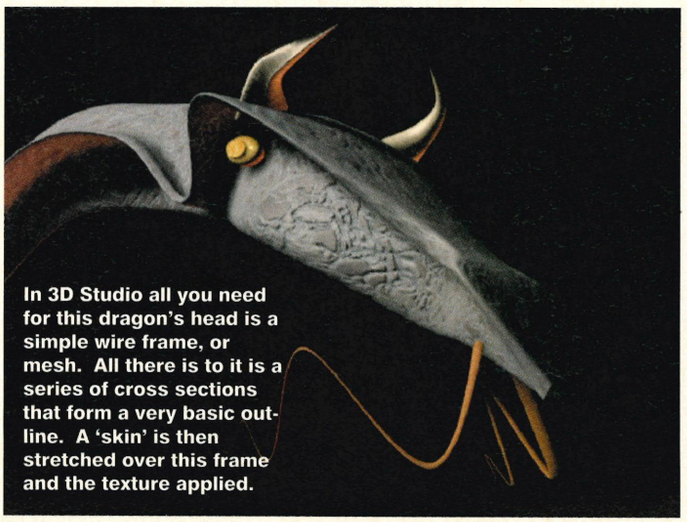
But Whilst Visual Reality is a fairly competent package, it doesn't quite match the levels of performance and flexibility of 3D Studio.

VISUAL REALITY

For: Cheaper that 3D Studio, good range of features, easy to use.
Against: Needs well specc'd machine.

Supplier: AutoDesk
Contact: 081 308 1800
Price: £495

PC REVIEW RATING 7



Sculptura

If you have $95 spare, you could buy a copy of Sculptura. This small Windows application is a simple 3D modelling program. You can create primitives and link them together or assign them colours. Within the scene you can add one light source and have one camera location, but no animation. Sculptura is limited, but it is only $95 and it does provide a cheap insight into the world of 3D modelling for budding 3D'ers.

SCULPTURA

For: Cheap, easy to use.
Against: Limited options, no materials, only one light source in a scene.

Supplier: R.McNeel
Contact: (0101) 206 545 7000
Price: $95

PC REVIEW RATING 5

Win 3D

And finally, at the very cheapest end of the scale, there is an even more basic 3D modelling package called Win3D.

Although this program comes in at just £35, surprisingly it seems to do even less than Sculptura; tools are available for creating objects — but that's it. You can't assign them colours, or create light sources, or even place a camera; although a shaded view is available.

The rather quirky interface makes this program more difficult than it should be to use and while it's the cheapest of the lot it doesn't really have anything in the way of interesting, and even usable features.

WIN 3D

For: Cheap
Against: Limited range of tools, no materials or colour selection, no scene generation, can't change camera or light locations, very limited applications, and a rather difficult to use interface.

Supplier: J Wiley & Sons
Contact: (0243) 779777
Price: £35

PC REVIEW RATING 2

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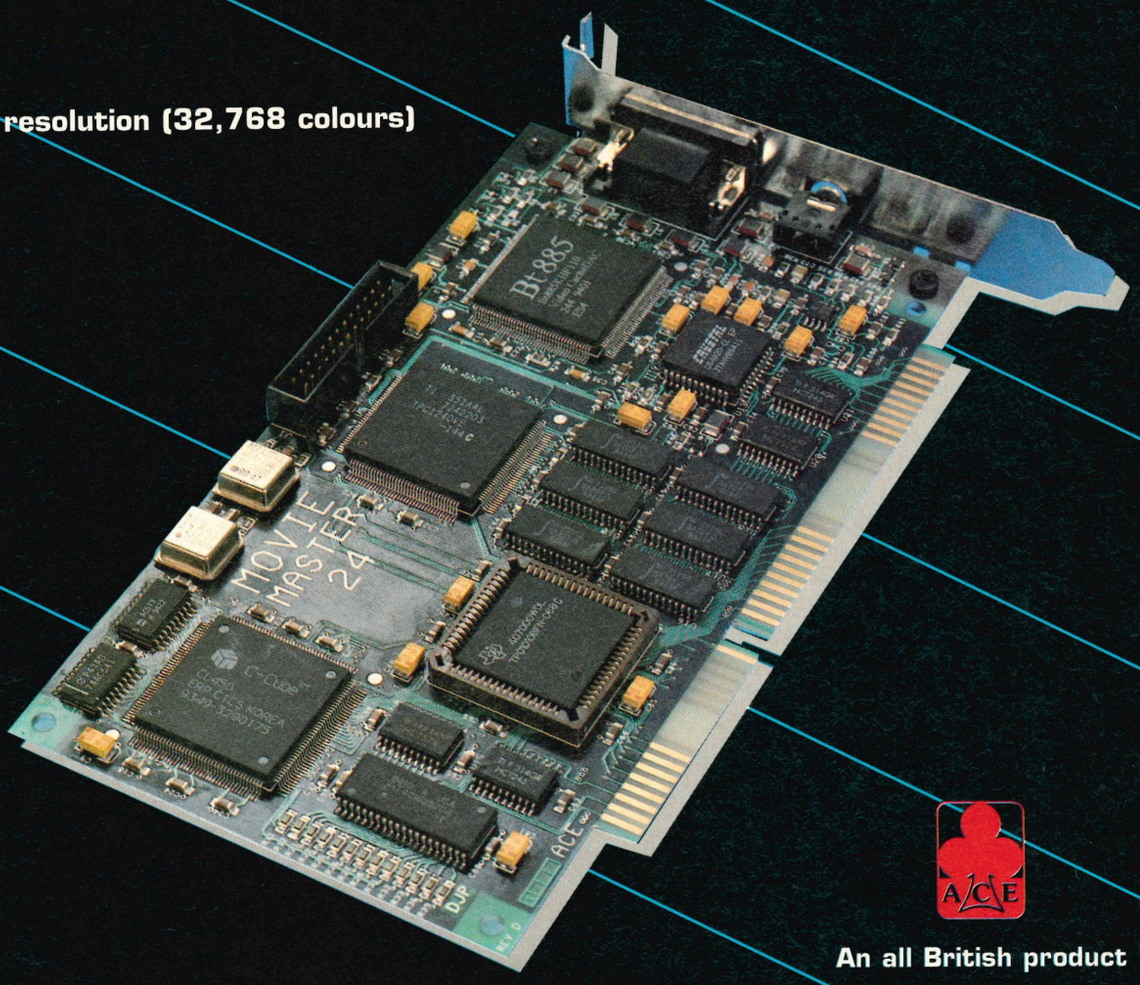
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Help! Start-up files

This month we guide you through the mystery of the start-up files Autoexec.bat and Config.sys, as well as showing you how to make a boot disk and format your floppies.

How many times do you get that dreaded "not enough memory" error line when you try to load a game? Or, even worse, you find the program itself can't resist making a drama out of a crisis and is determined to call it a "fatal" error. Is your enigmatic C:> prompt on-screen just a little too enigmatic at times? These, and many other items are dealt with by two start-up files on your PC called Config.sys and Autoexec.bat.

They are called start-up files because every time you switch your PC on, it goes through a series of self-tests and then automatically 'executes', or implements, the commands it finds in Config.sys, then Autoexec.bat. Assuming it finds these files, that is. Both the start-up files should be in your root directory, which means they should be sitting right under the C:> prompt.

Thus when you type the command Dir at the C:> prompt for a list of all the files in that directory, you should see a list that looks not too dissimilar to the panel below.

We can't, of course, vouch for your exact dates and times, and there's probably quite a few other bits and bobs in there as well. But if you don't have Command.com in there, or a DOS directory, then you are either not typing Dir from your root directory, or you have the most peculiar set-up on your PC.

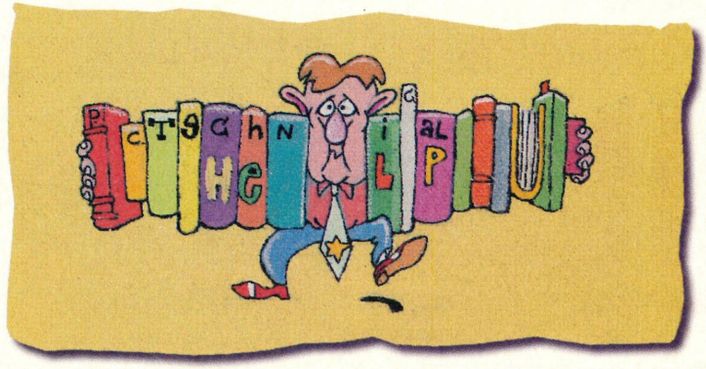
With the vast majority of PCs being supplied these days with bundled software (such as DOS and Windows and probably something like Microsoft Works as well) ready installed on your hard disk, you will almost certainly have both a Config.sys and Autoexec.bat created and tailored for the needs of your PC's set-up. But it won't be long before you find that you need to tinker with the memory configuration on the PC, especially if you're playing games.

Now, there are ways of doing this without getting your hands dirty with Config.sys and Autoexec.bat. You can make a boot disk, for example, which is a floppy disk with just a bare minimum of system and start-up files on it for a particular game. Some publishers of memory-hungry programs will include instructions for the boot disk in the manual, or you'll find details on how to make a basic boot disk in this section of PC Review.

Now boot disks are all very well, but they are an unwieldy solution — do you really want to switch your PC off, find the relevant floppy disk, insert it, and then switch the PC on again every time you want to run a different program?

A second solution is to use MemMaker, if you have MS-DOS 6.0 or a later version (sorry, but MemMaker was only introduced at version 6.0). MemMaker is a very nifty program which will look at the way your start-up files are set up and then shuffle things around to free up as much conventional memory as possible. It's quick and efficient and it definitely works. For example, we used MemMaker on an Apricot Xen PC which arrived with the following factory default start-up files:

```
COMMAND   COM          54,645    31/05/94   6.22
DOS            <DIR>             01/10/94   9.25
WINA20    386           9,349    31/05/94   6.22
CONFIG    SYS             381    18/10/94   7.57
WINDOWS        <DIR>             01/10/94   9.27
GAMES          <DIR>             01/10/94   1.00
WORDPRO        <DIR>             01/10/94   1.00
AUTOEXEC  BAT             358    17/10/94  19.04
```



Config.sys

```
DEVICE=C:\SB16\DRV\SLCD.SYS /B:230
      /D:MSCD001 /V /C /M:P
DEVICE=C:\DOS\SETVER.EXE
DEVICE=C:\DOS\HIMEM.SYS
DOS=HIGH
COUNTRY=044,,C:\DOS\COUNTRY.SYS
FILES=40
STACKS=9,256
```

Autoexec.bat

```
@ECHO OFF
SET SOUND=C:\SB16
SET BLASTER=A220 I5 D1 H5 P330 T6
C:\SB16\DRV\MSCDEX.EXE /D:MSCD001 /V
      /M:15
C:\SB16\SB16SET /M:220 /VOC:220
/CD:220 /MIDI:220 /LINE:220 /TREBLE:0
C:\SB16\SBCONFIG.EXE /S
C:\DOS\SMARTDRV.EXE /X
PROMPT $p$g
PATH C:\WINDOWS;C:\DOS
SET TEMP=C:\DOS
KEYB UK,,C:\DOS\KEYBOARD.SYS
```

This set-up on a 4Mb PC gave us just 507K of free conventional memory. After running MemMaker, however, we had the following:

Config.sys

```
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE
BUFFERS=15,0
FILES=40
DOS=UMB
LASTDRIVE=E
FCBS=4,0
DEVICEHIGH /L:1,38208
      =C:\SB16\DRV\SLCD.SYS /B:230
/D:MSCD001 /V /C /M:P
```

BUT WHAT DOES IT ALL MEAN?

It's all very well saying that these start-up files are just plain text and nothing to be frightened of, but they still look like gobbledegook when you initially load them up. So what do the individual lines mean?

Config.sys

```
1  DEVICE=C:\DOS\HIMEM.SYS
2  DEVICE=C:\DOS\EMM386.EXE noems
3  BUFFERS=25,0
4  FILES=25
5  DOS=HIGH
6  DOS=UMB
7  LASTDRIVE=E
8  FCBS=4,0
9  DEVICEHIGH=C:\SBPRO\DRV\SBCD.SYS /D:MSCD001 /P:220
10 COUNTRY=044,,C:\DOS\COUNTRY.SYS
11 DEVICEHIGH /L:1,15792 =C:\DOS\DISPLAY.SYS CON=(EGA,,1)
12 DEVICEHIGH=C:\DOS\SETVER.EXE
13 STACKS=9,256
```

Autoexec.bat

```
14 ECHO OFF
15 C:\WIN31\SMARTDRV.EXE
16 SET BLASTER=A220 I7 D1 T4
17 LH C:\SBPRO\DRV\MSCDEX.EXE /D:MSCD001 /V /M:15
18 PROMPT $P$G
19 PATH=C:\DOS;C:\PKZIP;C:\WIN31;C:\BAT;
20 SET TEMP=C:\TEMP
21 MODE CON CODEPAGE PREPARE=((437) C:\DOS\EGA.CPI)
22 MODE CON CODEPAGE SELECT=437
23 LH /L:1,16656 KEYB UK,,C:\DOS\KEYBOARD.SYS
24 LH /L:0;1,24336 /S C:\MOUSE\MOUSE.EXE /Q
25 CLS
```

THE GOBBLEDEGOOK EXPLAINED

1) Loads the extended memory driver.

2) Loads the expanded memory driver. 'Noems' means that the driver is loaded but no EMS is allocated. This has the effect of letting you load programs into upper memory but configuring the rest as extended. If you replaced the Noems with 1024, that would allocate 1,024 bytes as expanded memory, 2048 allocates 2,048 bytes and so on.

3) Buffers are tiny areas of memory used by DOS when transferring data to or from a disk.

The more buffers you have, the more conventional memory they take up; some programs require a certain number of buffers to be allocated in Config.sys.

4) This refers to the maximum number of files MS-DOS can keep open at once. Some programs require a lot of files kept open and will alter the number in your Config.sys.

5) Loads DOS into the high memory area, a 64K block above the first 640K.

6) Creates some spare upper memory blocks into which you can load device drivers. You need to have upper memory blocks before you can use the Devicehigh command as it appears below.

7) Specifies the maximum number of drive letters that DOS can access. You should specify the minimum you need since each nominal letter uses up memory.

8) Stands for file control blocks. The number should be between 1 and 255.

9) This line sets up the link between the CD-ROM drive and the sound card. Devicehigh tells DOS to load the driver into the upper memory area instead of into conventional memory, thus freeing up more conventional memory for all of your other programs.

10) Tells DOS which country's numeric and other notations to use. The number 044 specifies the UK, and means, among other things, that you will see dates quoted day first, then month, then year (not month first, for example). The second part of the line, C:\DOS\COUNTRY.SYS, tells DOS where to find the file which controls the country codes.

11) Sets up the code page support for your display. Code pages differentiate between the character sets specific to each country.

12) Setver is an occasionally useful program to have around. If program X is designed to work with a particular version of DOS and won't recognise DOS 6, then you can use Setver to stipulate which version you would like DOS to pretend to be temporarily, this fooling program X into thinking you are working with DOS 4, say, after all.

13) Data stacks control the handling of hardware interrupts. Do not tinker with this line.

14) Tells DOS not to 'echo' the commands to the screen, ie, not to display the commands on screen as it runs through them. Variation: @ECHO OFF won't even display the ECHO OFF message; the @-sign suppresses it.

15) Smartdrv is a disk cache in extended memory. A number, such as 1024, or 2048, at the end of this line sets the size of the cache in bytes.

16) Defines the parameters for a standard Sound Blaster Pro set-up: that's port address 220, interrupt 7, DMA channel 1, and T for the number of voice channels.

17) Loads the CD-ROM driver. LH stands for 'load high' and corresponds to Devicehigh in the Config.sys.

18) Prompt is a great and essential addition to your Autoexec.bat. It tells DOS what to put on-screen at the C:> prompt. This configuration (pg) puts the name of the current directory and a > sign up, but you could also have the time, date, even a cheerful message.

19) This is the line that defines which directories DOS will look in for programs that you want to execute.

With this example, you could be sitting in C:\WORDPRO\FILES\LETTERS\BUSINESS, and you could type Win to load Windows. DOS will look for the file Win.com in the current directory, then in C:\DOS, then C:\PKZIP, then C:\WIN31 (where, hopefully, it will find it).

20) Tells DOS where to store temporary files.

21/22) These set up the correct code page (character set); 437 is correct for the UK.

23) Tells DOS to use the UK keyboard, ie, the pound sign will be Shift-3 and not obtainable only by typing in an obscure ASCII code.

24) Loads a mouse driver. Note this is a serial mouse loaded in Autoexec.bat, rather than the system mouse which plugs directly into the back of the PC in the Config.sys example above. Don't worry about all the numbers, they refer to regions of memory.

25) CLS stands for 'clear screen' and simply puts your final C:> at the top left, ready for your commands, rather than down at the bottom somewhere.

Please note: these are examples only. If your lines look a bit different — if some of the numbers are different, for example — don't assume that your files (or our files, for that matter) is wrong. Addresses and precise configurations will vary from PC to PC, and sound cards, CD-ROM drives, etc, on preconfigured machines should all be set up correctly when they are initially installed.

```
DEVICEHIGH /L:1,12048
      =C:\DOS\SETVER.EXE
DEVICEHIGH=C:\DOS\MOUSE.SYS
DOS=HIGH
COUNTRY=044,,C:\DOS\COUNTRY.SYS
STACKS=9,256
```

Autoexec.bat

```
@ECHO OFF
SET SOUND=C:\SB16
SET BLASTER=A220 I5 D1 H5 P330 T6
LH /L:1,46544 C:\SB16\DRV\MSCDEX.EXE
      /D:MSCD001 /V /M:15
C:\SB16\SB16SET /M:220 /VOC:220
/CD:220 /MIDI:220 /LINE:220 /TREBLE:0
C:\SB16\SBCONFIG.EXE /S
LH /L:0;1,45456 /S C:\DOS\SMARTDRV.EXE
PROMPT $p$g
PATH C:\WIN31;C:\DOS
SET TEMP=C:\DOS
LH /L:1,16656 KEYB UK,,C:\DOS\KEY
      BOARD.SYS
```

This yielded over 600K of free conventional memory. To run MemMaker, simply type the command MemMaker from the C:>. (NB if you get a "Bad command or filename" message after you key this in, it's because you have no 'path' to your DOS directory — see step six under 'Editing your start-up files', below. If this happens, type CD DOS from the C:> prompt, then type Memmaker.)

MemMaker is fine if what you need is lots of free memory out of your initial 640K. But it's not so helpful if you're trying to specify extended or expanded memory to a certain amount.

There is a third solution, if you have any version of DOS 6. You can choose which Config.sys lines to use at start-up, by pressing F8 when you see the line 'Starting MS-DOS ...' appear on-screen after you switch on. Now MS-DOS will go through the Config.sys file line by line, asking you if you want to load it or not.

You can also set up alternative Config.sys set-ups within the one Config.sys file, but this requires you to know how to edit the start-up files in the first place.

Editing your start-up files

Getting into your Config.sys and Autoexec.bat files really isn't as difficult as it might initially seem. Both the files are made up of plain text rather than programming code, and so can be loaded into any word processor or text editor. Here's how to do it simply and efficiently:

1) Before you do anything else at all, make a copy of your current Config.sys and Autoexec.bat. That way, if you get stuck, you can always go back to the original. You can either copy the files on to a floppy disk, then label the disk and store it away somewhere safe, or you can copy the file to the hard disk but under a different name. To copy to a floppy disk, put a disk into your drive and type

COPY CONFIG.SYS A:

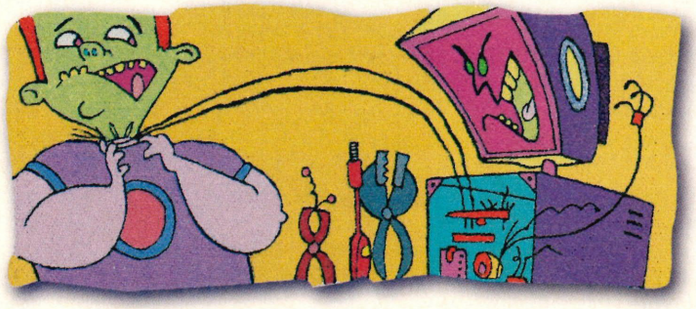
at the C:> prompt (remember to hit Enter after each of these commands), and

COPY AUTOEXEC.BAT A:

To copy to a different name on the hard drive, type:

COPY CONFIG.SYS CONFIG.BAK

at the C:> prompt, and



COPY AUTOEXEC.BAT AUTOEXEC.BAK

You don't have to use the extension .BAK; it can be any three letter extension you like, so long as you can remember that that is your original file.

2) Now you can get to work on the start-up files. At the C:> prompt, type

EDIT CONFIG.SYS

This will load up Microsoft's built-in text editor. The screen will go blue and the lines of your Config.sys file will be displayed. If the screen goes blue, but stays blank, then you have either mistyped the name Config.sys, or again because you have no path to your DOS directory. Type CD DOS from the C:> prompt, then type EDIT C:\CONFIG.SYS.

3) If you use your up/down/left/right cursor keys, you'll notice that the on-screen cursor moves from line to line. To add a line to the file, go to the end of the line preceding the line you want to type in, hit Enter, and simply type the text you want.

For example, the eagle-eyed among you may have noticed that in the example Config.sys above, the 'after MemMaker' file includes a line which says

DEVICEHIGH=C:\DOS\MOUSE.SYS

This line is absent from the 'before MemMaker' file. MemMaker didn't add this line to the Config.sys; we typed it in later, using the Microsoft Edit program, because, yes, the PC was supplied to us without the DOS mouse driver installed.

4) If you want to disable a Config.sys line, we would strongly recommend that you don't physically delete the line from the file. Instead, type the word REM before the line itself. REM stands for 'remark' and tells MS-DOS that this line is merely a comment and not a command for processing.

So, suppose you want extended memory up and running, but not expanded memory. Locate the line

DEVICE=C:\DOS\EMM386.EXE

which loads the expanded memory driver, move the cursor to under the D of DEVICE, and type

REM [space]

so that the line now reads

REM DEVICE=C:\DOS\EMM386.EXE

Now when you want the expanded memory line to be active again, you only need to delete the word REM and the space after it.

5) Once you're done with Config.sys, press Alt-F, then S for 'save' (these key combinations access the menus at the top of the screen). Now you may want to call up Autoexec.bat. Press Alt-F, then O (for 'open'), and you'll be presented with a text menu on-screen.

Rather unhelpfully, the Edit program assumes the file you want will end in .TXT, so you need to delete that and type in Autoexec.bat in place of *.TXT. Hit Enter.

6) The Autoexec.bat file, like the Config.sys file is simply a text file of commands to be carried out by DOS at start-up time. One thing you may well want to do with Autoexec.bat is to add some of the directories you most frequently access to the path. What this does is to enable you to use commands which are contained in one particular sub-directory from any other sub-directory.

For example, suppose you sometimes compress files to make more space using Pkzip. The Pkzip program itself is contained within the Pkzip directory, so normally you would need to log on to C:\PKZIP and type the command from there. If, however, you have a line in Autoexec.bat that says

PATH=C:\PKZIP

then you can be in the directory C:\INDYCAR (for instance) and just type PKZIP from there to compress all the files in the Indycar directory. You don't have to switch to the PKZIP directory first, or copy the Pkzip.exe program to the Indycar directory, or anything cumbersome like that.

7) When you've finished editing, press Alt-F, S to save the new Autoexec.bat file, then Alt-F, X to exit the Edit program.

8) For any changes you have made to take effect, you must restart the machine. After quitting out of the Edit program, press Ctrl-Alt-Del, or your Reset button, to restart.

9) Remember, you can find out easily how much conventional, extended and expanded memory you have by typing

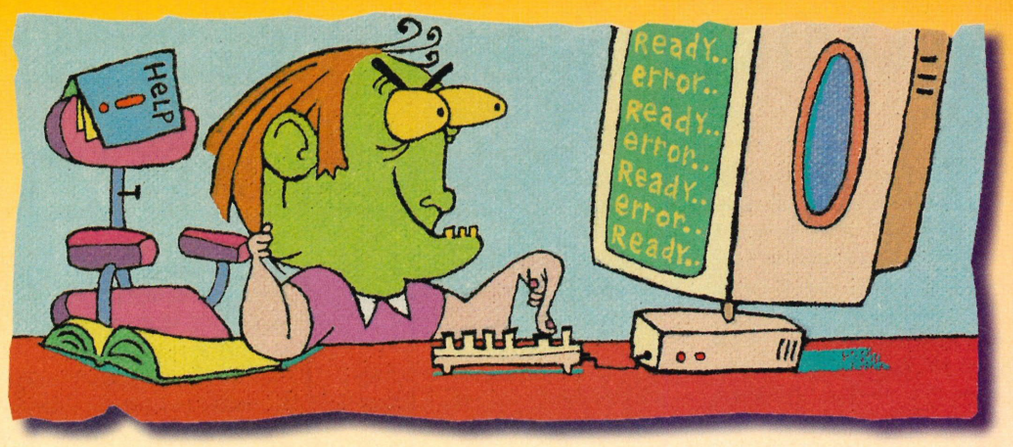
MEM

at the C:> prompt. For a fuller explanation of exactly what is taking up how much memory, type

MEM /C |MORE

using the downstroke key which is normally Shift-backslash. This will pause the screen at each screenful to let you read the information.

FORMATTING YOUR DISKS



Blank disks that you buy from the shops will almost always be unformatted: that is, they are truly blank. In order to use them on a PC, you will need to format them. Formatting imposes a structure on the disk, marking the disk magnetically into areas called tracks and sectors, which makes it easier for the operating system to keep track of files when you store them on the disk. If you format your blank 3.5" disk in an Apple Macintosh, it will be formatted for use only in an Apple Mac; if you format it in a PC, the tracks and sectors will be marked specifically for use in a PC.

Where formatting gets a bit scary is that, a) you can reformat disks with data already on them, and the process of formatting also erases any information already on the disk, and, b) you can format hard disks as well as floppy disks.

We defy anyone who has used a PC for any length of time to claim that they have never formatted the wrong disk by accident. However, while it can be agonisingly easy to reformat the wrong floppy disk, current versions of DOS will warn you in capital letters if you try to format the hard disk by mistake.

If you do accidentally wipe out the wrong data with the Format command, and you have version 5 or 6 of DOS, try running the Unformat program immediately (type Unformat at the C:\DOS prompt). Failing that, you need a program such as Norton or PC Tools to try to recover your data.

To format a high density (1.44Mb) floppy disk in high density drive A:

1) Put the disk you want to format into your floppy disk drive A:.
2) At the C:\ prompt, type FORMAT A: /F:1.44 (don't hit Enter just yet)
3) Check that it really does say A: in the line you've typed.
4) Press Enter.
5) You will be prompted to insert the correct disk into drive A:. This you have already done, but you do have a chance to double-check that it's the right one now.
6) Press Enter to confirm the format.

The formatting process should now start. Note that if the disk is write-protected, you will get a message saying "Write-protect error" (write-protected disks cannot be (re)formatted). You can simply take the disk out, move the write-protect notch down, re-insert it and start again. First, however, you should try to remember why you write-protected it in the first place.

The PC should make a regular

GLOSSARY

8-bit: a bus (see below) or processor which can transfer and process data eight bits at a time. See bits, below.

16-bit: a bus (see below) or processor which can transfer data 16 bits at a time. A 16/32-bit processor, such as the 386SX takes data in and spurts it out 16 bits at a time, but internally processes it 32 bits at a time.

32-bit: a bus (see below) or processor which can transfer and process data 32 bits at a time.

Analogue: a device capable of representation by electrical voltages rather than electrical signals.

Ansi.sys: this DOS file can be loaded as a device in Config.sys and then used to present very basic coloured block displays on-screen.

BASIC: stands for Beginners' All-purpose Symbolic Instruction Code. A programming language.

Baud rate: speed of transfer by a modem as measured in bits per second.
See modem.

BBS: stands for Bulletin Board System. A database of programs, demos, and mailbox areas which you can phone using a modem. Facilities vary, but normally include access to the programs, the option to upload your own data and to 'chat' on-line to other users.

Bit: the smallest unit of computer data, equal to either of the digits 0 or 1 (bit actually stands for 'binary digit').

Booting: booting up the PC is the same as switching it on and loading up the start-up programs.

Buffer: an area of memory used for temporary storage.

Bus: the software, hardware and wiring that enables the different parts of your PC to communicate with each other. The expansion bus connects the PC to external devices.

Byte: a unit of data equal to eight bits; more understandably, one character in ASCII (plain text) takes up one byte of space.

Cache: a form of buffer memory, a disk cache or cache memory is an area where data is stored and can be transferred rapidly rather than being called up from the hard disk, floppy, or CD-ROM.

CAD: stands for Computer-Aided Design. Technical drawing on the computer.

Centronics: the standard interface for computer printers, named after the manufacturer.

Chkdsk: Useful, but not foolproof, DOS command which when used regularly, will check your hard disk for file errors.

CIX: stands for Compulink Information eXchange, a bulletin board and e-mail service.

Co-processor: an additional processor used for auxiliary functions, especially mathematical operations.

Config.sys: a file which you create on your PC to load up device drivers for items such as a sound card, CD-ROM drive, etc, every time your machine is switched on.

Conventional memory: The first 640K of RAM, into which MS-DOS is loaded, and the place where all your programs must run from.

Directory: Your PC files can be grouped together in directories on a hard or floppy disk to make easier to sort them or find them. A common analogy is to compare the files with documents, stored in folders (directories) in a filing cabinet (the hard disk).

DOS: stands for Disk Operating System. A generic term which can refer either to MS-DOS or DR-DOS (see below).

DOS shell: a pseudo-graphical user interface (see below) included with MS-DOS v4 and later. This presents your filing system in tree-structure form and can make it easier to find, sort, copy and move files than typing commands at the C:\ prompt.

DR-DOS: stands for Digital Research Disk Operating System. An alternative and rival to MS-DOS, with some different functions, but compatible with it.

DTP: stands for desktop publishing. Software which enables the user to mix text, and graphics in a document to produce newsletters, newspapers and magazines.

ticking noise as it marks the tracks and sectors. However, if this gives way to a distinct grinding sound, then the format program has found some bad sectors — areas on the disk that are damaged. Don't worry. The format program will mark these sectors as 'bad' and henceforth, your programs will not attempt to write data to these areas, although you will lose the space that the bad sectors take up. Your 1.44Mb disk will only hold 1.43Mb of data if there is around 10K in bad sectors.

Once complete, you will be prompted to enter a 'label', or name for the disk. This prompt will always occur, whether or not you wish to format another disk of the same type. So, hit Y for yes and have the second disk handy, or N for no, and exit the format program.

If you want to format a low density (720K, or 'double density') in a high density drive, you should specify it at the C:\ prompt:

FORMAT A: /F:720

Don't try to format disks at the wrong density. As for formatting hard disks, DON'T, unless you absolutely have to.

MEMORY PROBLEMS

One of the first stumbling blocks that many new users come across is how memory works on the PC, partly because the word 'memory' refers to both permanent file storage space and the memory chips, called RAM, installed inside the machine. So ...

When I try to run Tharg Commander, it says I have insufficient memory. But there's 120Mb on my hard disk — what's going on?

Your hard disk and floppy disks are the permanent storage places for your programs and data. Your system memory, in the form of memory chips on the main circuit board of your PC, temporarily holds programs, or parts of programs, when you use them.

A word processor program, is stored on your hard disk, but when you type the command to load it, or click on its icon in Windows, however much of the word processor is needed for the program to display on-screen and function is loaded into system memory.

So, each program will require a different amount of system memory to be free. When you switch on the PC, MS-DOS will load into your system memory, as will any software used to run devices such as mice or sound cards. If Tharg Commander wants 610K free to run the program and you only have 570K left after DOS and devices have loaded, you will get a message saying you have insufficient memory.

That's all right. My PC's got 4Mb of RAM, so I must have at least 600K left.

What the program is talking about is the first 640K of your system memory. This 640K is called base or conventional memory, and this is where programs will load the pertinent parts in order to run.

The rest of your 4Mb can be configured as expanded or extended memory and your programs will make use of this as well, but they still need a good chunk of that first 640K.

How do I know how much conventional memory I have left?

At the C:\ prompt, type MEM, and you will see a table of conventional memory used, expanded/extended memory used, and then a line reading:

Largest executable program size

followed by a number in kilobytes, and then in bytes in brackets, which indicates the amount of free conventional memory.

On average, you could expect to find a figure between 535K and 600K. If you have less than 500K free out of your base 640K, then you may well have a TSR (terminate and stay resident) program running.

If you want a more detailed breakdown of which programs are using memory, type MEM/C for a full list.

What do the terms 'expanded' and 'extended' memory mean?

When a program calls for expanded or extended memory, the actual memory chips it requires are precisely the same; it's the way in which the memory is managed that differs.

MAKING A BOOT DISK

If you're having difficulties freeing up enough memory to run a program and you're fed up to the back teeth with editing Config.sys and Autoexec.bat to no avail, an easy way out is to make a boot disk.This is a floppy disk with just enough files on it to load MS-DOS, but not so many that it eats into your conventional memory.

There are two ways to create a boot disk, one for formatted floppy disks, and one for unformatted. All you need is the floppy disk, a sticky label and a pen.

If your floppy disk is already formatted, make sure it's blank, put it in your disk drive and then, at the C:\ prompt, type

SYS A:

This will transfer three files (four in DOS 6) from the hard drive to the floppy drive. The two system files, which are probably called Io.sys and Msdos.sys, are 'hidden' and not normally visible to a directory listing (so just take our word for it that they're copied across). The third is the all-important Command.com. The fourth, exclusive to DOS 6, is Dblspace.bin, which is also a hidden file. Once the files have copied over, your floppy disk is now a boot disk. It contains the bare minimum to run MS-DOS, while leaving plenty of memory free for running hefty games.

If your floppy disk is unformatted, you can format it and make it a system disk in one fell swoop. Put the disk in your floppy disk drive and type:

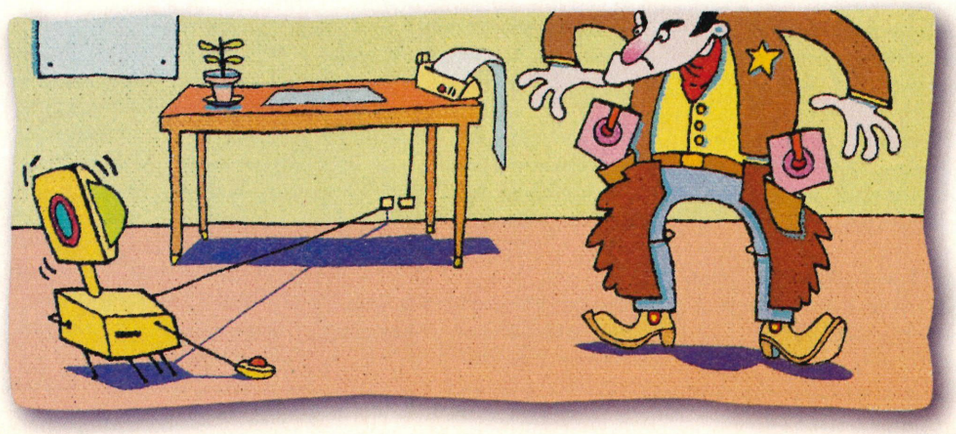
FORMAT A:/S

The format command will format the disk. The /s is called a switch, and tells DOS to transfer the three main system files to the floppy disk, making it a boot disk.Now take the sticky label and pen and label the floppy as a boot disk.

Because the Sys and Format/s only transfer the fewest files necessary to boot the system, your mouse will not be loaded, nor will a sound card or CD-ROM drive be loaded with a device driver.

You can load these separately from the C:> prompt, after using the boot disk to start up, but it's probably easier to make Autoexec.bat and Config.sys files on the boot disk itself. The easiest way to do this is to copy over your standard Config.sys and Autoexec.bat files from your hard disk and then remove all the lines except the ones you need for the program to run, such as the mouse driver, sound card settings, or expanded memory manager lines. This guards against typing errors when you try to create the new Autoexec.bat and Config.sys on the floppy disk.

Note: several program manuals explain how to make a boot disk and suggest specific commands to go into the Config and Autoexec files on the boot disk — usually with regard to extended and/or expanded memory requirements specific to the program in question. Let the program manuals recommendations override your existing configuration if you want the program to work properly.



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Expanded memory is the older way. It works, roughly speaking, by moving 16K blocks of data in and out of the high memory area (the area between 640K and 1Mb) as needed by the program, which must be written specifically .

Memory above 640K is extended memory by default on PCs with at least a 286 processor. While DOS itself doesn't use extended memory, many programs do.

With a 386 or later processor, an expanded memory manager will convert your extended memory to expanded. With a 286 or older, you need to add expanded memory on a separate board.

Current versions of DOS come with both an expanded memory manager (Emm386.exe) and an extended memory manager (Himem.sys). The following line in your Config.sys file

```
Device=C:\[path]\Emm386.exe
```

makes your PC ready to run programs needing expanded memory. The word [path] just means the name of the directory where the file is kept — probably the DOS directory. If you add a number such as 1024 at the end of this line, then that is the amount, in kilobytes, that DOS will give to expanded memory.

Any that is left over is configured as extended memory, providing you also have a line reading

```
Device=c:\[path]\Himem.sys
```

at the top of the Config.sys file. This line needs to come before the Emm386 line.

How do I free up more conventional memory then?

There are two things you can do with Config.sys and Autoexec.bat to free up more base memory. Either remove some commands so that non-essential device drivers and configurations aren't loaded, or load them into the high memory area, or upper memory blocks (386/486 PCs only).

To take this latter method first: if the first lines in your Config.sys are:

```
Device=Himem.sys
Dos=High
```

then, after rebooting, DOS will load into the high memory area, a 64K block above 640K. This works with a 286, 386 or 486 and DOS 5 or later.

If you put the following two lines in your Config.sys, immediately after the Device=Himem.sys line:

```
Device=c:\[path]\Emm386.exe
noems
Dos=High,umb
```

then the next time you reboot your PC, some spare upper memory blocks will be created. These blocks can then be used to load device drivers into, such as

```
Devicehigh=c:\cd\cdriver.sys
```

in place of Device= in the Config.sys. This line will then load this mythical CD-ROM driver into an upper memory block.

The first method is simply to disable anything in the Config.sys and Autoexec.bat that looks superfluous, and to save memory that way. However, we wouldn't advise deleting the line altogether: you might discover it was useful for something after all!

Instead, you can simply alter the lines in the Config.sys or Autoexec.bat file (see the section on editing these files, above, for exactly how to do this), so that instead of reading, say

```
Path=c:\dos;c:\mouse
```

the line reads

```
Rem path=c:\dos;c:\mouse
```

Rem stands for Remark, and tells DOS that this line is only a comment, not a command. Now, if you ever want the line back, all you have to do is to delete the word Rem.

If you have DOS 6, you can choose which Config.sys lines to use at start-up, by pressing F8 when you see the line Starting MS-DOS ... appear on-screen after you switch on. Now MS-DOS will go through the Config.sys file line by line, asking if you want to load it or not. Again, this is explained in more detail in the section, above, on Config.sys and Autoexec.bat.

GLOSSARY

DX: The DX sub-set of processors are the full-blown versions in their grade. A 386DX is a 32-bit processor as opposed to the 16/32-bit 386SX. A 486DX is a fully enabled version of the Intel 486 family.

EMS: stands for Expanded Memory System. This was the first standard enabling MS-DOS to use system memory above 640K in the PC.

Expanded memory: a form of adding system memory above 640K to the PC so that it can be used by MS-DOS, and also programs written to support it.

Extended memory: a form of system memory above 1Mb which can be used by programs written to support it.

Gigabyte: 1,024 megabytes.

Graphical user interface: a system, such as Windows, in which you move an on-screen cursor and 'click' (usually with a mouse) on pictorial representations (icons) in order to make the PC perform commands.

HMA, high memory area: a 64K block of memory above 640K which MS-DOS can load into with the command Dos=high after the Device=Himem.sys line in Config.sys.

Icon: a pictorial representation of a file or command on screen.

Io.sys: one of MS-DOS's two hidden system files. Needs to be present at start-up.

Key disk: some programs require you to insert a master disk in your floppy disk drive while using the program on hard disk as a form of copy protection.

This master disk is referred to as the key disk.

Kilobyte: 1,024 bytes.

Low level format: Formatting a hard disk is a two-stage process: the initial low-level format prepares the disk for a high level format, after which data can be recorded.

Main board: general term for the motherboard of the PC.

Maths co-processor: a second processor in the machine, which is used to carry out mathematical functions by programs which support them.

MCA: stands for Micro Channel Architecture. An expansion bus developed by IBM, originally designed to bring the bus in line with faster 386 processors.

MCGA: stands for Multi-Colour Graphics Array, a graphics mode on some IBM PS/2 machines.

Megabyte: 1,024 kilobytes.

Memory-resident: a program which remains in memory even while other programs are running.

MHz, megahertz: the unit of frequency at which electric current cycles through the processor. Used to describe the speed of the processor.

MIDI: stands for Musical Instrument Digital Interface. A system by which electronic musical instruments can be connected to each other and to a computer, which then controls all of them.

Mini-Tower: a squat – roughly half-height – version of the Tower, where the PC itself is housed in upright casing. See Tower, below.

Modem: stands for *Mod*ulator/*Dem*odulator. A device which enables you to connect your PC to the telephone line and send and receive data through it.

Motherboard: the main board for a computer circuit.

MPC: stands for Multimedia PC. A standard minimum specification for developing and running CD-ROM software.

MPEG: stands for Motions Pictures Experts Group, a compression standard for video images.

MS-DOS: stands for MicroSoft Disk Operating System. The standard operating system for the PC. The operating system is the base program which

enables you to run applications on the PC, use disks and add-on devices and organise your files.

Msdos.sys: one of MS-DOS's two hidden system files. Needs to be present on start-up.

Multimedia: the use of data from different media in the same program, eg, mixing video, computer graphics, sampled speech, music, text, etc. Often sloppily used to refer to any CD-ROM program.

OCR: stands for optical character recognition. Software which 'reads' text scanned into the computer with a scanner (see below) and converts it into the original characters (when scanned, the document will be saved as a graphics file rather than a text file).

Partition: division of a hard disk drive into more than one 'logical' drive, ie, although physically the same hard disk, different areas are assigned their own drive letter.

Patch: an add-on disk to a program which can be bought by existing users and which usually fixes a bug, or provides an update to the original program.

Path, pathname: the 'tree' of directories and sub-directories that defines the location of a file or group of files. For example, c:\wordpro\john\sample.let is the path for the file Sample.let in the sub-directory John, in the directory Wordpro, which is in the root directory.

Pentium: The name for what is logically the 80586 processor. Intel, the manufacturer, gave the chip a name rather than a number to make life more difficult for rival manufacturers. Numbers — such as 586 — cannot be trademarked in the US but, of course, names can be. Thus, while other companies can develop what is, in effect, also a 586 chip, they cannot call it a Pentium and reap the reflected rewards from Intel's high brand name visibility.

Port: a chip which controls the connection of external devices to the computer. Often used loosely to mean the socket, the interface, the back of the PC, etc.

Processor: the chip that drives your PC, and deals with mathematical and logical operations.

Program Manager: the main screen, or 'front end' to Windows, from where all Windows operations can be accessed.

RAM: stands for Random Access Memory. This is the dynamic system memory which holds programs and data while they are being worked on.

Read-only: a file or disk whose contents can be read or copied, but cannot be changed.

Resolution: the density of dots on-screen, or in printed hard copy (or in graphic files) which determines how detailed the picture (or print) looks to the eye. Standard VGA screens display at 640x480 pixels, SVGA at up to 1024x768. Resolution of print is measured in dots per inch — a standard laser printer prints at 300dpi.

ROM: stands for Read Only Memory. This is permanent memory, and in PCs is generally used for start-up operations — routines stored in Rom carry out the self-tests and activate DOS when you switch the machine on.

Root directory: the directory immediately under C:. See path.

Scanner: a device which 'reads' printed matter and converts it into digital information which can be stored as a computer file.

Screen saver: Spurious, but mildly diverting software which puts pictures and animations on your screen if you don't press a key for a certain length of time.

SCSI: (*pron Scuzzy*) stands for Small Computer Systems Interface.
A multi-purpose interface between the computer and peripherals, mainly disk drives and CD-ROM drives. Provides very fast data transfer.

Serial port, interface: an interface which uses serial connections. Mainly used for modems, networks, and some mice. Standard serial interfaces on PCs come in two versions: 9-pin and 24-pin and adapters are readily available.

Shareware: Shareware is actually software designed to be used and distributed freely on a trial basis, but for which users are expected to register and pay if they wish to use it regularly. Shareware is subject to copyright.

SIMM: stands for Single Inline Memory Module. Board with a set of memory chips for comparatively easy RAM upgrades.

Sound card, soundboard: a soundcard or soundboard is an item which plugs into a spare expansion slot and enables programs to play music and sound effects through it, coupled with a set of speakers.

SVGA: stands for Super VGA (Video Graphics Array, see below). A general standard describing graphics modes of 800x600 and up to 1024x768 pixels with at least 256 colours on-screen.

SX: the 'cut-down' versions of processors. The 386SX processor is a cut-down version of the 386DX, because although it processes data internally 32 bits at a time, it only accepts and transfers data 16 bits at a time. The 386DX is a true 32 bit processor. The 486SX, however, is a 486DX without a built-in maths co-processor.

System disk: a floppy disk with DOS system files on it which will boot up the machine.

System files: the files which make up the operating system of the computer.

TLA: stands for Three Letter Acronym, much beloved of computer programmers, journalists and data processing managers.

Tower, mini-Tower: an upright casing for the PC, designed to save desk space, since it will stand on the floor.

TSR: stands for Terminate and Stay Resident, a memory resident program which you can exit from but call up, typically with a single keypress, since it is still stored in system memory. See Memory Resident, above.

UMB, upper memory block: smallish areas of unused memory between the first 640K and 1Mb.

You can put drivers in here by using the command DEVICEHIGH instead of DEVICE in the Config.sys file. Upper memory blocks are explained in more detail elsewhere on these pages.

Upload: to transfer files from your computer to another, typically to a bulletin board or central database.

Vector graphics: a graphics technique characterised by the drawing of geometric lines for precise scaling and movement.

VESA: stands for Video Electronics Standards Association. A group of graphics card manufacturers who have determined standards for high resolution monitors and graphics adapters.

VGA: stands for Video Graphics Array. An IBM graphics mode which has become the base standard for PC colour displays.

Virus: a program which has been specifically designed to alter the contents of other programs, with differing effects but usually rendering the programs unusable.

Virus checker, virus scanner: a program that will check files for the presence of a virus, usually by looking for unexpected patterns in the file contents.

Virus killer: a program which will remove the virus elements from an infected file and — optimally — repair the file.

Wallpaper: the background to — usually — a graphical user interface screen, such as the screen background in Windows.

Write-protect: to render a disk read-only, so that its contents cannot be altered, usually by moving a notch at the top of the disk's casing.

XA, CD-ROM XA: stands for eXtended Architecture. CD-ROM with additional video capabilities.

XGA: eXtended Graphics Array. IBM graphics mode.

XModem, YModem, ZModem: three different protocols — sets of rules — for transferring data via modem. ZModem has become the preferred standard.

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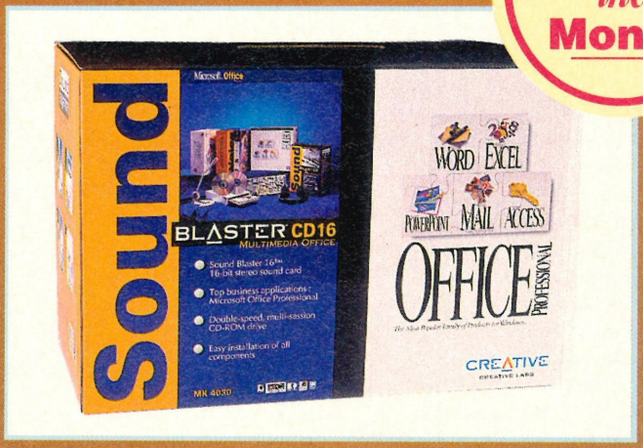
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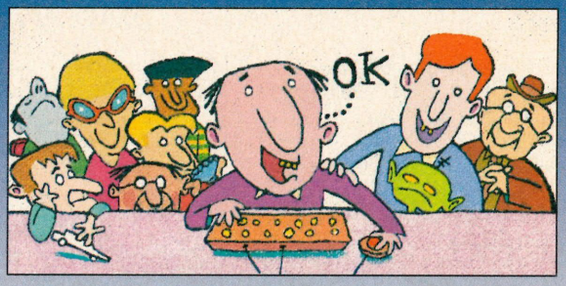
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Q+A



Is your hardware making your head ache? Is DOS driving you dotty? If you've problems with your PC, share them with Mike James and he'll do his best to help you.

Getting rid of TMP files

Q I find that my hard disk space is being gobbled up with TMP files in my C:\TEMP directory. Could you please give me a batch file that can be included in my Autoexec.bat file to clear out all these unwanted TMP files every time I boot up?

D H Wheeler
Co Durham

A *A lot of users suffer from the problem of accumulating temporary files without realising it. Programs that fail to erase the temporary files that they create are surprisingly common and even if a program does do the right thing and cleans up after itself, it only takes a system crash to leave a mess behind. Creating a command line that automatically deletes temporary files is easy and it more or less completely solves the problem. However, remember that deleting files is a dangerous occupation and deleting them via any automatic process is doubly so!*

If you just add the line

```
ERASE C:\TEMP\*.TMP
```

to your Autoexec.bat file then this will erase all the files ending in .tmp in the directory C:\TEMP.

As long as you are sure that all of the files in this directory are temporary files — and if they are not, what are they doing in a directory called temp? — then you could use

```
ERASE C:\TEMP\*.*
```

The only trouble with this line is that it results in your machine asking you, "Are you sure?" This is an attempt to stop you from carelessly erasing complete directories without giving it a moment's thought!

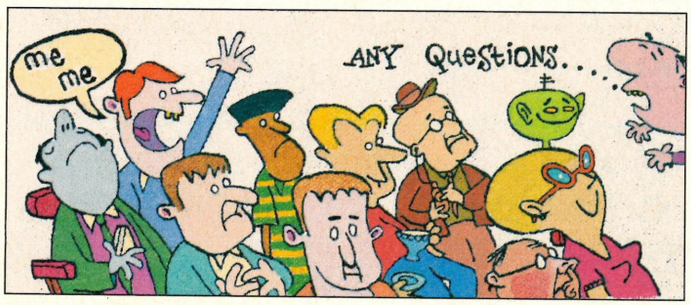
In an automatic procedure asking a question isn't a good idea because it stops the Autoexec.bat file in its tracks. The solution to this problem is to answer the question automatically using

```
ECHO Y | ERASE C:\TEMP\*.*
```

Notice that the character between the Echo Y and the Erase is a vertical bar — usually over the \ character on a UK keyboard. If you place this line in the Autoexec.bat file then the entire directory will be cleared each time you start up.

It should be obvious then that you have to make sure that the command specifies the correct directory, ie, C:\TEMP in this case.

For example, I use this command to clear the C:\WINDOWS\TEMP directory every time I start up.



SCSI controllers

Q 1) I want to buy a SCSI(2)-card for my 486DX33MHz ISA-bus computer, but I can't spot the difference between these controllers. I know that Adaptec has a range of controllers, so could you explain what they do, and what's included when purchasing them.

2) I have 3Mb of RAM in four SIMM modules (768K each), and I want to upgrade to at least 8Mb. Do I have to replace those modules I got, or could I add new (and different) SIMM modules (I've got four slots free)?

3) I have two floppy disk drives and a hard drive. I've just installed a CD-ROM driver and sound card. Is it possible to put both floppy disk drives into an external case and for this case to have its own power supply?

Staale Forbregd
Norway

A *1) Buying a SCSI card is one of the most difficult things you can attempt. The reason is that it is only when you start to use the card do you discover how standard it is and which of its features you can actually make use of! I can't take you through the entire Adaptec range of cards — it would take too long and it would be unfair to other manufacturers of good SCSI cards. What I can do is tell you how they differ.*

The first thing you have to decide is what other devices you want the SCSI card to control — a connector for floppy disk drives is by no means standard. You also have to decide if you want to boot your machine from a SCSI hard disk — if so, the SCSI controller has to have a boot ROM installed. As far as speed goes what matters is the amount of disk cache RAM on the card — this is also what puts the cost up. Some SCSI controllers have no RAM cache and are slow and cheap — some have megabytes and so are fast and expensive.

Notice that you only need to worry about SCSI card controller speed if you are going to use a SCSI hard disk. Most other peripherals have trouble keeping up with even the slowest SCSI controller.

The final point to check is what software you get with the controller. Some come with a few drivers others with a complete SCSI software suite. I would recommend using the controller card that comes bundled with the Corel SCSI kit — which comprises a collection of drivers and utilities.

My final word on SCSI is that until quite recently I had always recommended a fast SCSI-2 drive as being the best for a high performance

system. Recently I have changed my mind because the majority of SCSI-2 drives seem to be out performed by almost any modern IDE drive — which are also cheaper!

2) If your machine has got 3Mb of RAM using 768K SIMMs then it is a very odd machine. I don't know of any manufacturer who makes or made such memory devices — 256K, 1Mb and 4Mb are the standard sizes. My guess is that you are being confused by the fact that your machine reports 3Mb of memory when it starts up. It does this because it takes for granted the first 640K or 1Mb of conventional memory. That is, the amount of memory reported is extended memory, not total memory. If this is correct, what you have already is four 1Mb SIMMs. As you have four empty SIMM connectors, upgrading is just a matter of plugging in four more 1Mb SIMMs to make 8Mb in total or four 4Mb SIMMs to give 12Mb in total. The important point is that you have to install 8-bit SIMMs in sets of four.

3) There is absolutely no reason why you can't put any disk drive in an external case. All that matters is that the power supply in the external case is big enough not to overheat and the ribbon cables connecting the drives to the controller card in your machine are not too long — one metre is a reasonable enough length.

Is it real magic at all?

Q The ReelMagic card can play video CDs that are CD-i compliant, right? My main question is that since a CD-ROM drive would need to be able to read CD-i discs, which CD-ROM drives available on the market are up to the task? I have heard that the Sony drives can read CD-i Video CDs . . . what about the Toshiba models (I own a Toshiba 3401)? Certain reviews say that they can, yet some say they can't.

Darfmoins Fongrel
Oslo

A *I was under the impression that the ReelMagic card would work with most CD-ROM drives and would read both MPEG and CD-i — but not being entirely sure I asked the technical department at Silica, which specialises in multimedia upgrades and the ReelMagic card in particular. Its answer was to send me a table showing which drives do work. As this table is the result of actually testing the drives and not just theory, I think that this settles the question once and for all — apart from drives that haven't been tested yet, of course!*

First off — all the drives tested worked with MPEG disks but not all would read CD-i or video CDs. Drives that would read both CD-i and video CD are: Sony CDU33A & CDU-561 v1.8q, 1.0d, Dolphin 8000AT, Lion Optics XC-20011, Wearnes CDD-110 rev 106 & CDD-120, Sanyo CRD-440i v1.0, Panasonic-503 v1.0f and the Mitsumi CRMC-FX001DE. Some of these were tested with particular drivers and interfaces, so if you are in doubt check with Silica.

Drives that definitely didn't work were as follows: NEC CDR-510 v1.0, CDR-210 v1.0, CDR-84J v 10a and CDR-55JD v1.0, Chinon CDS-535 v.q14, Plextor DM-3024 v1.08 and DM-3028 v3.08.

The Panasonic CR-562 v0.8 and CR-563 v0.73 would read video CD, but not CD-i.

Many readers will be pleased to see that the popular Mitsumi FX001 will work with CD-i. On the other hand the equally popular Panasonic 562 will not and this will cause much anguish should CD-i become important! Silica also says that the Toshiba models haven't yet been tested and all they can be confident of is that it will read MPEG disks.

Double speed drivers?

Q One problem I have concerns the Sound Galaxy card when used with a Mitsumi FX001D CD-ROM drive (not the FX001 single speed). The drivers that are supplied with the sound card will only support the drive at single speed. The solution I tried was to copy the driver Mtmcdae.sys from the disc supplied with the Mitsumi into the DOS directory and change the device line in Config.sys to load it. All seems to work well but the CD-ROM will not use DMA transfer. This does not seem to affect some programs, so far only CITY 2000 (sound pauses for a fraction of a second periodically during video clips).

Can you tell me if Aztech has a UK office and whether it has released a new driver for the FX001D to complement the FX001 single speed one?

Chris Gray
Devon

A *Aztech's UK office is at 2 Midas House, Calleva Park, Aldermaston, Berks, RG7 4QZ and you can phone the company on (0734) 814121. As to the new driver, its technical department tells me that no new driver is necessary because it has had an FX001D driver for some time! This is in the form of the Ultra Cach software which can be downloaded from Aztech's bulletin board — (0734) 810803 — or you can contact Aztech directly for a disk copy.*

Getting started in games

Q I am interested in learning to program simple games and possible applications, but as I am a complete beginner, I don't know where to start.

I was thinking of using QBasic as it comes free with MS-DOS, but is this a decent language to use? I have heard of a book about this by Mike James (is that you?), but the library and local book shops don't seem to have it. Any suggestions?

Paula Pheby
London

I am 10 years old and would like to try writing games. I have tried QBasic but it was very slow. I was told that 3D Construction Kit was good. Do you know of any other easy to use programming package?

Kirk Fyfe
Wellington, New Zealand

A *I didn't make up the first letter — honest — but I did write the book and so you can't expect me to be unbiased. Of course I think it's a good book! The ISBN number of the book is 1-871962-20-X and it's available directly from the publishers — I/O Press on (0969) 24358.*

As to whether you should use QBasic or not — it isn't a bad place to start, but it isn't a fast enough language to create the sort of games that we have become accustomed to. Learning QBasic is a good idea because it is easy and it's free and once you have mastered it you will find it easy to move on to other languages.

The language that most games programmers work in is C or its recent development C++. Both are difficult languages to learn to program in, but easy to pick up once you can program.

Having recommended C I have to admit that a large part of modern games design seems to have little to do with programming. For example, scenes are often designed using AutoDesk's 3D Studio and animated using packages such as AutoDesk Animator or Alias Power Animator. As games move more towards using real-live action, sequences are shot using a video camera and then pieced together using Adobe Premier and activated using Navigable QuickTime and other virtual reality packages. All of this is reducing the amount of programming actually needed to produce a game — but it is still what defines the way the game behaves and an essential skill. There are some new game design packages available, but if you want to make it into the big time I would suggest you learn to program as soon as possible.

Interrupt problems

Q I own a 386SX 40MHz with 8Mb RAM and a 40Mb compressed hard drive with a Logitech Pilot mouse and I have recently upgraded my sound card to a Sound Galaxy Basic 16 from a Galaxy BXII.

The problem is mainly in Windows. Entering Windows causes my mouse to seize up totally. This has only occurred since I fitted the new sound card. The problem is not only connected to the mouse, but also causes an FDD controller error on a soft reboot and causes the serial port to pack up. The card is currently on IRQ 7, DMA 1 and port 240. I also have a CD-ROM, (Philips CM205) on IRQ5. The problem also occurs with some software (notably Dune II and Doom). I am running out of ideas on the problem.

Steve Adlard
Gloucestershire

A *As the problem only started when you installed the new card, it is almost certain that you do have a configuration problem. My best guess is that two devices are using the same IRQ number. Given that the mouse seizes when you run Windows, my first thought is that it is something to do with IRQ 3 if you have the mouse on serial port COM2 or IRQ 4 if it is installed on serial port COM1. Many users forget that mice use interrupts. The only problem with my neat analysis is that you report that fact that the floppy disk controller also gives up working. This uses IRQ6 and in any case you claim to be using IRQ7 for the sound card and IRQ5 for the CD-ROM — neither of which clash. However IRQ 7 is used by the first parallel printer port, ie, LPT1 and Windows does use this interrupt. However this is quite an exception to the general rule, it is usually possible to share this interrupt number.*

Q&A UPDATE

Big SIMMs

With the price of memory falling at the moment it is worth thinking about a memory upgrade. Since the SIMM — Single Inline Memory Module — was introduced, memory has been one of the things that you can take with you to a new machine. For example, if you upgrade a motherboard in most cases you can transfer the old SIMMs to the new motherboard. In other words, the investment you make in memory stands a good chance of lasting longer than the machine!

The usual question is how much memory should a machine have? In recent months there has been a move from 4Mb being the standard RAM fitted to a new machine to 8Mb. My own machine used to be fitted with 8Mb to make sure it was just above average — it now has 16Mb for the same reason! If you make much use of Windows then there is a large speed increase to be had in getting above 4Mb which is why 8Mb is becoming the norm.

If you aren't making much use of Windows then, to be honest, 4Mb is probably as much as you can use. This situation is changing a little with the introduction of games that make use of DOS extenders and only the other day I had trouble running a game on a 4Mb machine because it also had a disk cache set up which used 1Mb. That is, the current trend even in the DOS world, is to expect machines to have at least 4Mb.

OK, so I've convinced you that an upgrade is a good idea — what next? Firstly I need to reassure you that it isn't difficult. Well, in most cases it isn't, but try to find the manual that came with your machine and look up the section on expansion. In a standard machine all you have to do is buy the necessary SIMMs and slot them into place — but some machines just aren't standard! Also you can't just plug in any amount of extra RAM. SIMMs come in two sizes, 1Mb and 4Mb. (There are still 256K SIMMs around but these aren't a sensible upgrade option.) SIMMs also come in two physically different sizes — 30-pin and the relatively new 72-pin type. The 30-pin type is short, about 3.5 inches in length and the 72-pin type is longer at 4.25 inches. When you use the 30-pin type you have to install them in sets of two for a 286 or 386SX machine and sets of four for a 386DX or 486 machine. The newer 72-pin SIMMs don't have to be installed in banks in this way and this is their main advantage. An older 4 Mb machine needed to use four 30-pin 1Mb SIMMs, but a modern machine can get away with a single 4Mb 72-pin SIMM.

So to decide what is a sensible upgrade for your machine you need to look inside. If you see four free 30-pin SIMM connectors you can add 4Mb as four 1Mb SIMMs or 16Mb as four 4Mb SIMMs. If, on the other hand, you see a single free 72-pin SIMM connector then another 4Mb is a matter of adding a single 4Mb SIMM. Notice that some machines support a mixture of 30- and 72-pin SIMMs.

Apart from the split into 30- and 72-pin SIMMs the only other worry you have is access time. This is quoted in ns (nano seconds) and as long as you use 70ns devices they should work — but if in doubt look to see how fast the existing SIMMs are. The only other complication is that there are two types of 30-pin SIMMs — ones that use three chips and ones that use nine chips. The 9-chip SIMMs were used in older machines and there are some machines that cannot use the 3-chip design. For example, the Amstrad PC1x86, PCx386 and the Olivetti PCS386 range need 9-chip SIMMs to work reliably. Again your best guide is to have a look inside and see what the existing SIMMs are — 4-chip or 9-chip. If they are 9-chip devices then you are safer using 9-chip SIMMs to expand the memory although 4-chip SIMMs might very well work.

As I said at the start, memory prices seem to be low at the moment and it is rumoured that they will go up sometime next year. Why? Because when Microsoft releases Window 95 everyone will want extra memory and so there will be a shortage ...

■ Mike James

I would probably recommend you try moving the sound card from IRQ 7 to another free number. Apart from being nearly 100% certain that you have a configuration problem I can't pin it down any more accurately.

Why does my Sound Blaster ad-lib?

Q I have some problems with my Sound Blaster Pro 2. I own a Packard Bell 386-25 with 4Mb and MS-DOS 6.0. Before the SBP 2 I owned an Ad Lib music card. I choose the Sound Blaster Pro option in the Star Trek 25th Anniversary game, but there was no difference between the Ad Lib option and Sound Blaster (Pro) option that I could detect.

It could be a hardware error or/and a software error. Can you help me please?

Thomas Hopstaken
The Netherlands

A *The Sound Blaster family of cards are all Ad Lib compatible in the sense that if you have a program that will work with an Ad Lib card it will work with a Sound Blaster. Many games designers use this as a way of avoiding the extra work of writing a special Sound Blaster option for their program. Instead of taking advantage of the extra features that the Sound Blaster card has they just treat it as if it was an Ad Lib card. You select the appropriate sound card driver but the program sends the same set of sound effects and music to it — hence you can't hear any difference.*

Motherboards, modems and memory?

Q I currently have an AMD 386DX 40MHz. My motherboard and AMI BIOS say that they support 386DX/486SLC. Someone told me that it would be possible for me to just change the processor and not the motherboard, if I wanted to upgrade. Is this the case, and if so what exactly is the difference between a SLC and a SX or DX?

I recently received my free gift of IndyCar Racing when I subscribed to your magazine (great offer!) Unfortunately, I've had difficulty linking it with my brother's machine (basically, the same as mine). I've tried a full null-modem cable (as suggested), and my usual 3-wire cable, which works for other games. The manual also says, "A registered copy of IndyCar Racing must be installed on each computer." Does this mean that you would have to buy two copies of the game to play it linked?

I've also had trouble linking Populous II. I've tried it with various baud rates and both types of lead. Initial connection is no problem, and then it enters the actual game. If either player then enters the game options screen, it appears for the other player as well but when trying to exit the screen and return to the game both machines get stuck saying, "Waiting for other player". Even if the game options screen isn't entered, after playing for a few seconds a message like "Inconsistent Landscape" pops up and both machines suddenly return to single player mode.

R J Goodhall
Cambs

A *The 486SCL is halfway between being a 386 and a 486. It carries out most instructions about twice as fast as an equivalent 386 processor.*

In principle you should be able to upgrade your motherboard by simply plugging in a new chip, but you will also probably have to change some jumpers to inform the motherboard of the type of processor it has — if you don't have the motherboard manual then I wouldn't attempt it.

As I have said before in answer to other similar questions, I would always prefer to upgrade the motherboard. The reasons are that it is generally cheaper, gives a better final result and it isn't very difficult.

With regards to your other question about linking up your machine with your brother's in order to play Populous II, you will find that linking two machines to play a game is always fraught with difficulty. In fact getting two machines to communicate over a serial line is difficult. Maybe you need to buy a second copy — which may or may not be justified.

I can't help with the question about linking IndyCar Racing, but I've no doubt that at least one PC Review reader will either know the answer or can confirm that it doesn't work!

If you have a problem with your PC, you can write to Mike James at Q&A, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU, or you can e-mail him at infomax@cix.compulink.co.uk. We're sorry but Mike can only answer your questions on these pages, so please don't include SAEs or ask for personal replies.

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Letters

PC Review welcomes your opinions on just about any PC-related subject. We reserve the right to edit your letters, and we'll also assume correspondence is for publication unless you state otherwise.

MicroProse manuals

Software prize WINNER

Remember the days when buying a MicroProse game meant having it delivered to your house by construction crane? When reading a MicroProse manual required five people: four to support it, and one to turn the pages?

Well now it seems, the reign of the mighty majestic MicroProse manuals has come to an end with the release of Colonization. For those of you who have not bought the game yet (and if not, why not?), I feel it my duty to inform you that the accompanying manual is about the size of a small paperback book.

MicroProse games used to be some of the very few which merited forking out £30-£40: this meant not only did you get a good game for your money, but after reading the supplied manual you became an expert on whatever the game simulated. The manuals for its flight sims were so full of technical mumbo-jumbo that after reading one you felt as though you could jump into a real fighter plane and take it for a spin.

Another alteration which has been made is to the box itself. The rough, tough black cardboard box that you could use as a step to reach the top shelf in the kitchen cupboard has been replaced by thin card with a glossy coating which can barely support the atmosphere around it.

Surely Sid Meier could afford to spend just a little more on each copy of the game and keep us MicroProse fans in the style to which we have become accustomed. If these gargantuan errors are not rectified soon, then I for one anyway, will probably find buying a MicroProse game never the same again.

Gareth McSorley
Milngavie, Scotland

We asked Simon Butler, MicroProse's marketing services manager, to explain himself on this one, and he says: "The Colonization manual may seem small but it's the same number of words as Civilization, and in fact slightly longer (132 pages compared to 128 pages). So apart from the switch from landscape format to portrait format, you're not getting any less value for money on a similar product. Manuals aren't so heavy these days because there is a worldwide of pulp and we are using a light weight of paper (thus saving trees, etc).

"Flight sim manuals are still heavy and stuffed with information — look at Fleet Defender, with two manuals and a total of 245 pages.

"We don't believe in bulky manuals just because we've got a reputaion for them. If a game requires a good sized manual we will give you the best. But if a game doesn't require a big manual, you'll still get the best manual in the marketplace (eg, UFO: Enemy Unknown)."

Memory requirements

I take PC Review regularly to keep up with the best of the game releases, and find it very good. I also appreciate the reviews of educational software that appear occasionally. The only other reviews of any substance in this field appear in the TES's twice yearly computer supplement.

And now I have two questions to ask. Please can you give me any information on the amount of expanded memory a CD-ROM game needs? The reason I ask is because I had some difficulty recently loading games and demos. For instance, when I tried to load up Beneath a Steel Sky a while back, I found that it wouldn't work (fatal error, etc) until Virgin told me I needed EMM386 1024 RAM.

And when I tried to load up your cover disc demo of Under A Killing Moon recently, I also found that that wouldn't operate with less than 3000K expanded memory — at least the disc instructions actually say so! The trouble is, my machine doesn't approve of this, it now stops the opening sequence to tell me I have changed the parameters.

Please could you try out the new Power Mac; the new all-singing all-dancing PC plus Mac that will do anything (according to the literature I'm getting). Will it really operate on two different systems?

How about a test, and a report in the magazine, just to let us know what the professionals think? Keep up the good work.

P F Parker
Codford St Mary
Wiltshire

As a PC magazine, we're planning to cover the IBM Power PC, which is biased towards the PC side of things, rather than the Risc-based workstation which is the Power Mac — whose Windows emulation isn't exactly speedy. As soon as we get our hands on a final IBM system, you'll read all about it.

Flashback to Flashback

I've just seen the game Flashback on a CD-ROM demo disk for the first time, and remembered seeing it in your review (Issue 22). I'm surprised that it took 14 months for it to get to the States. I live in Tracy, California, and a lot of game and other programs are available in this area, so I was wondering why it took so long to see it here? I liked the demo version, but haven't seen the full program yet.

There seems to be a lot of programs that you review that I have never heard of, and some of them look interesting. I was wondering if you might tell me if there are any distributors in the US that you know of? I would appreciate any information that you might have on this subject.

Dennis Mason
Tracy, California

Flashback was developed by the French company Delphine and published in the UK by US Gold. US Gold Inc is releasing the CD-ROM version of Flashback in the States in December, so you can either wait until then, or, as US Gold in the UK has suggested to us, you could order it directly from them. Bridgett Hirst says that if you write to her at US Gold, Cuckoo Wharf, 427 Lichfield Road, Birmingham, B6 7SS, United Kingdom and include your name, address and phone/credit card details, she'll reserve you a copy. And make sure you spell Bridgett with the double-T, because she's sensitive on the subject.

Keep up with the nines

I read a letter in Issue 35 from two people asking for fewer nine rated games per issue. They argued that perhaps your reviewing criteria had changed since you seemed to be giving away more high scoring nines than you had in the past. But I would argue, if Monkey Island 2, SimCity 2000 and Alone in the Dark had all happened to be reviewed in the same issue, you would hardly have rated one of them at eight, just to seem more tough, would you?

When it comes to ratings, it's not quantity, but rather quality that matters. What a magazine must do is rate a game as it deserves, keeping in mind aspects like long term playability and so on. And this is just what PC Review manages to do. With prices of games going up every day (especially with the arrival of CD product), we need a good mag more than ever to help us choose the games we want to buy. I trust PC Review to be that one.

Jose Ruiz Cristina
Madrid, Spain

Gracias, Jose, and we couldn't agree more with you.

It's not a toy

Concerning your comments "The PC is not a games machine" (PCR October 1994), if you are correct in your assumption that the PC is not a games machine, then surely you consequently need to address yourself to a discussion on the relative value of such a wonderful magazine as your own, PC Review?

About 90 per cent (or at least more than 50 per cent) of the product reviewed in your magazine is purely games based. Therefore making the statement that the PC is not a games machine rather invalidates the basis on which you cover these products, does it not?

Yet if you qualify your initial statement so it reads "The PC is not a *dedicated* games machine" as I would do, then you can see things in a different light.

Dedicated games machines already exist — coming from the likes of Sega, Nintendo and Atari. New systems like the CD32, CD-i and 3DO have good potential of becoming the next generation of games platforms, sure. But unlike the Segas, Nintendos and Lynxes of this world the PC is an open platform machine. Anybody can develop any kind of program for it (games, utilities — have you seen a Wordperfect look-alike for the Nintendo — toolkits and so on), all they need is the aid of a programming language, and a relatively small investment in propriety hard or software.

The PC is also expansible in any which way you can afford, though perhaps there's the catch. Expanding a PC can become quite expensive, depending on your needs. However, due to popular demand, hardware and software prices are dropping by the day.

I do agree that the PC as a games machine is a sight for sore eyes. However, the PC is built ultimately to be reliable, and dependable, and most importantly, expandable.

I agree with you that the PC standard is not a VHS standard at all. It's not a plug and play solution either and for most people, when problems do arise, there is a high price to pay. They then depend on additional information being given by the manufacturer.

But the PC is here to stay. As both a games machine and as a computer.

Robert P Ligthart
The Netherlands

Flying tonight

Firstly, congratulations on including a demonstration of Under a Killing Moon on the CD cover disc of the October issue of PC Review.

Also congratulations on the fully comprehensive and interactive installation program for the game. We have a Quickshot Sound Machine Pro 16 installed in a Tiny 480 DX2-66 computer. (The card is described as 100% compatible with Sound Blaster, Sound Blaster Pro and Ad Lib sound cards).

The Killing Moon installation reported, "This video card benchmarks at 4499K per second. We recommend a video performance of at least 5000K per second. You may experience choppiness during video sequences."

Another observation was that there was less than 4Mb of EMS (there was 3772 actually!). We could, if necessary, re-run QEMM to look at this.

We were however impressed with Killing Moon and did not seem to experience any problems as anticipated in the installation procedure.

On Project X I seem to recall sharper and more exciting graphics from Jeff Minter's Llama programmes for the Commodore Vic.

Transport Tycoon seems to have similar features to SimCity from our Atari ST, but laying railway tracks was not user friendly and I have not sorted out how to deal with gradients! Probably I would purchase the latest CD version of SimCity if I feel in an empire building mood!

As a "Silver C" Sailplane pilot and having flown light aircraft and microlights I have enjoyed using Atari based simulations to help with training ATC cadets.

Have your test team found problems with the CD version of TFX? The ILS system deals with 1000 feet "bomber" approaches. My aim is a 2000 feet circuit and landing! I have found a perfectly aligned final approach is thwarted by the runway moving sideways! (rather like a disk access at the wrong time!).

I was intending to remember past glories on Microprose Stealth Fighter for the ST and retire TFX (The missions seem to take so long to load!). I don't think the problem is associated with my computer system because so many other things run extremely well.

Victor Sullivan
Storrington, West Sussex

Write to Letters, PC Review, Priory Court, 30-32 Farringdon Lane London EC1R 3AU, or contact us by e-mail: pcreview@ CIX.compulink.co.uk

COMPETITION WINNERS

Digital Edge (Issue 35)

Step forward William Luxton, of Leighton Buzzard, for you have won the superb Digital Edge multimedia upgrade kit in this competition. The almost equally as lucky runners-up get the Creative Labs Valuepack upgrade kit and they are Mr S Fox, of Wylye, Wilts; Mr S Gillett, of Oxford, and Joe Walter, of Stonehaven, Kincardineshire. Well done, boys (where have all our female winners gone?).

You don't really need the answers, do you? I mean, surely no-one seriously considered that you might find a fish in your multimedia upgrade kit.

Horologically Challenged (Issue 35)

Winner of the supremely desirable Chaos Engine clock is M P Dodwell, of Aughton, Lancs.

The answers were, 1) you have just one hour to rescue the princess in Prince of Persia; 2) SimCity 2000 is the game which brought in highways, nuclear power stations and solar power; 3) The Eleventh Hour; 4) you storm Baron Fortesque's castle in The Chaos Engine.

PC Review Recommended (Issue 36)

Just as you thought the competitions were getting easy, we go all fiendish on you. Sid Meier wrote Civilization, he wrote Covert Action, he wrote Railroad Tycoon, he *didn't* write Fields of Glory and although he wrote Pirates, he *didn't* write Pirates Gold. This last caught quite a few people out, but not good old A McNeill, of Oxford, nor Mark Goninon, of Abu Dhabi, Steve Revitt, of Olney, Bucks; Stuart Lee Bateman, of Warley, W Midlands, nor John Spackman, of London SW9, who are our winners and will each receive a copy of Colonization.

Hello! Music! (Issue 37)

Walking back to happiness with the Yamaha Hello! Music! package is Keston Robinson-Price, of Treharris, Mid-Glamorgan, our main prize winner. Runners-up prizes of QY8 sequencers go to Michael De'ath, of Stevenage, Herts, and Robert T Honeyman, of Bishopton, Renfrewshire.



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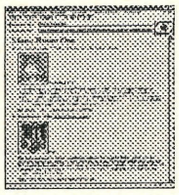


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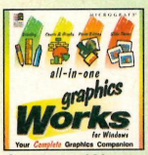
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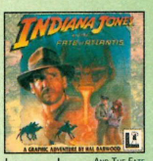


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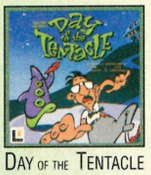
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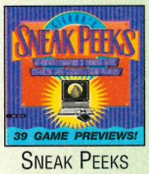
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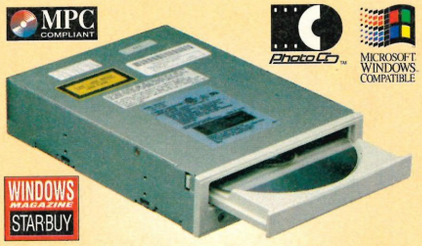
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We've been expecting you, Mr Bond

Meet the greatest villains the PC games world has to offer.

PLUS

Reviews

Lining up on the starting grid, we have Ecstatica, Aces of the Deep, Little Big Adventure, US Navy Fighters, Dragon Lore, Creature Shock, Iron Cross and Armoured Fist, to name just some of the games in a tightly packed reviews section. And we just might have Wing Commander 3 and Under a Killing Moon if we're lucky.

AND

Special 1995 calendar

As next month will be our Christmas issue, there will be presents! Next month PC Review comes complete with a top-quality, exclusive Rise of the Robots calendar . . . but that's not all. With the calendar, we have extra goodies which are really rather special. We can't tell you too much about them at the moment, but you can rest assured they will save you lots of your hard earned money.

PC Review January 1995. In the shops on December 15th.

NB Contents may be subject to change. And we're very sorry about the promised (twice!) quad speed CD-ROM drive, but that wonderful term slippage seems to strike down hardware just as much as software.

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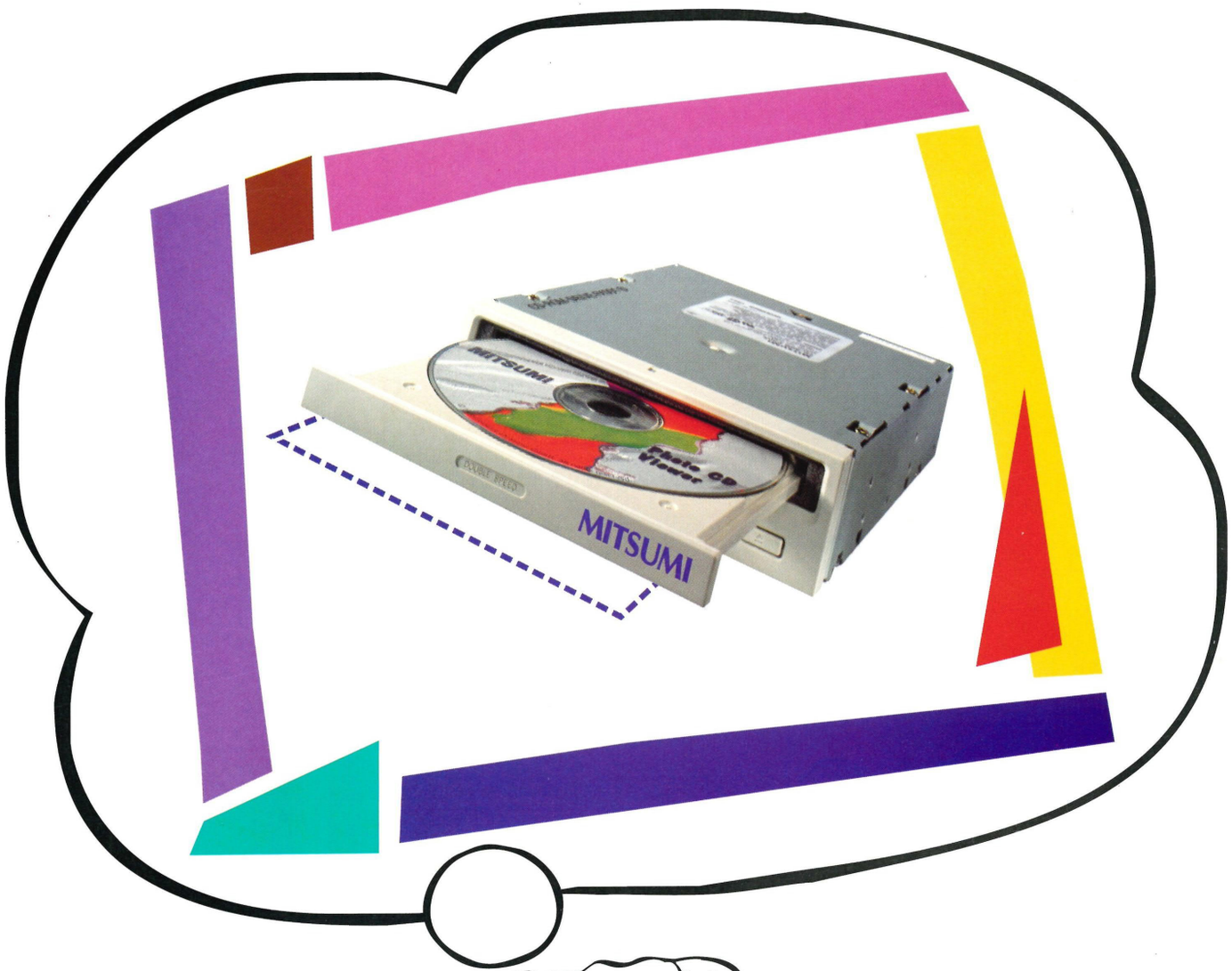
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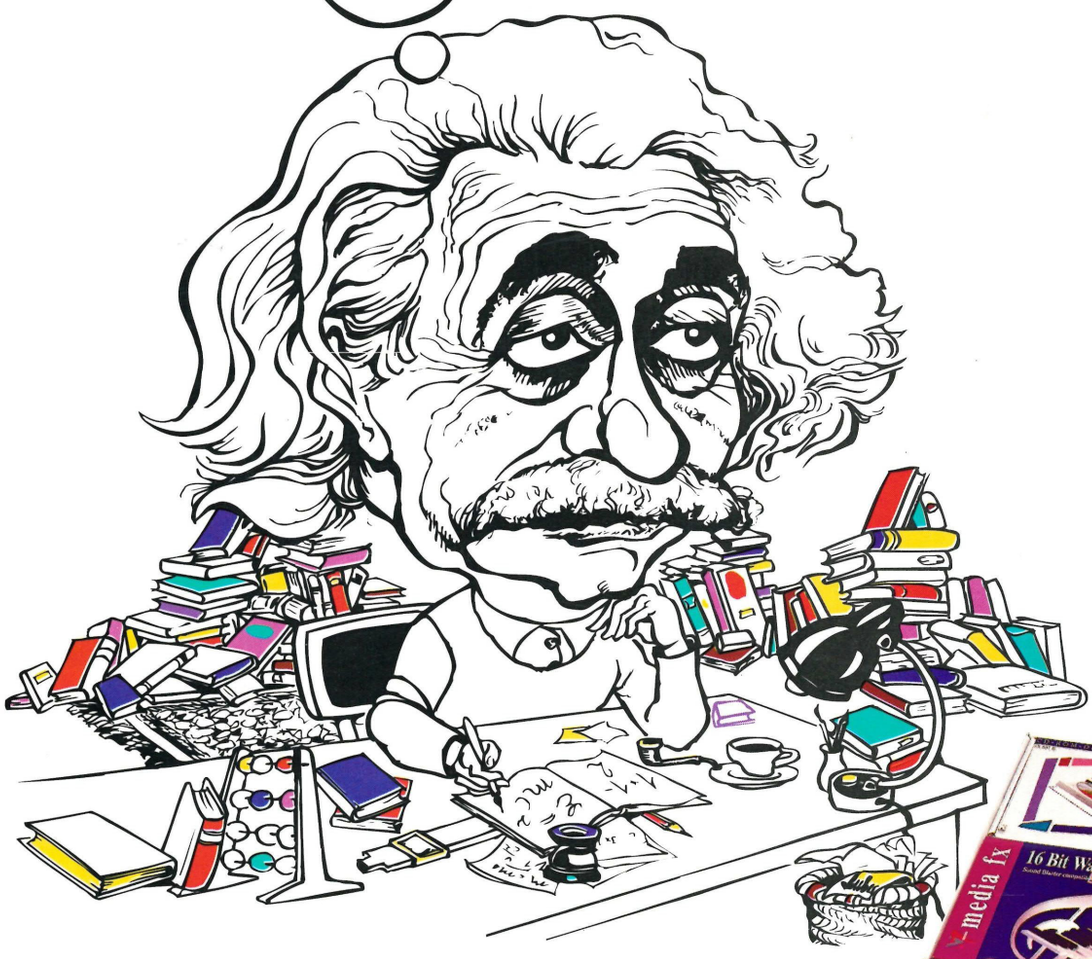
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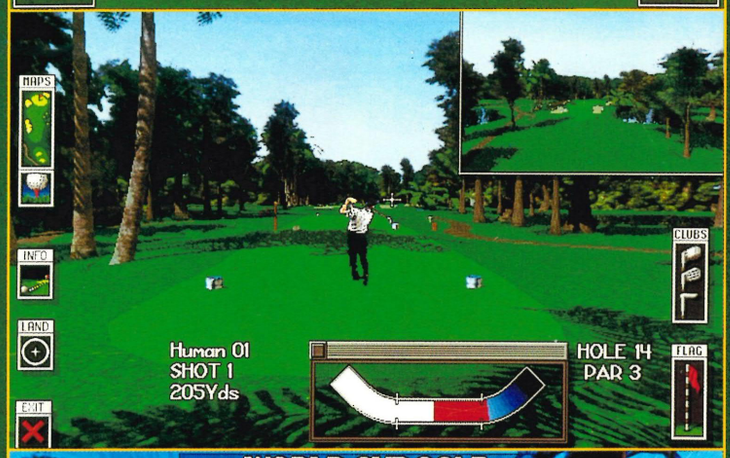




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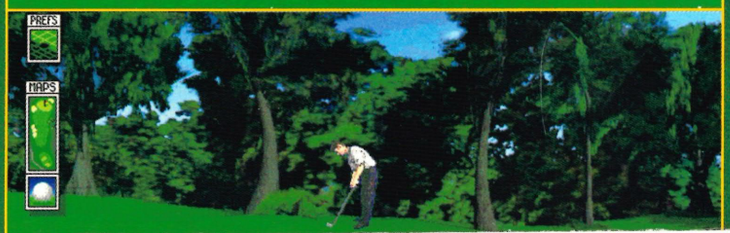












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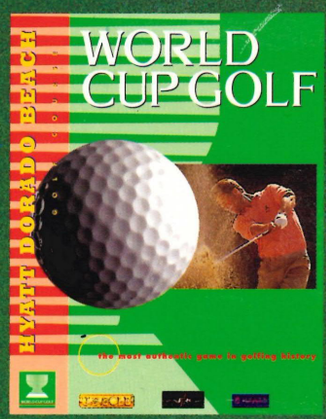
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