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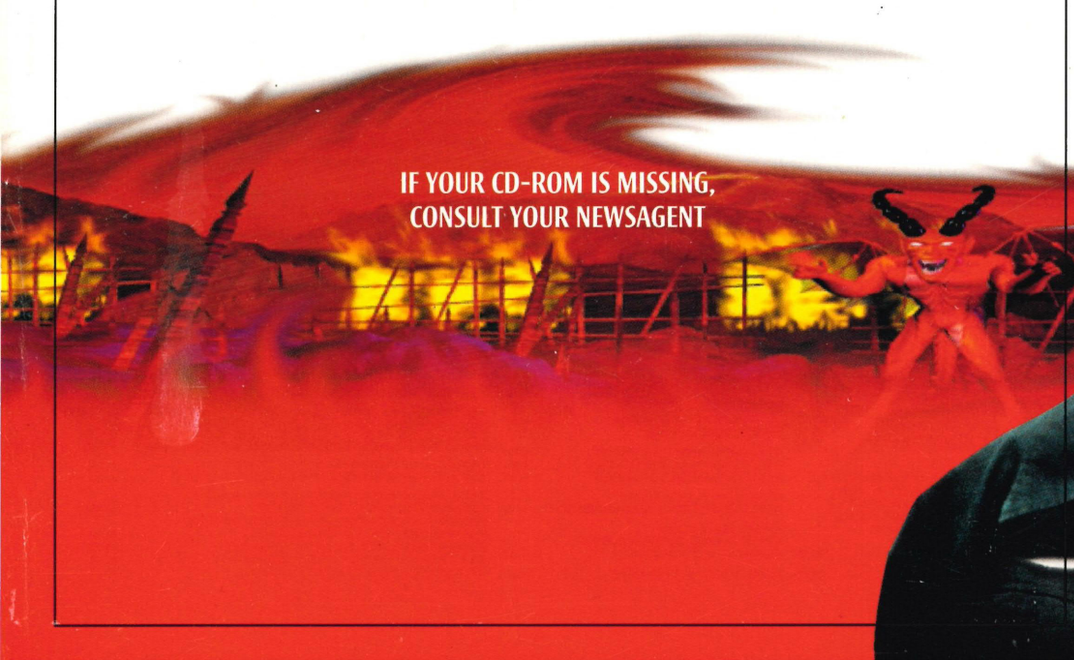
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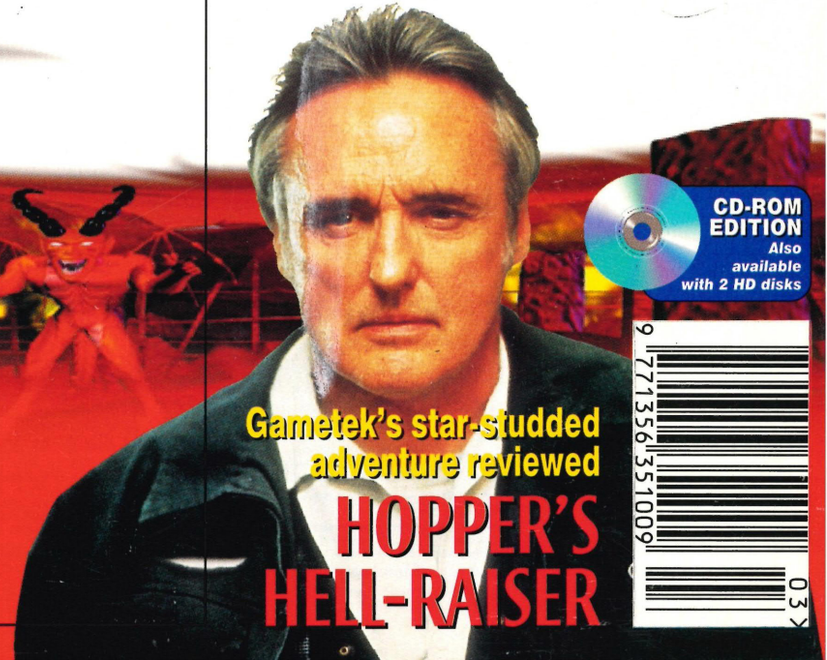




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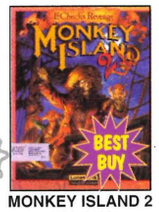
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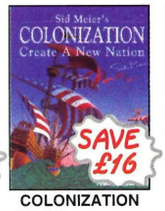
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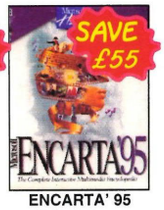
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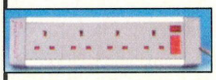
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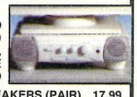
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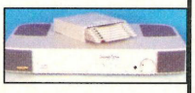
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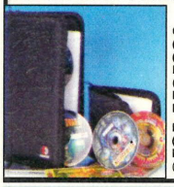
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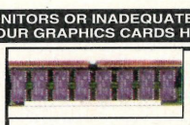


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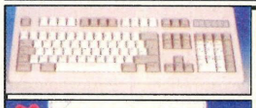
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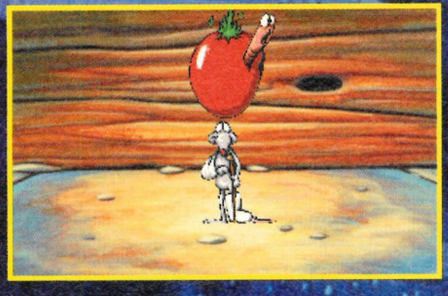
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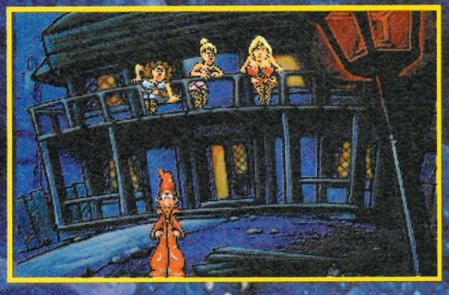
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Rincewind the Wizard has spent a lifetime avoiding danger, but a dragon is ravaging Ankh-Morpork, and he's the unlikely hero who's got to rescue the city.

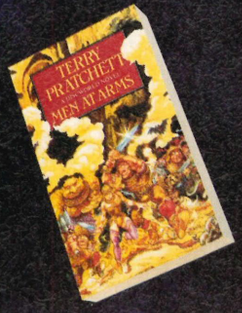
He's got the Luggage (a murderous accessory every traveller needs), a few necessary items (bananas are always useful) – and he's got YOU.







Voice overs (CD ROM Version Only) by ERIC IDLE, TONY ROBINSON, JON PERTWEE & KATE ROBBINS



Terry Pratchett's fourteen legendary Discworld novels are available in Corgi paperback wherever books are sold.

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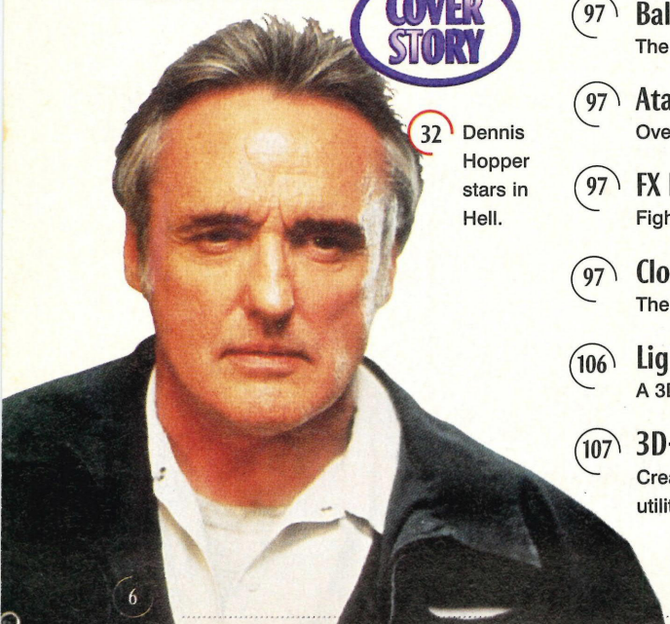


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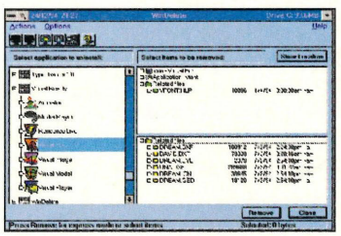
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EDITOR'S COMMENT



KIDZ WITH A ZED

The interactive entertainment industry's calendar has traditionally been dominated by two main events, the Consumer Electronics Shows (CES), held in June in Chicago and in January in Las Vegas. In the UK, these gigantic showcases have been complemented by our own smaller, but rather more perfectly formed European Computer Trade Show (ECTS).

All this is about to change. CES, as its name implies, encompasses audio, hi-fi, car radios and the like as well as computer hardware and software, which is viewed by the rest of CES as a bit of a Johnny Come Lately. It was never a perfect marriage and as far as Chicago is concerned, it's divorce. The audio lot are off to Philadelphia in June and the exciting bit, the games have plumped for Los Angeles in May.

In fact, there is so much excitement about the new nattily named E3 (Electronic Entertainment Exhibition, geddit?) in Los Angeles that the games side of this year's Las Vegas CES was rather low-key. The scarcity of brand new whizz-bang games gave me more time to explore the other side of software in Las Vegas: the utilities, the multimedia reference guides, the children's educational titles.

You might be surprised to learn that edutainment games for children to play at home is a huge, growing, buoyant market in the US. In Britain, such titles just don't sell the same quantities.

The obvious reason why parents aren't queuing up to buy many of these titles is simply that they are American. They will teach words like 'sidewalk' and spellings like 'color' and 'offense'. But last year several publishers spent quite a bit of money 'localising' US-originated edutainment titles into Anglo-Saxon English. They *still* didn't shift in numbers even approaching those of the top game titles.

I have some theories. One is that a number of edutainment titles insist on using the indefensible monicker 'Kidz' — yes, that's Kidz with a Z — to describe their audience. Eeeyuk!

More pertinently, playing with PCs in the UK seems to be a solitary pursuit. So Junior sits in his room playing God knows what rather than joining in a family game where we can all learn about the animals down on Alphabonk Farm.

More pertinently still, PCs simply haven't been sold in the UK with any kind of emphasis on family entertainment until around three months ago (see last month's Editor's Comment). They've been word processing tools, they've been a means to do work at home, they've been the machines with the best games, but it's only now that manufacturers are pushing the consumer lifestyle angle.

My last offering is that too many people were 'persuaded' to spend £400 on BBC Bs 10 years ago, on the understanding that were essential educational tools, without which their children would lag behind in the technological revolution. Once installed, they discovered that the software was not up to scratch and in some cases lousy.

All that having been said, this market is moving to a more multi-user, family orientated perception of PCs. So you may not get to hog the PC for much longer. There's lots of edutainment software out there and it'll be over-hyped, overwhelming and over here by the ton once the dam bursts.

❍ **Christina Erskine**

COMPETITION WINNERS

Park 'n' Ride (Issue 37)
Our design a ride for Theme Park competition proved extremely popular, and the standard of the entries was very high. The three winning rides will be sent to Bullfrog where they will be made up ready for inclusion on one of our forthcoming CD cover discs. You will then be able to load them into your Theme Park games.

And the winning rides are: Mr Yo-Yo, lovingly created by K Baines of Barnsley, who wins a selection of Bullfrog games; Sonic Boom, designed by James Brandt of Reigate, who will receive an exclusive Bullfrog sweatshirt, and the innovative Spin Dry, entered by Andrew Sutton of Bristol who also receives a sweatshirt. The three runners-up and sweatshirt winners are: Sam Chester of North Shields, Ian Byers of Chatham, Kent and Adam Campbell of Seaford, East Sussex.

Canon Competition (Issue 37)
Congratulations to Mrs S Joyce of Dorchester, Kevin Moseley of Pinner and Mr S J Lee of Huntingdon who each win a superb Canon BJC4000 colour inkjet printer.

The Pentium PC Competition (Issue 38)
Andrew Page of Hove can afford to crack open the champagne, because he's just won himself a superb Pentium PC from PowerComputers. Mr M Wallace of Weston-super-Mare, Antony Hadfield of Manchester and Dave Young of Aberdeen pick up copies of Infopedia.

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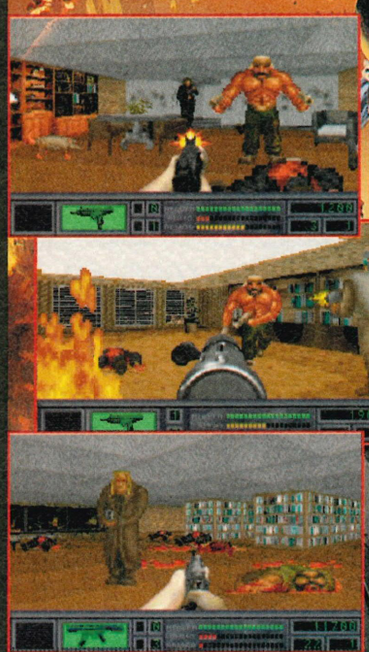
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Cover disks



All the programs on the cover CD and cover disks are detailed on these pages, including our special look behind the scenes of the movie Stargate and a playable demo of Premier Manager 3.

PREMIER MANAGER 3



Gremlin's first Premier Manager games were highly successful — so successful have these titles been that they have turned once more to the pitch and created Premier Manager 3 — it's probably the most fully featured football management title ever.

How to load
Log on to your CD-ROM drive and type

PCR [Enter]

to load and run the CD menu. Select Premier Manager 3 with the cursor keys and then press Enter to install the game to your hard drive. Type PM3 to run the game. To load the game from the floppy disk, insert the disk in your drive and type

PCR [Enter]

to bring up the cover disk menu. Select Premier Manager 3 with the cursor keys and then press Enter to install the demo.





How to play
As is always the case with management games, the aim is to take your team to the top of the league. In this demo you have a limited time to play, so just try to get as high as possible in the few weeks allowed.

By clicking on the various icons with the mouse you can train players, arrange friendly matches and even employ an assistant manager to take over some of the more mundane parts of your job.

How to quit
Press Esc to leave the demo.

Hardware required
386, 550K free memory,1 Mb of RAM configured as EMS, mouse, VGA, most major sound cards supported.

HOW TO LOAD YOUR PC REVIEW COVER CD

1. Insert your CD-ROM into the drive and wait for the light on the front of the drive to go out.
2. Log on to your CD-ROM drive by typing its drive letter, followed by the Enter key.
3. Now type PCR [Enter] to load the menu screen and select the DOS program you want to load from these pages. This will either run the installation program required, in the case of the games that need to copy files from the CD-ROM to your hard disk,or run the program from the CD-ROM.
4. Cover CD programs that run under Windows can be installed directly from Program Manager by Running the program file or from File Manager.

THE SECRETS OF STARGATE

Kurt Russell's new sci-fi extravaganza is a triumph for computer generated effects, we all know, but what we want to know is how those effects were generated. For all the information you could need, The Secrets of Stargate is just the thing, and we've got three clips from that CD-ROM for your perusal.

How to load

Before you can load the demo, you'll need to have Smartdrive running. Smartdrive is a caching program used by Windows which is normally loaded into your Autoexec.bat file. If you're not sure whether you have it or not, look at the contents of your Autoexec. bat file by typing Edit Autoexec.bat [Enter] at the C:\ prompt. Look for the line

C:\WINDOWS\SMARTDRV.EXE

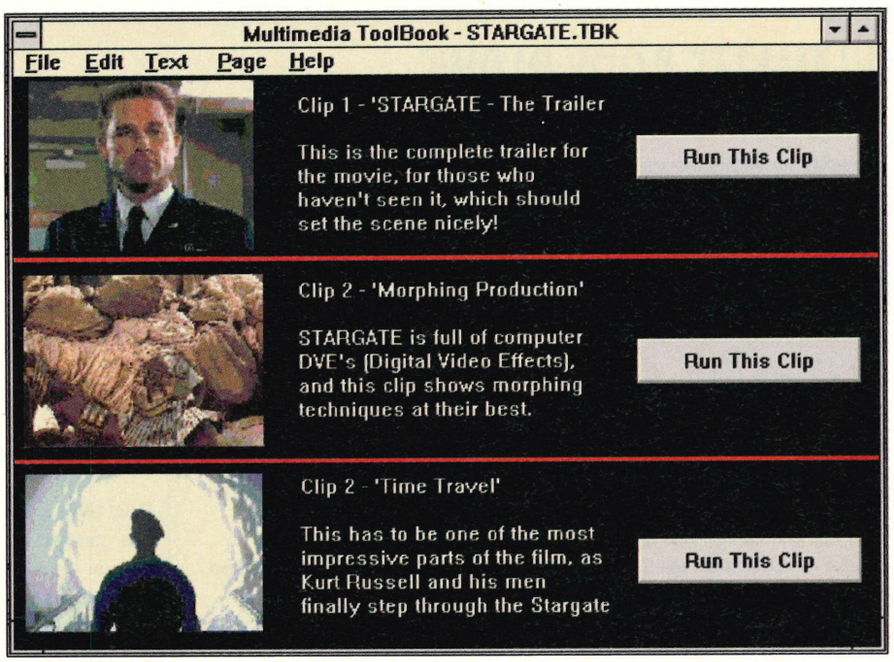
If it's not there, you can add the line, as it appears above, to your Autoexec.bat file, although you may want to remove it later since it will take up a fair chunk of memory. To load SmartDrive just for use with the Stargate demo, exit from the Edit program, then at the C:\ prompt, type

SMARTDRV [Enter]

Now load Windows. Ensure that your Windows video mode is set to at least 256 colours. If your video driver can support 64K or 24-bit colour, then select this to improve the look of the stills.

To do this, look for the Windows Setup icon in the Main program group. Double-click on this, then look at the information next to 'Display'. You can change your video settings via the Options menu in Windows Setup.

To load the demo, go into your File Manager, access your CD-ROM drive and double click on the SETUP.EXE file in the Stardemo directory, and the installer will run. Select full installation, and the demo will be installed onto your hard drive, and a program group created for it. To run the demo, all you need to do is double click on the Stargate program icon on your desktop.





How to use

Once it's up and running, click on the 'Go On' icon to move through the screens, but be warned that it does pause for a few seconds between screen swaps, so be patient!

Once you reach the third screen, which details the three video clips you can watch, select your drive letter for each of the three clips, and then select 'Run This Clip' to view them. (When the player is loaded, you need to click on the play icon at the bottom of the clip window). If you don't hear any sound, check your Windows sound drivers are set correctly.

How to quit

To leave the demo, select Exit from the file menu.

Hardware requirements

386, 4Mb RAM, Windows 3.1, VGA (256 colours), mouse.

HERETIC

ID is showing its Doom engine off again in Heretic, in which you play a wizard, out to storm an evil fortress and kill the demons that hide there.

How to load

The game will run from your hard drive, so first you'll need to install it. Log on to your CD-ROM drive and type

PCR [Enter]

The CD-ROM menu will load, and you can then use the cursor keys to highlight Heretic, and press Enter to run the installer, which will create a Heretic directory on your C: drive and copy the game files over. Type

HERETIC [Enter]



How to play

The aim is to destroy just about everything you can, while trying to find the exit to the next area of the map. There are some new abilities such as look up and down, as well as fly, along with a new Inventory control that lets you collect other objects such as the Tome of Doom that you can use later.

The controls for Heretic are:

Move forward	Up cursor
Move backward	Down cursor
Turn left	Left cursor
Turn right	Right cursor
Move quickly	Shift + cursor
Strafe	Alt + cursor
Fire weapon	Control
Open door	Space bar
Look up	Page down
Look down	Delete key
Look forward	End key
Fly up	Page Up
Fly down	Insert
Drop	Home
Inventory	[or]
Select item	Enter
Use	Enter

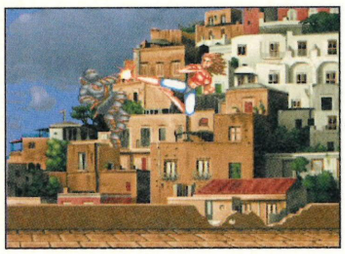
How to quit

Press Esc to return to the main menu, and then select Return To DOS to leave the demo.

System requirements

386, VGA, 4Mb RAM, most major sound cards supported.

ULTIMATE BODY BLOWS



This game has been a huge hit for publisher Team 17 on the Amiga platform — this is your chance to find out what all the fuss is about.

Like the standard-bearing Streetfighter 2, it's a one-on-one competition against some of the most unlikely looking fighters in the world, and the aim, unsurprisingly enough, is to beat the stuffing out of your opponent within a time limit without taking too much of a pasting yourself.

In this demo you have access to a large number of the characters that will be available to you in the full game. So you can see for yourself just how each character plays and fights and observe also what are their strengths and weaknesses.

How to load
Log on to your CD-ROM drive and then type

PCR [Enter]

to load and run the cover CD menu. Now use the cursor keys to select Ultimate Body Blows, and then press Enter.

The installer will copy the files to your C: drive, and then all you need to do is type

ULTIMATE [Enter]

to load and run the game.

How to play
The game is played with either joystick or keypad keys, and is a very simple beat 'em up to play.

Essentially holding the joystick in a direction will move the player that way, and holding down the fire button while moving the joystick performs a combat move.

Holding down the fire button performs that character's special move, but be careful about using this as you are vulnerable while you do it, and it takes longer to do the more times you do it.

How to quit
Press Esc to get back to the main menu, and then select Exit To DOS to leave the demo.

Hardware requirements
386, VGA, 4Mb RAM, most major sound cards supported.

US NAVY FIGHTERS

As the hunt for the perfect flight simulator continues, Electronic Arts steps in with its super-sophisticated polygon engine and some real mean birds of prey.

This demo of US Navy Fighters lets you take out one of the Fighter Craft available to you in the game, on a mission against a number of enemy targets. You can explore all the screens, but the only option available to play in the demo is the first mission of a new campaign, accessible from the main menu.

How to load
Log on to your CD-ROM drive and then type

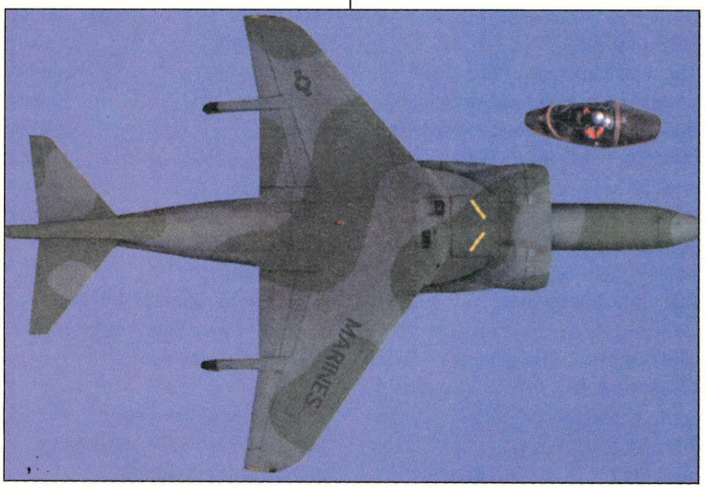
PCR [Enter]

to load and run the CD menu. Use the cursor keys to highlight US Navy Fighters and then press Enter to load and run the game.

How to play
US Navy Fighters is a fully featured flight and combat simulator — with a wealth of controls. For full instructions on how to play the game, check the READ.ME file in the USNF directory on the cover CD.

How to quit
To leave the demo, press Esc on the main menu.

Hardware requirements
486, VGA, 4 Mb, Most sound cards supported, also Thrustmaster.



SCOTTISH OPEN VIRTUAL GOLF



Scottish Open Virtual Golf is a 3D simulation of four world famous British golf courses. Here's your chance to try out the first nine holes of those courses.

How to load
Log on to your CD-ROM drive, and then type

PCR [Enter]

to load and run the CD menu. Use the cursor keys to highlight Scottish Open Virtual Golf, and then press Enter to load and run the game.

To load from floppy disk, place the disk in your drive, and then type

PCR [Enter]

to run the disk installation menu. When the demo has installed, go to the Golf directory on your hard drive and type

GOLF [Enter]

to run the game.

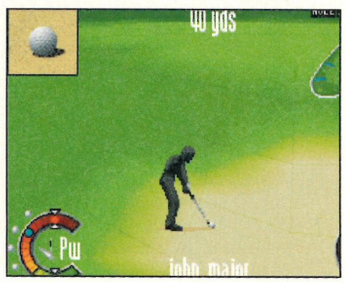
How to play
Choose either tournament (for Carnoustie), or practise (to choose your course).

The game is controlled with the mouse. Press the mouse button to start the shot, indicated by a small dot travelling round the dial on the bottom left. Press again to set your power when the dot is at the top. Press again to set the direction when the dot reaches the bottom of the dial.

The dial on the bottom right shows the wind speed and the map on the top right shows your location and the line of your intended shot.

How to quit
Press Esc. In practise mode, press Esc to step through the remaining holes, first, then Esc to return to DOS.

Hardware requirements
386. VGA, 4 Mb RAM, mouse, most sound cards supported.



EARTHSIEGE

How would you like to control a giant walking battle robot, stomping across battlegrounds taking out all sorts of enemy targets while standing over 30 feet tall?

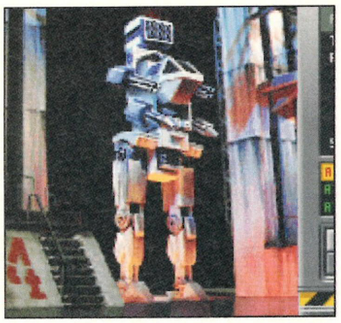
Sounds good? Just wait until you try this playable demo of Sierra's brilliant EarthSiege.

How to load
Log on to your CD-ROM drive and type

PCR [Enter]

to load and run the CD menu. Select EarthSeige and press Enter to load and run the game demo.

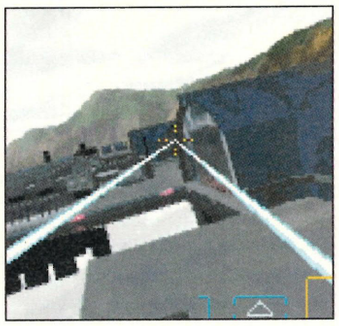
How to play
EarthSiege is quite a complicated simulation of an imaginary battle machine and as such has quite a few keyboard controls to play with. So for full instructions on the game, check the help pages in the demo.



How to quit
Press Esc to leave the demo at any time.

Hardware requirements
386, 4Mb, VGA, most sound cards supported.

CYBERIA



Join a two man attack team over the surface of an alien planet, and take the more interesting position of gunner in this fully playable demo of the hugely brilliant Cyberia.

How to load
Log on to your CD-ROM drive, and type

PCR [Enter]

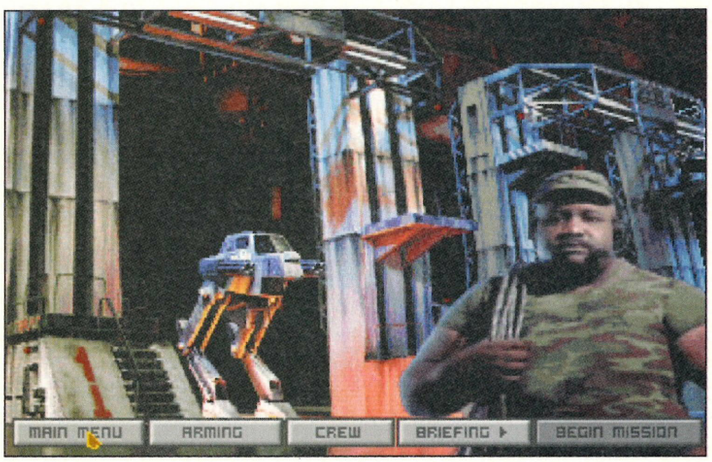
to run the menu. Use the cursor keys to highlight Cyberia, and then press Enter to run the game demo.

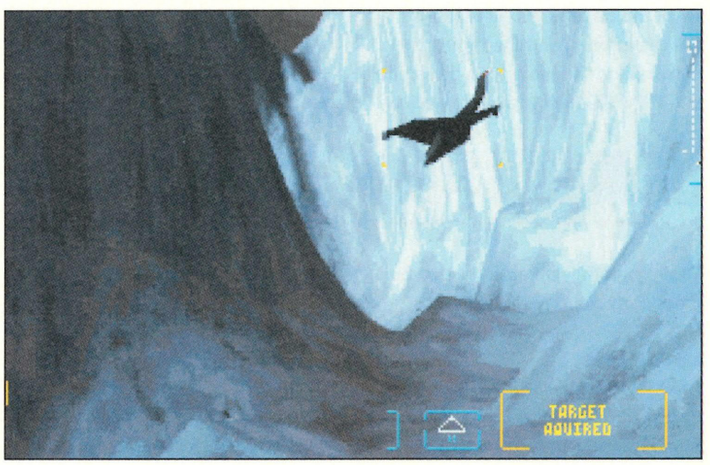
How to play
Use either joystick or cursor keys, to control the gunsight on screen and have to get it over the targets as they are highlighted, blowing them away as you go.

You'll need to be quick as all of these targets are firing at you, and too many hits will see you obliterated before you've left the first valley.

How to quit
Press Esc to leave the demo and return to DOS.

Hardware requirements
386, 4Mb, VGA, most sound cards supported.





KING'S QUEST VII



Kings Quest VII is the latest episode in Roberta Williams' saga of fairy-tale adventures, which have attracted a huge worldwide following.

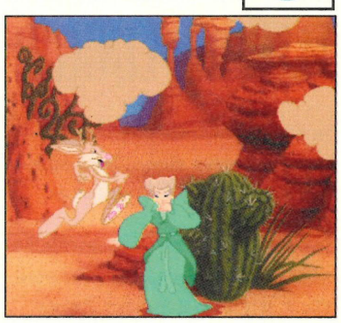
This vast demo shows off some of the more interesting angles of the game, so why not start up Windows and have a look around?



How to load
Before you begin you will need to start up Windows. Once you have done that you are then ready to play the game. Once you're in, go to the Run option in the File menu, and enter the name of your CD-ROM drive followed by the filename SETUP.EXE. Some files will be installed to your hard drive, and a a program group created.

Now just double click on the Demo icon to run the demo.

How to play
The game is played with the mouse, and the screens are entirely graphic-based. Whenever the on-screen cursor is placed over anything of interest, it will be highlighted — click the mouse button to find out what you've unearthed. If there are items for your inventory, you'll take them automatically.



How to quit
Close the King's Quest VII windows to return to Program Manager.

Hardware requirements
386, 4Mb, Windows, VGA, most sound cards supported.

BUSINESS CARD DESIGNER

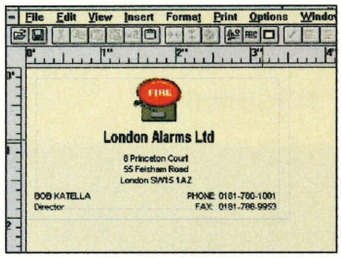
This little Windows utility is just what the budding professional needs. Why spend a whole chunk of cash on stationery when you can create your own?

How to load
Start up Windows and then go to the Run option in the File menu. To run the Business Card designer, run the file BIZCARD.EXE from the Business directory, and to run the Certificate maker, select the CERTIF.EXE file from the Certif directory.

How to use
All of the options you need are in the menu bar along the top of the screen, and the main area gives you a WYSIWYG display of your stationary. To see how they work, there is a ready made business card in the Business directory, which we suggest you load and play around with.

How to quit
Select Quit from the File menu.

Hardware requirements
386, Windows, 4Mb, mouse.



DAYWATCH FOR WINDOWS

This program lets you store all your notes for each day of the year.

How to load
Start up Windows. Select the Run option from the Files menu. Enter the following line (substituting the drive letter for your own).
D:DAYWATCH/INSTALL.EXE
Then select the WINWATCH icon on your desktop.

How to use
To enter a note, double click on one of the day windows on the screen, and enter your text when prompted.

How to quit
Select Quit from the top menu.

Hardware requirements
386, 4Mb RAM, VGA, Windows 3.1.

FLIPPIT/LINKUP

To play Flippit, place your counters on a grid, either side of your opponents so they flip to your colour.

How to load
Start up Windows, select RUN from File menu. Select Browse. Select the FLIPPIT.EXE program from the FLIPPIT directory.

How to play
Play with the mouse, to above rules.

How to quit
Select Quit from the File menu.

Hardware requirements
386, 4Mb, Windows 3.1, mouse.

Linkup plays like Connect 4. Drop counters down a vertical board, to get a line of four pieces.

How to load
Start up Windows, select RUN from the File menu.Select LINKUP.EXE file from the LINKUP directory.

How to play
Play with mouse. To drop a piece click where the piece will appear.

How to quit
Select Quit from the File menu.

Hardware requirements
386, 4Mb, mouse, Windows 3.1

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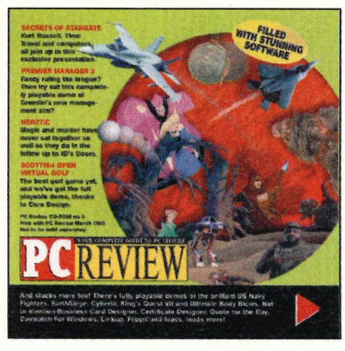
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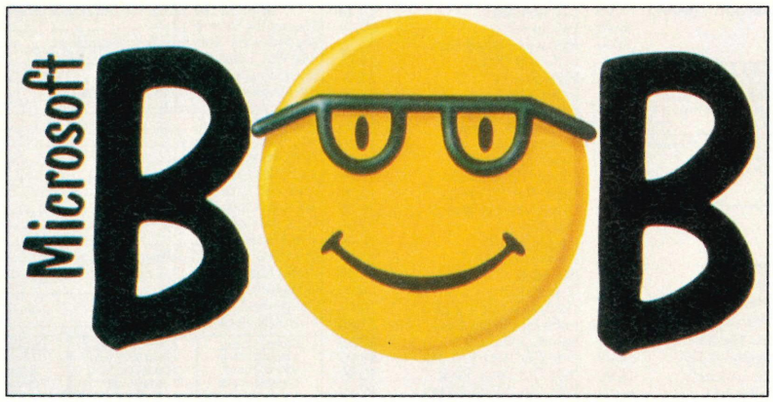
MICROSOFT BOB OFFERS SOCIAL INTERFACE

With the home computer user specifically in mind, Microsoft has announced the imminent arrival of Bob. Previously titled 'Utopia', Bob is designed as an overlay for Windows, turning the interface into an interesting and logically arranged environment.

After extensive research, Microsoft has decided to offer a more approachable and personalised desktop, adding personality to the PC, something Microsoft calls the 'Social Interface'. By introducing a series of cartoon characters to guide the user around, the aim is to bring the PC to even more households in 1995.

"The use of the Social Interface technology in Bob is a compelling example of how sophisticated technology can be applied to make the computing experience far better for everyone." said Microsoft's supremo, Bill Gates, at the Consumer Electronics Show in Las Vegas last month.

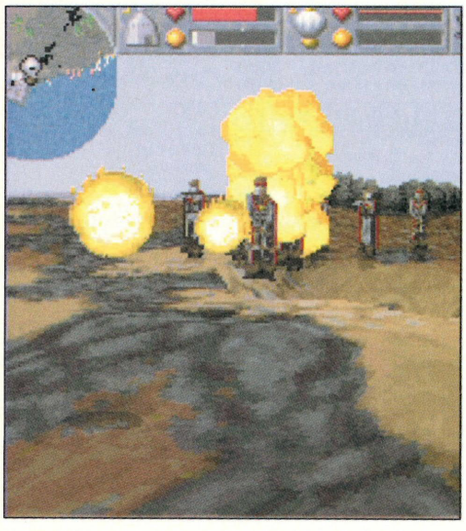
Bob will come with eight programs, including a letter writer, address book and accounts manager, and can run any Windows or DOS titles as well. Compatible with Windows versions 3.1 and higher, it will also take advantage of Windows 95.



Because of its American feel, Bob is only due for release in the US initially, but may be overhauled to be more acceptable for European tastes if sales go well over there.

For further information contact Microsoft on (01734) 270001.

❍ *For the latest news on Windows 95, see page 103 of this issue.*



ALL CHANGE AT ELECTRONIC ARTS

Electronic Arts, one of the world's leading games publishers, has revealed that it acquired Bullfrog Productions.

Bullfrog, known for titles like Populous, Syndicate, Theme Park and Magic Carpet (pictured left), has published through Electronic Arts for six years, but now becomes a subsidiary. "Acquiring an outstanding interactive game developer like Bullfrog further enhances our strategy to grow our market share in CD-ROM titles for PCs" commented Larry Probst, of Electronic Arts.

The deal was struck under the specific agreement that Bullfrog would keep its independence in games development. The Guildford office and original 45 staff are to be retained.

At the same time Broderbund, the US publisher of such titles as Prince of Persia and Myst, as well as popular edutainment ranges, has decided to go it alone. After three years with Electronic Arts as their sales company, Broderbund has split to run its own sales operations, with a view to strengthening its presence in Europe. This move comes not long after Broderbund decided against a full-scale merger with EA.

❍ *There's more on Electronic Art's acquisition of Bullfrog and its own plans for the future over on page 44.*

BARCLAYCARD GOES ON-LINE

Blazing a trail for other credit card companies to follow, Barclaycard has become the first in the field to offer Internet services to its customers.

On offer as part of the 'Barclaycard Netlink' service are a customer help desk, on-line application form, and the ability to cash in Barclaycard's profile points. Currently, until security systems on the Internet improve, sensitive information will not be made available.

On-line payment services are also not yet possible, but are expected to become part of the package as technology improves. The push for developing this area is also coming from software companies, most notably Microsoft and Intuit, whose Money and Quicken home finance programs (soon to be merged into one) already support direct payment to and from certain banks — in the US, at least. Microsoft is putting its substantial muscle into getting more banks and credit card companies worldwide to join in.

Barclaycard is currently using an on-line competition, worth £750 this month, to draw users into the Barclaycard area. Stills from the award-winning Rowan Atkinson advertisement are also being shown in the hope of bringing interest from the Internet faithful.

With over nine million cardholders, Barclaycard is a major player to move into on-line services from the financial sector and, if its efforts are a success, others are likely to follow suit soon.

The Barclaycard e-mail address is info@barclaycard.co.uk



UK LEADS LEGAL SOFTWARE OWNERSHIP

Software piracy is a very real problem around the world for developers, and lower sales of legal programs mean higher prices for legitimate users, so we suffer too. New research in the US reveals the extent of what the industry is facing:

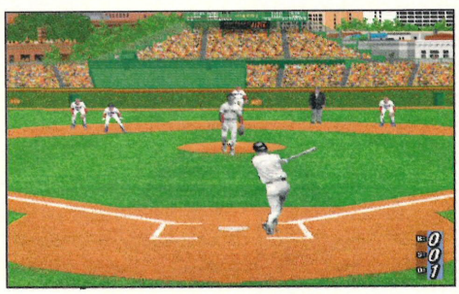
According to figures published recently, only 5% of software in Latin America and India is legal. This improves dramatically in first world nations, but is still a pitiful 41% in Australia, 39% in Italy, and only 67% in the USA itself.

The UK comes out of this as the leader of the pack with 73% of software being legal, but that's not much consolation for the many developers who are losing out to piracy.

Ken Wasch, Executive Director of America's Software Publishers Association, explained, "To put the software piracy problem into perspective, thieves last year stole as much software as McDonald's sold hamburgers." and McDonald's sales were $7.3 billion.

It seems that the advent of CD-ROM hasn't stopped the pirates. What with factories churning out counterfeit products by the ship-load in the Far East, we are in a situation where things are likely to get worse before they get better.

WARNER BUYS ACCOLADE AND HEADS INTO CD



The Warner Music Group fulfilled its intention of entering the software market by creating WarnerActive, a separate CD-ROM publishing arm. Among acquisitions already announced are Renegade (The Chaos Engine, Sensible Soccer, among others) and HyperBole (Quantum Gate and Quantum Gate II). Most importantly, however, was the purchase of Accolade, which has developed over 400 CD-ROM titles in its eleven years, including Jack Nicklaus Golf, HardBall and Unnecessary Roughness.

The deal allows WarnerActive full rights to all titles in the Accolade range as well as total control over current assets. One of the first moves by the new owners was to exercise this control by closing the UK office, and informing the UK-based staff of this when they arrived in Las Vegas for the Winter Consumer Electronics show last month.

PLAYING FOR FUN IS OVER



V·I·R·T·U·A·L · G·O·L·F

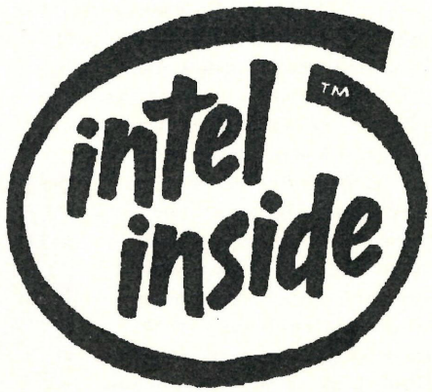
PENTIUM SALES CRASH

Following panic over reports of the bug in Intel's Pentium processor (see News, last month) sales of Pentium-based machines have apparently nose-dived on both sides of the Atlantic. Over the Christmas period, Time Computer Systems, which sells large quantities of PCs, reported a drop in interest in the Pentium of over 50%. In comparison, over the same period, sales of 486 machines have allegedly shot up.

Despite a number of assurances from Intel that the fault on the Pentium chip was unlikely to noticeably affect any home users, inquiries regarding Pentium systems fell by over 60% from December 1994 to January 1995.

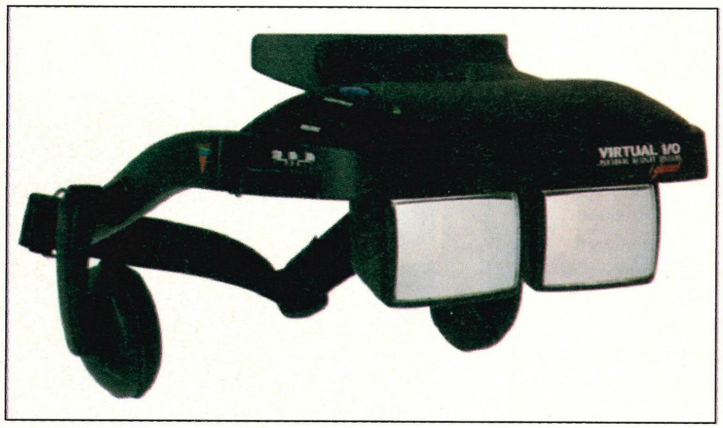
For its part, IBM estimates the calculation errors were more common than Intel was admitting. IBM stopped shipment of all Pentium-based machines for six weeks after the fault came to light. During this period, some machines were despatched, but only if specifically requested by a client, according to Kevin Perlmutter, an IBM company spokesman. Only when a stock of debugged chips became available at the end of January did supply restart.

Microsoft was quick to distance itself from the whole issue, explaining that the floating point calculations which might be affected aren't used anywhere in the Windows code. Furthermore, word processors and databases typically don't use them, and Microsoft's spreadsheet, Excel, already has a patch disk available to get around the problem.



A recent interview with Intel's CEO, Andy Grove, on BBC's The Money Programme saw him admitting that no matter what Intel do, the Pentium chip will probably always be remembered as the chip that couldn't count.

NEXT GENERATION VR HEADSET UNVEILED



Virtual i-O, a company based in Seattle, Washington, is bringing out a VR headset called i-Glasses. Trumpeted as a great step forward in headset technology, i-Glasses boast an impressive specification. When in use with a game, it offers a higher resolution and wider plane of view than either of its two main competitors, Forte's VFX 1 and the CyberMaxx.

Resembling a set of wrap-around shades rather than a motorcycle helmet and weighing in at only eight ounces, a pair of i-Glasses won't press down on the head, causing fatigue, while the petite headphones sit over the centre of the ear, offering full stereo sound. An optional 'blast shield' is proposed to cut out more exterior light, which will clip-on to the front of the main lenses. With or without the blast shield, the headset can be worn with conventional glasses or contact lenses.

No price has yet been finalised, and a UK release date was not available at time of going to press. For more details contact Virtual i-O at its e-mail address of i.glasses@via.com in the USA.



IN BRIEF

● Orchid Europe is set to release a new product, the Kelvin MPEG. As a full Kelvin 64 graphics card it offers blisteringly fast performance, while giving the convenience of 24-bit MPEG compression technology on board. This makes for ease of installation as well as by-passing previous band-width problems. Full details are available from Orchid on (01256) 479898.

● The UK Internet User Group has been launched accompanied by a party at the Cyber Cafe. It aims to offer help and support for newbies and more experienced users alike. Its e-mail address is ibs@informed.demon.co.uk

● Things are gearing up for the Computer Shopper Show next month. Held at the Birmingham NEC on March 16-19th, it's one of the premier events of the computing calendar. Contact the hotline on (0181) 742 2828 for full details.

● Atlantic Coast, the publishers of Pkzip, has just released Crush, a data compression utility to further shrink the size of Pkzip files. Retailing at £18, contact Atlantic Coast on (01297) 552222 for your copy.

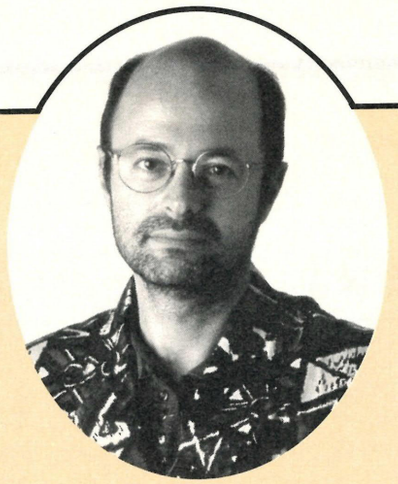
INTERNET STRATEGY ANNOUNCED BY MICROSOFT

Microsoft has confirmed its intention to become a major service provider for the Internet. Using the popular Mosaic package to gain access to the World Wide Web, Microsoft intends to offer a dedicated global network called, uninspiringly, The Microsoft Network.

Apart from enhancing Mosaic for easier access on-line, Microsoft's planned browser is designed to give a direct (one-button) connection to the Internet for Windows 95 users, thereby creating a *de facto* standard for Internet access. The company hopes it will be able to use a system whereby one button ease-of-use will woo potential on-line users.

The Microsoft Network is currently scheduled for an August 1995 release, although availability will partly depend on Windows 95 being ready and in the shops. For further details of the new service, contact Microsoft on (01734) 270001.

THE COOKE REPORT



THE FUTURE IS IN CODE

The Develop! 95 conference programme has just been published, and a quick glance through the sessions highlights many of the principal issues affecting the production of today's games. But the most intriguing is the talk headed The Conflict Between Plot and Interaction, to be delivered by the infamously famous Chris Crawford.

Crawford hasn't had much luck in recent years when it comes to delivering top-selling games. You could argue (and he probably would, too) that the inanity of most chart-busters makes Chris' relative obscurity a point in his favour. Whatever his track record as a selling artist, however, no-one can deny the influence he has had in the market, exercised through his Journal of Computer Game Design, through his conference in the US, and through frequent impassioned lectures to spellbound audiences.

For the last few years, Chris has been working on a game connected with British myth and legend (the exact topic has to remain a little hush-hush for the time being). I've seen this game in early development and my first impression was that it lagged behind current titles in terms of presentation. Graphics and sound may not be important to the games purist, but the fact is that they have become an integral part of the mechanics of game design and are not mere knobs bolted on to a weird and wonderful world of rules and statistics. It's been Chris's antipathy towards what he tends to regard as window dressing, and which we nowadays regard as being an integral part of the experience, that has led him to be branded as a extremist intellectual, far behind his time.

Chris may turn out to be ahead of his time, rather than behind it. I'm beginning to be suspicious about graphics and sound myself. No, I do not hark back to the days of Heathrow Air Traffic Control, when an airplane was a dot on the screen and altitude was, by gosh, altitude and none of this silly nonsense with HUDs and dials and all that rubbish. Who needs an instrument display when you can flash a few character attributes, eh what?

No, I wouldn't go quite that far. But it suddenly seems rather suspicious when the production cost ratios of an interactive, state-of-the-art computer game break down into something like 80% for creating and processing the visual assets, 10% on the sound and a measly 10% on the software technology. And if you don't believe me, why was everyone yelling about Lands Of Lore II from Westwood Studios/Virgin at CES?

It seems to me that games like Myst and 7th Guest blind us to the need for improved logic and AI in our products. I've mentioned this in this column before, but seeing that session in the Develop! program began to bring it home to me. The biggest problem facing us today remains the development of a set of conventions in computer games that can rival the linear, story-based conventions of cinema and television. This is a software technology problem, not a problem of graphic presentation. Photo-realism in games can be solved simply by throwing processing power at it, which the hardware manufacturers are busy doing. By the end of 1997, home consoles will be powerful enough to deliver as much realism as you want. The big question will be: what do you do with it?

At which point Mr Crawford and those like him will come back into their own. Once we have enough power for 'vactors' (Virtual Actors, your digitised Mark Hamills and the like), we're going to want them to behave in an interesting fashion. It will not be enough for a synthetic Arnie to rush across the screen waving something that looks like an ocean-going liner with bullets streaming out of one end. Synthetic Arnie — let's call him Sarnie — will have to behave in a Sarnie-like way. His relationships with other vactors will need to be realistic, and will need to suit the conventions of a story environment, the direction of which will remain at all times at the mercy of the player.

This is not a simple task. It's partly a processing power problem. AI doesn't come cheap; Origin had to drop the party concept in Ultima VIII because the system couldn't cope with the handling and animation of multiple player sprites at the required standard. But it's even more a software technology problem. As Ian Hetherington remarked at a recent Sony conference: "The pace of hardware development has now far surpassed the pace of software development".

This must be a frightening thought for those companies like Time-Warner and Viacom, that have entered a market on the basis that there is a common development direction between visual and interactive media. There has been, but it won't last very long. The future is all code ...

❍ **Steve Cooke**

NOW YOU CAN PLAY FOR REAL



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PC CHARTS — FULL PRICE

Position	Change	Last week	Title	Publisher	Issue Reviewed	Rating
1	^	(5)	Mortal Combat	Virgin	29	6
2	><	(2)	Winter Olympics	US Gold	—	—
3	v	(1)	SimCity 2000	Maxis	29	9
4	v	(3)	Doom2	Virgin	37	7
5	v	(4)	Star Trek: 25th Anniversary	Interplay	31	8
6	><	(6)	The Lion King	Virgin	40	7
7	^	(18)	Colonization	M'Prose	36	9
8	^	(9)	TIE Fighter	LucasArts	35	8
9	^*	(11)	Transport Tycoon	M'Prose	38	9
10	^	NE	Flight Simulator v.5	Microsoft	—	—
11	v	(10)	Overlord	Virgin	35	7
12	^	(13)	Soccer Kid	Krisalis	35	6
13	v	(7)	NASCAR	Virgin	40	7
14	v	(12)	Cannon Fodder 2	Virgin	41	7
15	^	(19)	All New World of Lemmings	Psygnosis	39	8
16	^	NE	Aladdin	Virgin	41	8
17	^	(20)	IndyCar Racing	Virgin	27	9
18	v	(15)	Theme Park	EA	34	9
19	^	NE	X-Wing	US Gold	19	8
20	^	NE	Space Simulator	Microsoft	38	5

Charts compiled by Gallup. Copyright of ELSPA.
Week ending January 22, 1995

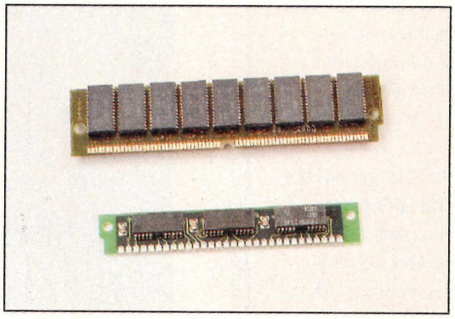
PC CHARTS — CD ROM

Position	Change	Last week	Title	Publisher	Issue Reviewed	Rating
1	^	NE	Microcosm	Psygnosis	31	4
2	v	(1)	Mega Race	Mindscape	31	8
3	^	(6)	Magic Carpet	EA	38	9
4	v	(2)	Doom 2	Virgin	37	7
5	^	(7)	Wing Commander 3	EA	40	9
6	v	(3)	Creature Shock	Virgin	39	4
7	v	(4)	Theme Park	EA	34	9
8	v	(5)	Privateer/Strike Comm.	EA	—	—
9	v	(8)	Little Big Adventure	EA	39	9
10	><	(10)	Encarta '95	Microsoft	26	—

PC CHARTS — BUDGET

1	^	(9)	Bram Stoker's Dracula	Psygnosis	25	5
2	v	(1)	Hexx — Heresy	Psygnosis	29	5
3	v	(2)	Obitus	Psygnosis	—	—
4	><	(4)	Hired Guns	Psygnosis	30	6
5	^	(8)	Champ. Manager 94	Domark	30	6
6	><	(6)	Armour-Geddon	Psygnosis	—	—
7	v	(3)	Dungeon Master	Psygnosis	12	6
8	v	(7)	Dune 2	Hit Squad	16	7
9	v	(5)	Creepers	Psygnosis	18	5
10	><	NE	Easy to Learn Computing	Premier	—	—

SIMMs OFF TO SHAKY START IN 1995



The minute Kobe was hit by the massive earthquake last month, memory chip sellers added 5% to the price of SIMMs chips. The reason for this was unclear, since (unlike last year's resin factory fire, also in Japan) no major part of the world's SIMM manufacturing process or stock-pile was damaged by the Japanese earthquake.

However, prices continued to rise and, in an industry based on tight margins, the changes have been passed straight on to the end user. The sales manager for MJN Technology, Paul Schofield, was quick to point out that smaller manufacturers with lesser stocks of memory chips are likely to have to increase prices soon, while the big players may be able to hold out for another couple of months. Either way, the price of memory, and therefore of PCs, is due to go up again, potentially making now the time to buy.

AND FINALLY...

(We just couldn't resist this...) Q: How many Pentium programmers does it take to change a light bulb?
A: Three. One to hold the ladder, one to change the bulb. Think about it ...



SIGN OF THE TIMES

ONE YEAR AGO

AMD signed up Gravis to use its UltraMax sound technology on-board AMD motherboards. Nothing's come of it yet. However, first reports of pirate CDs entering the UK came through, and they're still coming. We also speculated on computer games actors winning Oscars, all long before the emergence of Wing Commander 3 and Mark Hamill's performance.

Top rated games in March 1994: Gabriel Knight, SimCity 2000, and Doom.

TWO YEARS AGO

LucasArts committed to the CD-ROM platform, promising several innovative titles. Top of the list was a 'talkie' adventure to build on Indiana Jones and the Fate of Atlantis, and a 3D Star Wars arcade game . . . later to emerge as Day of the Tentacle and Rebel Assault. Meanwhile, Beneath a Steel Sky shaped up to be one of the best British games of the year.

Top rated games in March 1993: The Incredible Machine, Shadow President.

THREE YEARS AGO

CD-ROM cover disks were a long way off, and 5.25" disks were widely available for those who still used them. As for buying a new PC was concerned, "There's never been a better time to do it", we bubbled enthusiastically. Why? Well, you could get a 386SX with 80Mb hard disk for under £1,000.

Top rated games in March 1992: Shuttle, Thunderhawk

AT LAST...
VIRTUALLY PERFECT GOLF

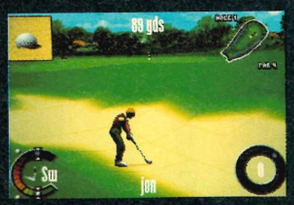












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It's now possible to buy a quad speed CD-ROM drive for under £150. John Bennett looks at these new faster models and reports on what the future holds for CD hardware. Plus, our top 20 CD titles, and previews of the best to come this year.



The future of multimedia

CD-ROM is the premier software format. Nobody who is serious about putting their PC to any kind of leisure use would argue that, and the software publishers are hardly about to tell you anything else, either.

The winter Consumer Electronics Show in Las Vegas provided more than enough evidence that the dominance of CD-based software and hardware is set to continue for the coming year.

CES was the chance for games and multimedia software publishers to preview their major CD titles under development for the coming year. In the pages that follow we'll take you on a tour of the most mouthwatering projects that are hotly tipped to be the unmissable titles of 1995: titles like Full Throttle from LucasArts, Sierra's Phantasmagoria and Electronic Arts' full motion video adventure, Black Diamond.

And let's also compare the software that's to come with a recap of the 20 essential CD games and multimedia titles that have already proved they deserve to go straight on to every PC owners shortlist.

But first things first. Before you let the temptation of all these new games get the better of you, you have to have something to run them on. Back in the September issue of PC Review, we took a close look at the state of the CD-ROM hardware market, including the first sub £100 CD-ROM drive (the ICD-300), which also happened to be the first of the new breed of IDE drives, as well as the first of the new generation of 'nearly affordable' (£400) high performance quad speed drives.

So, what would you say if I told you that you could buy a CD-ROM that was twice as good as the standard double speed drive — in other words a quad speed — right now, for at worst around £180, and at best around £140?

Sounds too good to be true, doesn't it?

But it *is* true. NEC has decided the time is now right to kick off a real quad speed price war, and

the result is that the new NEC CDR-271 quad speed internal drive should be hitting the shops as you read this. Recommended retail price? Only £179.

What's more, we all know that RRPs bear absolutely no relation to street prices. The expected street price for the CDR-271 should be no more than £140 for the basic internal model, with that price dropping quickly to around £130 — and possibly even less.

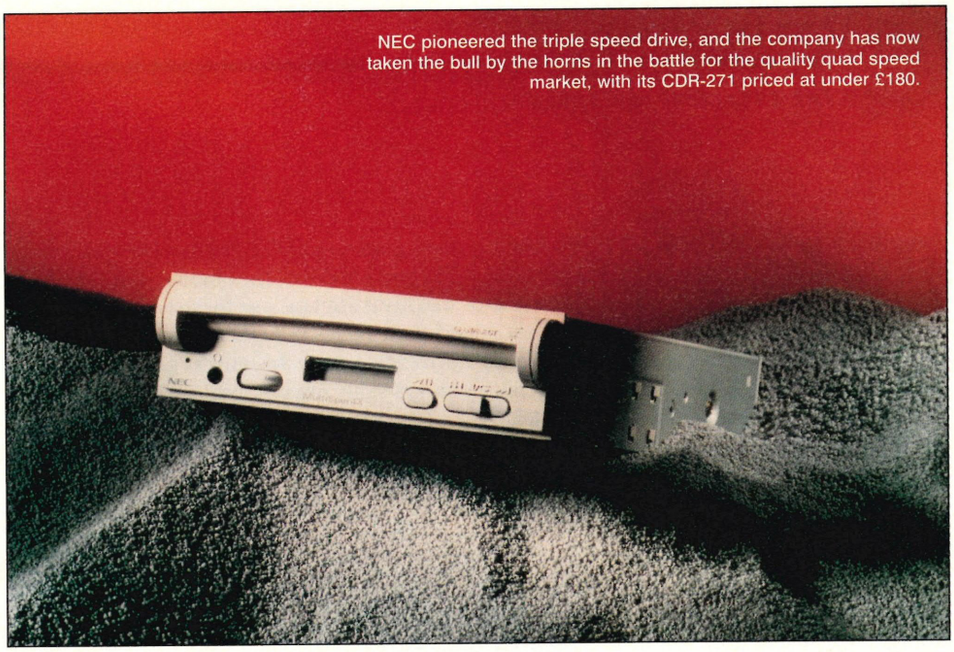
According to Nick Byatt, product manager at NEC, the company "can afford such aggressive pricing because we've been working with IDE for over a year, and because NEC is a quality brand name. We want this drive to be the Panasonic 562b of 1995" (the Panasonic was easily the best selling double speed of last year, and a standard feature in many multimedia PCs).

The price is probably the only really remarkable thing about the CDR-271. We've seen quad speed drives before and pretty much know what to expect from them — there's nothing really new in technology terms and so the CDR-271 is all pretty standard fare.

Sorry about that, but it's hard to get into flowing prose mode over a beige and grey tin box with a couple of flashing lights.

What can I tell you about the NEC CDR-271, then, apart from the fact that it is dirt cheap? It's an internal tray loading drive, but that hardly comes as a surprise, does it? Beyond that, it's MPC2 compliant, Kodak PhotoCD compliant, and — this is likely to become increasingly more common and more important later this year — it's VideoCD compatible (to the White Book standard).

Although the CDR-271 is an ATAPI IDE drive — which means it connects directly to the I/O ribbon cable from your hard disk and doesn't give you any IRQ or DMA headaches — the drive will also sell with a Future Domain controller card for £199 if you need one.



NEC pioneered the triple speed drive, and the company has now taken the bull by the horns in the battle for the quality quad speed market, with its CDR-271 priced at under £180.

Hang on a minute, you say. Why does it need a controller card if it's an IDE drive? The answer is that it doesn't, unless you happen to have an older PC with a non-standard IDE or BIOS setup, a problem which has dogged the first wave of IDE drives. That's why you may need the optional controller card.

Take a look at the figures that really count, and you can see that they put it on the same playing field as the £400 Toshiba and Pioneer drives. On the performance specification front, the CDR-271 has a 256K cache, a transfer rate of 600Kb/s, and an access time of 250m/s (NEC is keen to point out that this is not the fastest the drive can access data, but an averaged figure). Still, I don't expect it to be the out and out fastest drive of its class — but then you can't really complain when it is half the price and comes from an established CD manufacturer, can you?

The race is on

It's not just NEC, of course. Teac's Super Quad has been out for a couple of months now, and

THE ESSENTIAL 1995 CD PREVIEW

Christina Erskine waded knee-deep in new CD-ROM titles at the recent Consumer Electronics Show in Las Vegas. This is the pick of the hundreds of programs being demonstrated at the show and due for release this year.

Not too long ago, you had little choice when it came to buying CD-ROM titles. A copy of 7th Guest almost certainly came with the CD-ROM drive, and apart from that you were more or less stuck with Rebel Assault and one of the encyclopaedias, either Grolier's or Encarta.

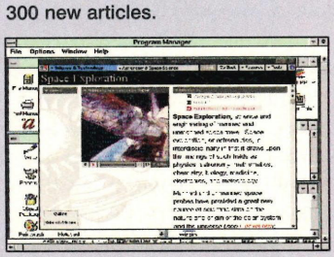
One year on, and you're hard pressed to find anything on floppy disk. Games are now big, big, big, or at least pretend to be, and CD-ROM publishers now assume that your spare time is taken up with hobbies just waiting to be pursued on CD, or a wish to improve your mind.

If all the CD-ROMs on show at the recent Winter CES in Las Vegas were laid end to end, they would stretch halfway around the earth (possibly). Trouble is, with around 10 encyclopaedias, five 'history of aviation' packages and hundreds of children's edutainment titles on their way, how will you pick out the right one from the ever-growing crowd?

What follows is PC Review's personal selection of titles to watch out for in the next 12 months. Please note that these descriptions shouldn't be taken as reviews; the titles have been played, used and/or watched, but certainly not tested in anything like review-worthy depth. Most aren't even finished yet. We will of course review them just as soon as we can lay hands on a finished item, but for now, read on and remember, you read about them in PC Review first.

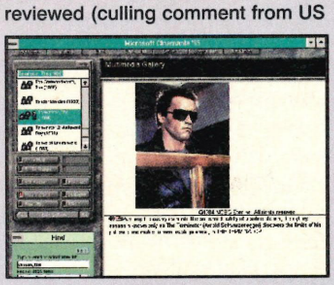
Encarta 95
Microsoft
On sale now

OK, so I said 'forthcoming', but it would be criminal to leave out this superb update to what was already the best multimedia encyclopaedia on the market. Microsoft has a rare understanding of just what multimedia should mean, not just some graphics surrounded by text, but a genuinely original blend of audio, video, speech, text and pictures so that you approach information in a fresh and stimulating way. This has oodles of extras over the previous Encarta, such as a new search tool, a redesigned main screen, new videos of 1994 events (such as the elections in South Africa) and over 300 new articles.



Cinemania 95
Microsoft
On sale now

Forget Halliwell and Barry Norman, this is the sort of movie guide you can easily lose yourself in for hours at a time. Again, it's an upgraded version of an already excellent program, with hundreds of films reviewed (culling comment from US



critics Leonard Maltin, Roger Ebert and Pauline Kael), including 300 new ones — everything up to Four Weddings and a Funeral, basically. This is augmented by photographs, video clips, actor biographies and Oscar lists. It also has a nifty sorting feature which will list films of a particular type — and there's a huge number of categories to choose

street prices are reaching as little as £190. Then there's Mitsumi, a past master of the cheap and cheerful CD-ROM brigade, which also has a sub-£200 quad speed IDE drive ready to ship — although the company was being cagey about exact details at the time we were going to press. Aztech should have a similar drive available by the time you read this, with a recommended retail price of a mere £149, and Bluepoint is also looking along the same lines, with a Sony-engined drive for around £199.

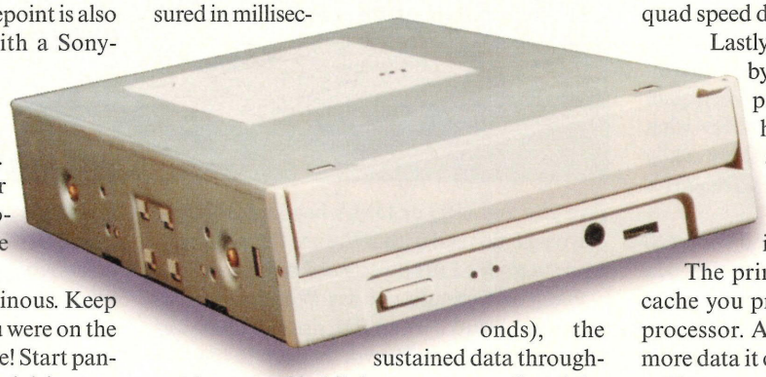
According to NEC's Nick Byatt, "'by April, many manufacturers will only be offering quad speeds. Single speed drives went out over night when the double was introduced and you can expect the same thing this time round."

Now that does sound rather ominous. Keep your hand out of your pocket if you were on the verge of buying a double speed drive! Start panicking if you bought a double speed drive two weeks ago . . . you were robbed! But is that really true? Is the double speed standard obsolete overnight, or is there life in the old dog yet?

The performance factor

It's a question of the relative price/performance difference of course, bearing in mind the sort of software that is available now and the stuff that's on the horizon (just take a look at the bottom of these pages to see what I mean). I know it sounds like a statement of the obvious, but I might as well say it anyway, just for the record: in terms of their respective performance quad speed drives do exactly the same as a double speed — only roughly twice as fast.

The three factors that make a difference in performance terms are the access time (measured in millisec-



onds), the sustained data throughput (measured in kilobytes per second) and the cache size (measured in kilobytes).

The access time is how long it takes the drive to find and pull data from a disc (hence the wait you often experience when swapping from a game scene to a cut-scene in a CD game). The answer is quite straightforward: the faster the access, the less time you have to spend waiting for the CD to get its act together.

Throughput, on the other hand, is the rate at which data can be transferred by the drive, and in this case, the greater the rate, the smoother the performance.

Quad speed drives have average access times of between 195m/s to 250m/s, compared to the 280m/s to 315m/s range of double speed drives. On the throughput side, where a double speed drive can normally manage around 300kb/s a quad speed drive can top 600kb/s.

Lastly, there's cacheing, which is a means by which you sidestep the disc access process. By allowing the drive to hold information in the cache ahead of the time it is needed, it doesn't need to access the disc so much, but pulls it from the cache instead — which is a faster process.

The principle is exactly the same as the cache you probably have set up for your PC processor. Anyway, the bigger the cache, the more data it can hold for fast access.

The reason cache size isn't as important as the other two criteria is that games are rarely programmed to take advantage of it. Hence most quad speeds have the same 64K or 256K cache as double speed drives. However, if you have a look at what Electronic Arts is doing with its new game Black Diamond (see page 44) with full screen video using 'look ahead' programming techniques, you can see the difference the effective use of cacheing can make.

from — to help you choose a suitable video for a night in. Beautifully done.

For more on Cinemania, see this month's review on page 80.

World Reference Atlas
Dorling Kindersley
Due out in April

Dorling Kindersley's first batch of CD releases, which appeared in the latter part of last year, were nothing short of staggering. And there's nothing to suggest that it's lost its touch with the next series.which includes a children's 'storybook', PB Bear's Birthday Party, the Encylopaedia of Nature, and History of the World as well as the World Reference Atlas. This last has 600 zoomable maps (which are zoomable to a sensible level of detail), and it also incorporates a gazetteer, bundles of demographic information about the countries and peoples in question, video clips and photographs.

Banish that tired old book-based atlas right now.

Hard Evidence: The Marilyn Monroe Files
WordPerfect Main Street
Due out in May

This promises to be an intriguing insight into a movie star who continues to exert a fascination even now, more than 20 years after her death. The programs contain all the case files relating to the death of Monroe, which have only just been released into the public domain in the US.

You take the part of reporter, policeman, coroner and lawyer and must research the files to come up with your own conclusion about Monroe's death, based on the evidence that you uncover.

The text files are augmented with Silicon Graphics-produced screens, and photos and video sequences from events of the time, giving the whole package a true Sixties flavour.

Developed by TI Media, this is planned to be the first in a series of titles centred around unsolved mysteries. The company is remaining tight-lipped about exactly which it plans to tackle next.

Star Trek: The Next Generation
Spectrum Holobyte/MicroProse,
Due out any day now

Along with Interplay's Stonekeep and LucasArts' Dig, this title has been kicking around in development hell for nearly two years. Sooner or later, one of the three must surely capitulate and actually release their problem child. Anyway, Star Trek The Next Generation is looking pretty good as it crawls towards completion: the characters are recognisable, the voices audible and the plot is faithful to the themes of the TV series. And as every last pixel has to be approved by Paramount, even Trekkers might find little to complain about in the authenticity stakes.

Phantasmagoria
Sierra
Due out in May

Another program to add to the unholy triumvirate of latecomers above. Roberta Williams' baby has just gone back to the studio for



some reshooting and re-editing. Problems with the sound, apparently. What there is available at the moment is awesome technologically, with super-realistic graphics and a storyline to scare the wits out of you. So far, it's going to be released on no less than four CD-ROMs (and they haven't finished yet ...).

Full Throttle
LucasArts
Due out in March

Don't tell Star Wars fans this, but I think this is going to be better than Dark Forces. The extracts that LucasArts is currently touting around show a neat balance between the dark and lonely world of the biker and a line in humour which is far drier than Tentacle but

So what?

The difference in performance between a double speed drive and a quad speed is quite noticeable — far more so than the triple speed where the improvement was sometimes almost impossible to discern, but they still sold on their XR3/boy racer appeal.

But you certainly don't need one of these new-fangled quad speed drives to run the vast majority of existing software titles.

On the other hand, they will come in to their own if the sort of heavyweight software that's coming out is anything to go by and you want to run it at something like a bearable speed. Just take a look at Medio Multimedia's Safari, which is definitely heavy on the video front, or Sierra's massively rendered Phantasmagoria which is now on four CDs — and counting. This is the direction the software is going to take, and anything that cuts down CD waiting times and makes games and multimedia software run more smoothly as a result is a blessing.

Just look at all the digitised video and high res Super VGA billed to appear in this year's games and it's easy to see why a quad speed drive becomes something of an essential, especially for video. Video needs the the magic 450K/s sustained throughput rate to run smoothly — and quad speed drives achieve that easily while double speed drives struggle to make half that figure.

The long and the short of all this is



Above: Although the basic NEC quad speed drive is an IDE model, expect portable and SCSI versions to follow shortly.

FOR ONCE, WE GET LUCKY ...

I don't know about you, but I think it's rather funny the way the computer industry has shot itself in the foot over CD-ROM pricing. Usually we're held to ransom as companies milk the last of our pennies for one bit of technology before they introduce the next.

But not so with CD-ROM at the moment. The companies are so desperate to grab market share, they've cut prices far quicker than they normally would. Straight from over £400 to under £150 for a quad speed in the space of just three or four months?

This squabbling is great news for us, of course. It means we get cheap drives.

But it's bad news for the companies who have backed themselves into a corner. In manufacturing terms, they can't drop the cost of a drive below a certain point unless they want to sell at a loss. That's why you won't see £30 double speed drives. Similarly, quad speeds.

The next generation of drives — if it goes that way at all — would be six or eight speed, or maybe something in the re-writable line, and these are a long, long way away. So all they've got to sell us are quad speeds on very low profit margins for the forseeable future. Damn shame, that.

John Bennett

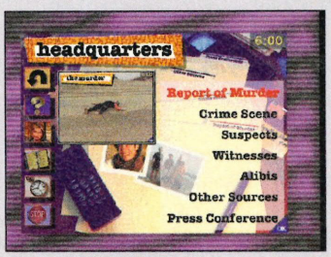


THE ESSENTIAL 1995 CD PREVIEW

still distinctly left field. Could be LucasArts' return to the very top of the graphic adventure class.

Who Killed Taylor French
Who Killed Brett Penance
Creative Multimedia

Murder mysteries have had a mixed reception on the PC, but these two titles take a slightly different approach to the subject. Rather than having you investigate the murders as though the game was an adventure, you take on the part more as, say, a police officer might, with access to the crime scene, to forensic reports, to witness statements and the victim's effects. With three permutations of murder and villain each pack, they still suffer from limited replay possibilities, but given the popularity of crime fiction, it's about time the interactive equivalent began to catch up.





Shanghai: Great Moments
Activision
Due out in March

Shanghai is — no, really — one of the underrated classics of computer games. If it hadn't been for that pesky Tetris, this game might have got the coverage it deserved. Using tiles based on the Chinese game Mah Jong, the object is to remove exposed pairs from a preset layout of 144 tiles.

With Great Moments, Activision has tarted up the user interface no end, added some new Shanghai-based games, new tile sets and a module incorporating historical video clips which are animated when you remove the paired tiles. As a purist at this art, I reckon I'll turn those clips off within minutes, but I'm still looking forward to the new games and new layouts.

Virtual Guitar
Ahead Inc

You can throw away your hairbrush and mirror and live out your rock star fantasies with this device and software. Virtual Guitar is a controller designed to look, sound and feel like an electric guitar, while the Virtual Music software provides the backing track. The Virtual Guitar plugs into your PC's serial port, and then you're ready to jam with the world's finest (well, Aerosmith and some programmed 'local bands'). All you need to do is keep with the rhythm — the software will actually 'play' the right notes. Actually, it's hilariously effective for all air guitarist virtuosos.

Black Diamond
Electronic Arts
Due out at Christmas

EA's video technicians have developed software which enables you to see full-screen, full motion video on your PC without an MPEG card or any additional hardware. They have also cut down drastically on CD access time, by setting up four video tracks at once in a buffer, so that you can jump from one viewpoint to another, without waiting for the CD to find the right place. Black Diamond is the first game scheduled to use these technologies. You play a psychic detective who stumbles on a Russian spy plot and must unravel all the loose ends in order to win. The video looks great and the story promises to be involving.

See also page 44 for more on Black Diamond and Electronic Arts.

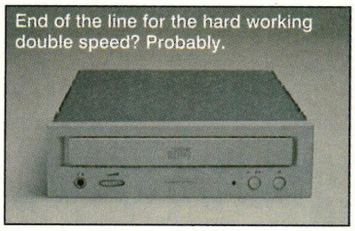
Top Gun
Spectrum Holobyte
Due out in March

Ten years on, it's the game of the film, with you as Maverick (Tom

that if you are buying your first drive — and presuming that cash isn't ridiculously tight — a quad speed drive like the NEC CDR-271 is the only one to go for. For what now amounts to only a £50 price difference there's no question that it is worth the extra.

On the other hand, if you already have a double speed drive, there's no need to go throwing it away in a panic. It'll cope admirably for the time being with about 80 per cent of available software without being irritatingly slow. But you should still be starting to think about making that upgrade.

Come to think of it, don't just throw the old drive away — sell it to a 'friend' for £50, and then your spanking new quad will probably work out costing you less than you paid for the previous drive . . .


End of the line for the hard working double speed? Probably.

ON THE HORIZON . . .

So quad-speed CD-ROM drives are the way forward, eh? For now, almost certainly, especially with these amazing price drops planned. However, looming on the horizon of home computing is something completely different, something called magneto-optical (MO) technology.

MO drives work in a completely different way to CD-ROM, but offer the large storage capacity of a CD-ROM in a handy 5.25" or 3.5" cartridge and, most importantly, allow you to both read and write data . . . a portable hard disk, if you will. They have been available for some time, but unfortunately with prices starting at £750 for the drive and about £100 for the cartridges, have obviously stayed firmly in the corporate market.

Come March, though, expect to see the two technologies join up in the shape of Panasonic's 'Cat's Eye' project. Using something called a phase-change optical drive, Panasonic has made a rewritable quad-speed CD-ROM drive. It still plays your old CD-ROMs, but with their own disks you can write and erase as many times as you like, a feat that required professional equipment previously. The best part is the price. At £500 and about £20 for the disks, it will be substantially cheaper than any competition.

After the launch, expect a lot of interest in the concept, and more companies offering similar systems in its wake. By the autumn we could be looking at quad-speed rewritable drives at prices not outrageously different to standard quad-speeds now.

This advance could increase the lifespan of CD-ROM well beyond 1995, where the MO drive designers have speculated its demise, and turn it into a real replacement for the humble 3.5" disk. There have been various plans for high-capacity floppies, so-called 'flopticals', and the Mini-Disc Data by Sony, but each of them suffers one major drawback — none of them store 650Mb of data.

Before CD-ROM took hold, this fact may have been considered unimportant. Iomega and Insight both have flopticals which store 21Mb while the Sony offering, based on their audio Mini Disc, stores 140Mb, in each case many times the amount you could get on a normal high density disk.

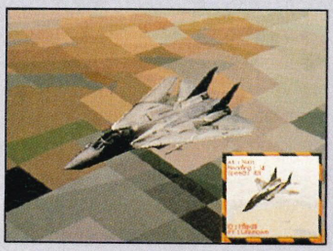
What they haven't counted on is the explosion of video and digitised audio in products these days. Designers of games and multimedia programs are actually starting to fill 650Mb of CD-ROM, and then some. Take Under a Killing Moon or Wing Commander 3, for instance, both of which come on up to four CD-ROMs.

These people aren't going to take kindly to being cut back to 100Mb, which leaves the whole concept still-born while the CD-ROM continues its surge of popularity. Certainly, Panasonic's Cat's Eye will be worth taking a very close look at next month.

THE ESSENTIAL 1995 CD PREVIEW



Cruise's character) earning your wings through a series of missions at the Top Gun Flying School. The game is structured along the lines of Wing Commander III, with computer graphics for the missions and video clips in-between to set the scene and move the narrative on a bit. Promising, given the company's proven track record in flight sims.

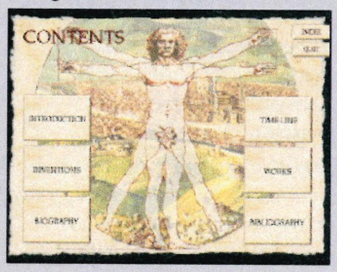


Frankenstein
Interplay
Due out in June

Definitely not Mary Shelley's Frankenstein, or even Mary Shelley's Kenneth Branagh's Frankenstein, this has you as the monster trying to discover just how he ended one life on Dr Frankenstein's slab. This takes you back to a story involving white slave traders and the discovery that you have a long-lost daughter. Frankenstein is played by Tim Curry, of Rocky Horror and Gabriel Knight fame, although in this he bears a worrying resemblance to Jeremy Beadle.

Leonardo the Inventor
Future Vision

In the US this is published by the same stable which released Beethoven's 5th and Tchaikovsky 1812, two excellent titles which gave some fresh insights into the works of the composers. Leonardo the Inventor aims to do the same thing for the work of Leonardo da Vinci, concentrating on his way-ahead-of-his-time inventions. The program takes da Vinci's sketches and animates them to show how he designed them to work.



Alphabonk Farm
Headbone Interactive

All right, I'll admit, I've chosen this from hundreds of kids' programs on show partly because of the name, but also, in truth, partly because this is a quirky and engaging package for children who are learning to read. Using integrated photography, illustrations and music, the farm and its livestock come alive on-screen.

Safari
Medio Multimedia

There are times when I wonder if the Serengeti National Park is actually a backlot behind the BBC Television Centre, so often does it feature on wildlife programmes. But this CD has helped to convince me that it really is in East Africa.

Safari is hosted by author and photographer Jonathan Scott, who was named BBC Wildlife Photographer of the Year in 1987. He takes you on a guided tour through the Serengeti and the Masai Mara National Reserve, with maps, photographs, videos and commentaries on not just the species themselves, but also migratory patterns, hunting habits and a look at the fragile future of the African savannah.

TOP 20 CD-ROMs OF ALL TIME

Having looked forward to some of the mouth-watering CD titles to come, we can also look back at the best CD-ROM software already released. Each one of these is worthy of a place in your collection.

America's Civil War
Guildsoft
Rated 9, Issue 38
Astonishing as a historical record, with photographs from the 1860s, maps, and a flexible interface which really helps the American Civil War come to life before your eyes.

Beethoven's 5th
Mindscape
Rated five stars, Issue 32
Dissected and deconstructed bar by bar, this tells you everything you ever wanted to know about this most famous of symphonies, about Beethoven himself and of course, it'll play the whole thing as well.

Chessmaster 4000 Turbo
Mindscape
Rated 9, Issue 27
One of the most powerful of chess programs, this also has a daunting number of extra features, cosmetics — different chess sets, chess boards, views of play — and an effective spoken analysis option.

Cinemania 95
Microsoft
Rated 9, this issue
Enough said, I think.

Day of the Tentacle
LucasArts
Rated 9, Issue 23
Funny in a weird, wonderful and utterly off the wall way, the talking CD version eliminates the only nuisance factor — having to read through the screen text — and adds bundles of atmosphere to an clever and inventive adventure.



Encarta 95
Microsoft
The way multimedia encylopaedias should be done.

Fauve Matisse
CGS Computerbild
Rated five stars, Issue 31
An art package designed to feel as though you're using brushes, chalks and pens, with lots of editing tools and a layering functions which means you work on part of a picture without necessarily affecting the rest. Lovely to use.

Fine Artist
Microsoft
Rated five stars, Issue 32
Another art package, but this time for children, aiming to teach the basics of drawing and painting in a fun and accessible way. It also has a wonderfully clear interface that makes using it tremendous fun — for children of all ages.

Gabriel Knight
Sierra
Rated 9, Issue 29
Spooky and very atmospheric adventure in which you play struggling writer Gabriel in a tale involving voodoo as you delve into a very murky past. An excellent narrative means the interest never flags.



How Multimedia Computers Work
Mindscape
Rated five stars, Issue 36
Ultra-clear, crisply illustrated and cleverly done, this program explains just what goes on under your PC's bonnet without being patronising. So long as you know enough about your PC to be able to get this to run, you'll find this invaluable.

Kiddesk
Children's Computing
Rated five stars, Issue 33
A colourful desktop front end for children, which they can personalise, and which contains a calculator, notepad, calendar and more.

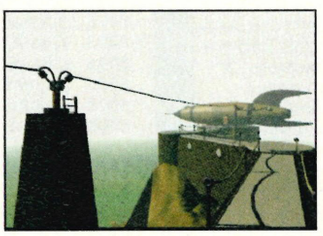
Little Big Adventure
Electronic Arts
Rated 9, Issue 39
Well, it's hardly multimedia, but it is a fine, very endearing isometric view adventure on CD-ROM. Designed with all the cute quirkiness that one always associates with French programmers, it's absorbing, challenging and retains a refreshing sense of the absurd.



Magic Carpet
Bullfrog
Rated 9, Issue 38
Another of Bullfrog's genre-busters, this has you dispersing castles in the air from the relative safety of your flying Axminster. Graphics are luscious and the gameplay verges on the fiendish.

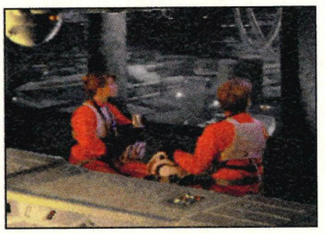
Microsoft Art Gallery
Microsoft
Featured in Issue 28
Almost unnoticed, Microsoft bought up the multimedia rights to the pictures in the National Portrait Gallery and this finely crafted program is one of the results. This will take you through each painting with notes on the artist and the techniques used in the painting. Fascinating.

Myst
Broderbund/EA
Rated 9, Issue 32
One of the big hits of last year in the US, Myst is, well, 'mystical', really. It's a beautiful adventure set on a series of worlds on an island.



Prehistoria
Grolier
Rated 9, Issue 39
Not just an attempt to catch all the dinosaur lovers in the wake of Jurassic Park, but an attempt to explain the concept of evolution, dinosaur extinction and archaeology. It's easy to get around the screens, and the photos, videos and animations are crystal clear.

Rebel Assault
LucasArts
Rated 9, Issue 27
It has its critics, but I've never deviated from the view that Rebel Assault is a tremendous CD-ROM experience. If you're a Star Wars fan, you can't help but believe you're really there, up against the Empire in scenes taken from the epic films. The gameplay *is* a tad limiting, but worth it just for the ride.



Stowaway!
Dorling Kindersley
Rated five stars, Issue 37
Actually, I could have chosen just about any of the five superb Dorling Kindersly programs launched last year, but Stowaway has the bonus of being fun, informative and educational. It's based on Stephen Biesty's book of cutaway sections from a Man-of-War fighting ship and portrays all the different aspects of life on board for the crew, the officers, and of course the eponymous stowaway.

Theme Park
Bullfrog
Rated 9, Issue 34
Bullfrog's tongue-in-cheek take on the business simulation lets you build up a fairground of ever more innovative rides, while all the time keeping the punters happy with lots of junk food stalls and tacky gift shops. Great fun.

Wing Commander 3
Origin
Rated 9, Issue 40
A real triumph for creator Chris Roberts, who takes the adventures of Colonel Christopher Blair in the war against the Kilrathi to a wholly new dimension with video cut-scenes which really move the story along and affect the outcome. The kind of game that shows you what an interactive movie should be.

Thanks to everyone who voted in our Multimedia poll on the PC Review forum on Delphi.

CD-Roms & Shareware from

UTILITIES/GRAPHICS/CAD

●10309 **Magic Desk**,superb menu front end
●10530 **Automenu**, super menu maker
●10517 **Powermenu Plus**, menuing & more! (2)
●10518 **Quik Menu III**, graphical menu maker
10127 **Screen Thief**, grabs any screen
9568 **Explosive!** outstanding screen blanker
9750 **Disk Duplicator**, any format fast!
12259 **Easy Format**, for easy formatting
9854 **LQ**, famous dot matrix print enhancer
12272 **Integrity Master**, anti-virus tool
9412 McFee's anti-virus toolkit (2)
● 9932 **PKLite**,great .exe file compressor
9438 **PKMenu**, front end menu for PKZip etc
●10023 **PKZip\PKUnzip**, file compression utils
9880 **Maxiform**, more disk space formatter
2295 **Envision**, outstanding graphics DTP (2)
●11219 **Neopaint**, great painting\drawing program
●11210 **Neobook**, presentation package & more!
11181 **Circuit Designer** & PC Schematic
10920 **Fractinct**, famous fractal viewer
10751 **Postmaster**, the poster maker
●10764 **PrintPartner**, for banners, signs and calenders
●10634 **Draft Choice**, easy to use CAD system
10647 **EEDRAW**, ideal for electronic schematics
●10699 **PC Draft Cad**, full powerful CAD program
10829 **Dancad 3D**, wire frame graphics
10673 **Flodraw**, produce flow charts\org charts
10673 **Home Plan**, for the DIY guy!
10712 **PC Graphit**, for easy graph production
10608 **Alchemy**, image file format convertor
11232 **Graphics Workshop**,image manipulator etc
CLIPART and Gifs: Numerous PCX image collections and thousands of Gif images - please ring!

DESKTOP ACCESSORIES

9516 **Ample Notice**, appointments manager
11908 **BlacqueBook**, for addresses\tele nos
11921 **Business Calculator**, for the finance man
11934 **Calendar Mate**, calender\scheduler\tickler
8047 **Calendar Keeper**, calendar database
11947 **Dr Memory**, for appointments & events
12207 **Early Bird**, UK calendar\tickler etc
7280 **Time Lord**, UK personal organiser
12077 **Friday**, TSR calendar\organiser
11986 **Organise**, memos, events, appointments

ASTRONOMY\RADIO/COMMS

14508 **ACE**, mapper, ephemeris & database
14534 **Deep Space**, star maps, planets etc
13737 **Night Sky**, star mapper & plotter (2)
13740 **Skyglobe**,high resolution star gazer!
8801 **Amateur Radio Log**
8013 **SuperMorse**, morse tutorial collection
15314 **Telemate** **15301 Eazilink**
●15431 **Odyssey (2)** **15379 QModem (2)**
●15353 **EasyDial**, directory \telephone dialler
15457 **Eazihost BBS** **15483 Sapphire BBS**
15470 **Wildcat BBS (2)** **15496 RBBS (2)**

SPREADSHEETS & STATISTICS

● 1014 **As Easy As V5.5** **1027 Expresscalc (2)**
1131 **Pivot 1092 Onside**, printing utils
1196 **Promatheus**, mathematician's calculator
● 1066 **KwikStat,** comprehensive stats package
3588 **Arcus-Pro II**,top UK stats program (3)
1118 **PC-Stat**, statistical reports program
3601 **Microstats**, fast statistical analysis
3614 **Survey**, for questionnaire analysis
3637 **Easistat\plot**,analysis & graphing (2)
3630 **Mathsplot,** define/plots functions
3633 **Zgraf,** create/print maths graphs
3634 **Simstat**, menued stats analysis
3636 **Confusion & Light**, fractal generator
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● 4381 **PC-File V5**, powerful best seller (2)
● 3042 **PC-File V7**,new graphical interface(2)
● 4264 **File Express**, powerful menu-driven (2)
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4303 **Information Please!** freeform text etc
4368 **Wampum**, dBase 3 compatible database
● 4433 **Zephyr**, Fox-pro compatible database(3)
4212 **Cardex Rotary File**,simple to use
4225 **Data Pal**, ideal list\label manager
4290 **Freeform**, easy data entry\retrieval
4238 **PickDB**, easy beginners database
4563 **Scraps**, super random info manager
4576 **JEPRS**, bibliographic database system
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● 9282 **Organise!** your photographs
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8281 **VC Library**, video cataloguer
8138 **Household Register**, home inventory
8853 **Vino:File**, for the wine cellar
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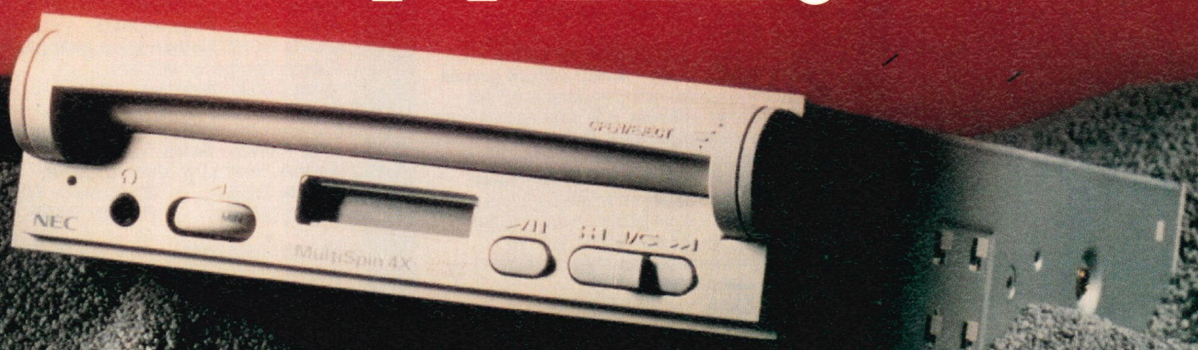
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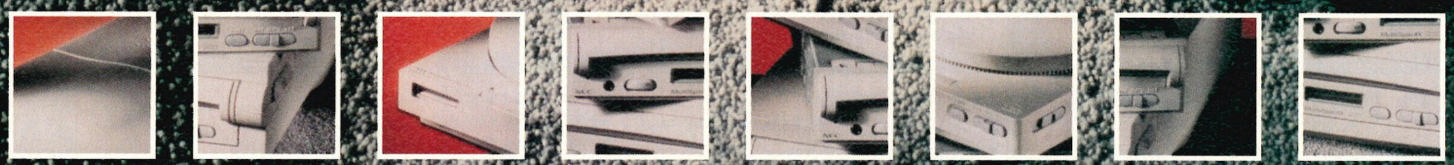
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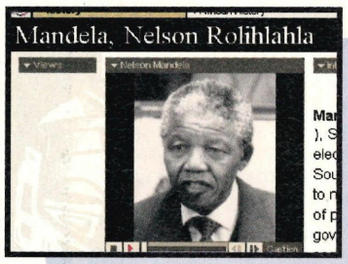
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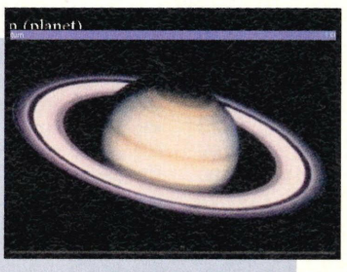
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Three NEC CDR-271 quad-speed CD-ROM drives

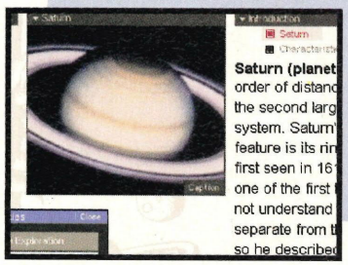


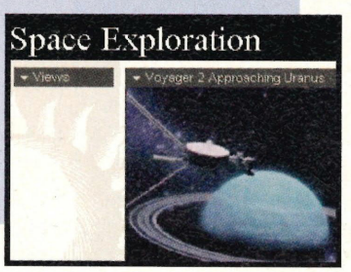












Plus!

Three runners-up prizes of Encarta '95, Microsoft's stunning CD encyclopaedia.

Please note: The NEC CDR-271 is an internal CD-ROM drive and requires a free drive bay to install properly. Encarta '95 needs a PC running Windows 3.1 or higher, with 4Mb of RAM, SVGA monitor and a CD-ROM drive.

NEC COMPETITION

With the launch of effective quad speed CD-ROM drives, the double-speed drive may have had its day. If you want to make the most of the multimedia revolution what you need is the NEC CDR-271 quad speed CD-ROM drive.

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The CDR-271 quad speed CD-ROM drive is also fully MPC 1 and 2 compliant, compatible with Kodak's Photo CD standard, as well as VideoCD (the so-called 'White Book' standard). Which makes it a flexible little beast that can turn its hand to most anything you want to do.

Even better, the three winners of this fabulous piece of machinery will find the drive easy to install, as there's no shuffling about with interface boards. This is because the CDR-271 is an IDE (Integrated Drive Electronics) drive, and just plugs in where your hard disk goes. All in all, it's one of the most advanced CD-ROM drives around at the moment.

As if that wasn't enough, three runners-up will get a copy of the encyclopaedia to beat all encyclopaedias, Microsoft's Encarta '95. Packed to bursting with all sorts of goodness, Encarta '95 is a joy for any CD-ROM drive owner.

Cruise the archives, listen to the excellent sound snippets and watch the glorious clips of video, all joined together with oodles of beautiful photos and sampled speech and explanatory text. All in all an excellent package.

How to enter

To get your hands on one of these excellent prizes, you only need to do two things. First, get the answers to the three following questions right. Second, put your answers on the coupon opposite (or, if you don't want to deface your issue of the mag, use a photocopy) and then send it to the following address:

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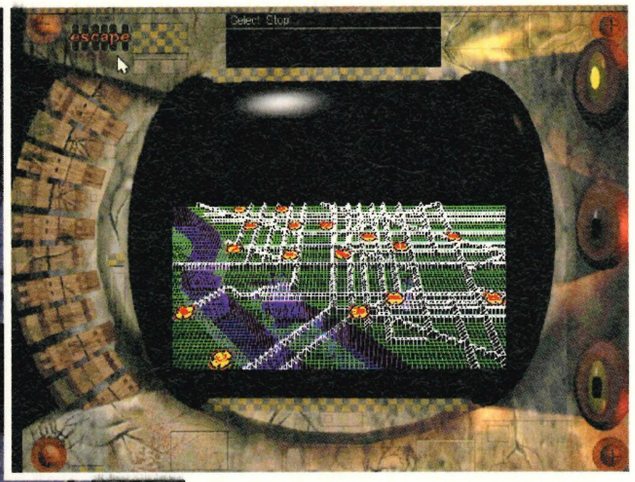
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Closing date March 15

- Employees of Emap, NEC and their families and associates are not eligible to enter.
- No multiple entries please.
- No cash equivalent to the stated prizes is available.
- No entries received after the closing date will be accepted.
- The editor's decision is final.







Left: Solene Solux (Grace Jones) is the leader of the Hand of God, the political party which rules the United States. No-one is quite sure of Solene's gender — maybe you'll find out.

Above: this lavish map is how you get around Washington. It zooms in, it zooms out, it animates. The wonders of technology will never cease to amaze.

Hell

COVER STORY

Hollywood's favourite psycho, Dennis Hopper, has forsaken the celluloid to star in a CD-ROM game. Was it a good decision?

Remember BloodNet? First reviewed in Issue 30, BloodNet was refreshingly different from your run-of-the-mill point 'n' click graphic adventure, partly because of its non-linear approach, but mainly because of the unusual theme — a combination of hardcore cyberpunk technology and old-fashioned vampires. Despite being riddled with the sort of cyberjargon only the most pretentious of infonauts could hope to understand, BloodNet's complex plot, varied gameplay and brooding atmosphere made it compulsive playing. With so many places to go, people to talk to and tasks to accomplish, you were never really stuck for anything to do, so although it was never easy, it was never really frustrating either. Which is a good thing in my book.

"With Speed doing so well at the box offices last year, Gametek is doubtless thrilled to have Mr Hopper on board."

Double take

Hell is a lot like BloodNet. It too is a large, non-linear adventure with a cyberpunk-meets-the-supernatural theme, and the graphics, sound and overall game mechanics are remarkably similar. Although the two games are published by different companies (MicroProse publishes BloodNet and Gametek publishes Hell), the fact that they were developed by the same team, Take 2, comes as no surprise — the BloodNet poster on the wall of one of Hell's locations is just a little bit of a give-away, anyway.

Still, that fact is that, although it's plain obvious that the games were cut from the same mould, there are quite a few differences. Hell's graphics are cleaner, with more rendering in evidence. And whereas BloodNet was big, Hell is a huge, sprawling game which can be completed in a number of ways and has several different endings. Oh, and Hell has Dennis Hopper, of course.

With Speed doing so well at the box offices last year, Gametek is doubtless thrilled to have Mr Hopper on board. His contribution, along with those of Grace Jones, Stephanie Seymour (the model-turned-actress who's probably better known for dating Axl Rose of Guns 'n' Roses than appearing in movies) and Geoffrey Holder (a former Bond villain) makes this the most star-studded game yet to appear on the shelves of your local software emporium. But rather than take the usual route of hiring a few actors, filming them and then digitising the footage, Take 2 has instead attempted to recreate the actors' faces through rendering techniques. The resulting characters are surprisingly recognisable, whilst at the same time looking more at home in their rendered surroundings than digitised images might have.



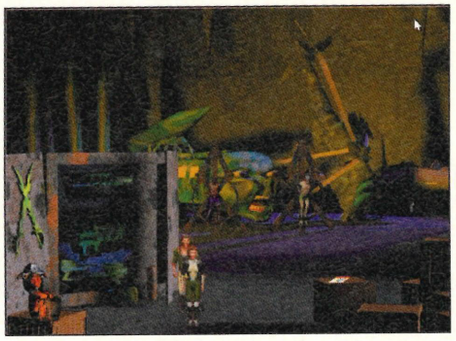
Living Hell

But how do Mr Hopper, Ms Jones et al fit in to the plot? Hell is set some 100 years in the future, in an America very different from the one we know today. The United States is ruled by a political party known as the Hand of God, which has been voted in by a population sick of violence, immorality and the threat of new computer-based technologies (after all, we all know that computer games turn kids into serial killers). Led by the androgynous Solene Solux (Grace Jones), the party has promised that all sinners will be judged and if found guilty, condemned to Hell — literally. However, instead of simply eliminating crime, the party has clamped down on technological research, and worse still, has outlawed free speech, books, alcohol, gambling and rival political parties. Not surprisingly, the American people aren't terribly chuffed about living under such a tough regime, but with demons walking the streets of Washington in the hope of acquiring new souls, only a few are brave enough to act.

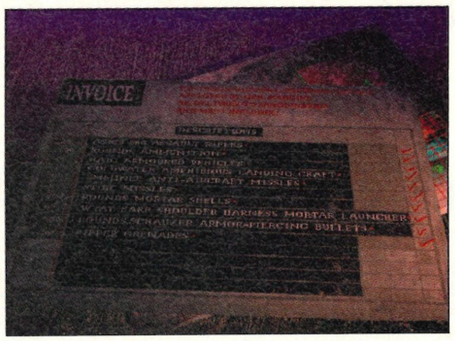
Hell's two principal characters, Gideon Eshanti and Rachel Braque, are field agents for ARC (Artificial Reality Containment), a division of the Hand's law and order division. Their job is to gather information on illegal technologies such as virtual reality, cyberspace and artificial intelligence, and inform on anyone caught using them. However, instead of rewarding the couple with a nice Christmas bonus, the Hand has chosen to repay their loyalty by trying to get them bumped off. Which leaves Rachel and Gideon in a bit of a sticky situation. Unable to know who to trust, the couple are forced to seek the help of gangs, hackers, assorted sinners and even demons — notably the elusive Mr Beautiful (Dennis Hopper).

Hell is virtually identical to BloodNet in approach: you start with just two characters (Gideon and Rachel) and a couple of leads, and by contacting people, carrying out errands for them and solving problems you gain further leads in the form of new locations to visit and more people to talk to. In this sense, it's much like any other adventure, but the difference is that Hell (and indeed BloodNet) is non-linear, so you're not restricted to completing the game in a particular order. In fact, you can

DESCENT INTO HELL



Hmm, so this is Hell. Or a bit of it, anyway. Pick up as many weapons as you can — you're going to need them.



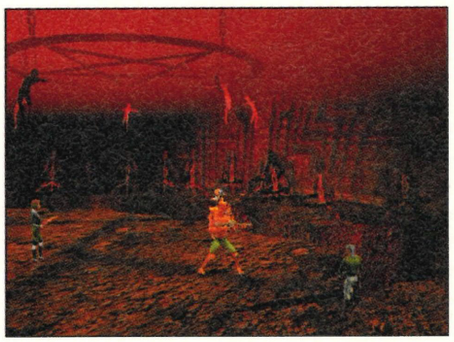
What's this? The Pentagon is selling arms to the demons? Surely not. And stop calling me Shirley.



So the Pentagon flogged some guns to the evil demon Sanguinarius, and this is how he pays them back. Crime doesn't pay, see?



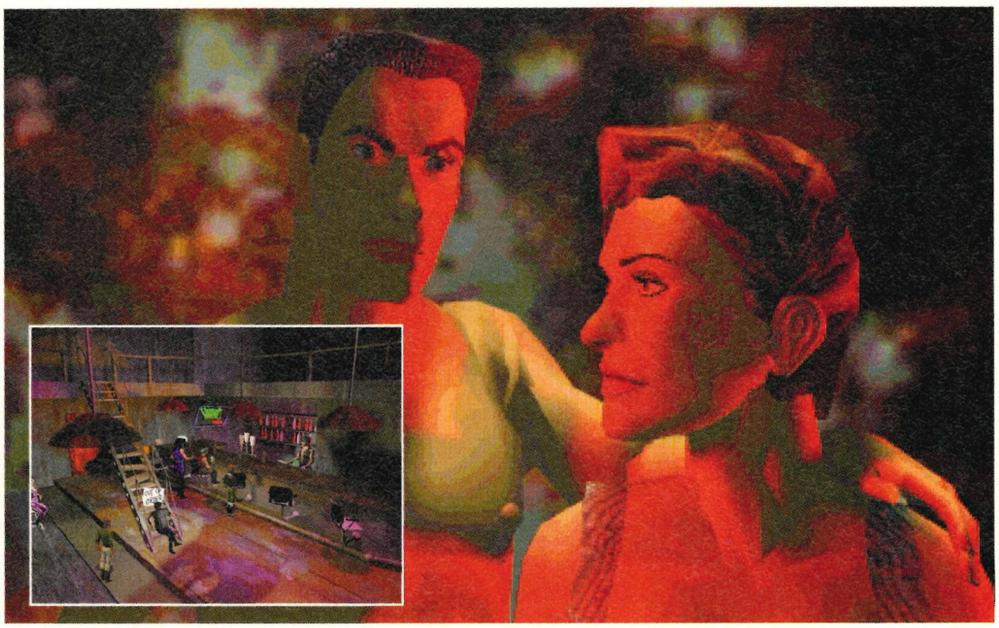
Ugly critter, ain't he? Sanguinarius is the most warlike of the demons, and won't take kindly to your meddling antics.



They say you can't fight fire with fire, but when it's hellfire we're talking about, you have to make an exception.



Combat is automatic — you just sit back and let it happen. Providing you picked up the right weapons, you should be OK.



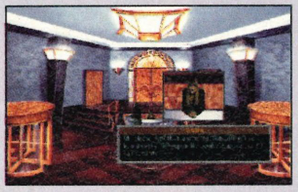
Right main: Gideon and Rachel, the hero and heroine of the game. You can choose to play either, but both will be part of your party. Other characters can be recruited later.

ALTERNATIVELY

BLOODNET
MicroProse, £44.99
Rated 8, Issue 30
If you like the sound of Hell you should enjoy this too. BloodNet is set in grim, cyberpunk-inspired future populated by hackers, gangs and vampires. It's intriguing, but like Hell it's tough and non-linear.



NOCTROPOLIS
Electronic Arts, £49.99
Rated 7, Issue 39
This more traditional graphic adventure takes its inspiration from adult comics. Set in the city of Noctropolis, it features hero, Darksheer, and a host of evil villains he must defeat. Good looking, but the puzzles are too easy.



complete certain sections in more than one way, so if you're hopelessly stuck on one puzzle, you can often get round it by trying a different approach.

Cracking up

This is fortunate. Hell, it turns out, is very tough. It's not your standard "use object A with object B to get result X" type of game. The puzzles require quite a bit of brain work, whether it's cracking a code to give you access to a computer, cracking another code to predict the winner of a horse race, or rigging together a piece of equipment using spare parts and trash. This makes the game a lot more challenging, because you can't simply go through your inventory trying out every object until you find one that works (a big problem with most adventures), but on the other hand it may mean that some may find the game too difficult.

The major difference between Hell and BloodNet, though, is combat. In BloodNet, combat was turn-based and tactical, allowing you to control the moves of every member of your party if you so wished. In Hell, on the other hand, combat is automatic, and success depends on whether you've solved an earlier problem or picked up a particular item. For example, on your first trip to Hell you come up against the warrior demon Sanguinarius, and you must pick up all the weapons in the adjoining room if you're going to have a hope of defeating him. This, as you might imagine, is a lot less time-consuming, although it does take some of the fun out of it a bit.

Much of your progress in Hell is made by talking to people, and the game contains an awful lot of characters. As with BloodNet, the majority are gifted with extremely silly names such as Electric Sex, Open Soar and Charles Multi-Server, and this, along with the technobabble that some characters spout, tends to get on your nerves after a while. However, all conversations are recorded so that you can review them at any point during the game, so you don't have to worry too much if you can't sort the facts from the waffle straight off.

Hellelujah

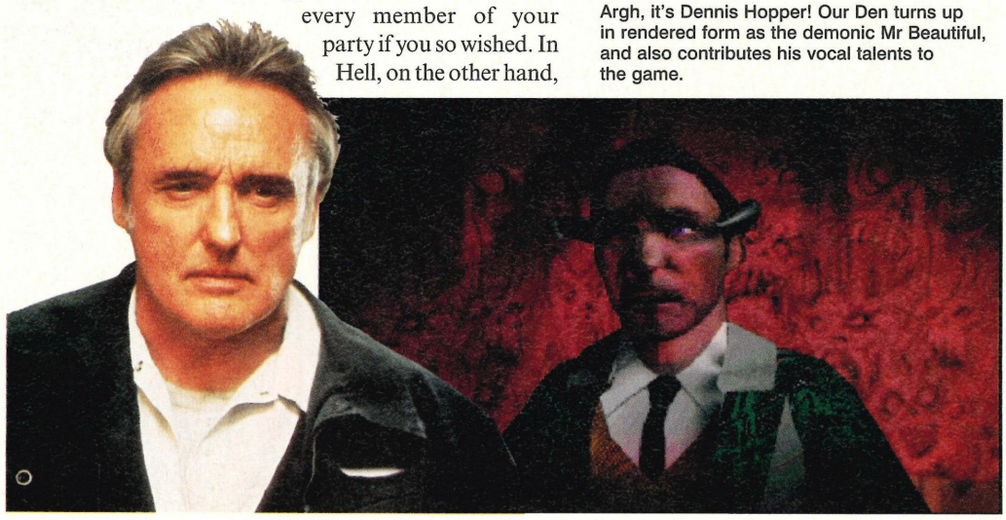
If the dialogue is a little iffy at times, the speech is very good. But then it should be, really, shouldn't it? Hopper, Jones, Seymour and Holder acquit themselves well enough, but it's worth noting that most of the other, less well-known actors put in good performances too, particularly the two leads.

In fact, the presentation is very good overall. The graphics are slick, the speech is clear and the interface is user friendly. The conversation playback facility (which also appeared in BloodNet) is a useful tool, and Hell's map is pretty swanky looking into the bargain. The only blot on an otherwise lovingly rendered landscape is the music, a tuneless mess of bleeps and whistles which sounds as if it has been composed by one of those pretentious net bands we all love to hate.



Overall, Hell is a fine game which is sufficiently different from most adventures (BloodNet excepted) to keep you intrigued. It is, perhaps, a little too large and sprawling, making it a rather daunting experience for first time adventurers: it might be a good idea to take a look at it before you decide to buy. However, should you persevere with it, Hell is a rewarding game to play and the further you get into it, the harder it is to turn off your PC and go to bed. Definitely worth a look.

❍ Cal Jones



Argh, it's Dennis Hopper! Our Den turns up in rendered form as the demonic Mr Beautiful, and also contributes his vocal talents to the game.



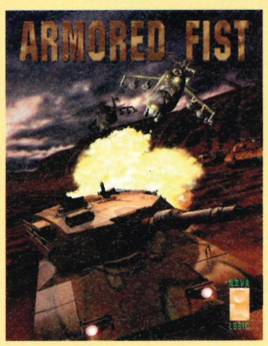
TECHSPEC 8 RATING

Complex, pretty and fiendishly hard.

Publisher:	Gametek
Price:	£44.99
Contact:	(01753) 553445
Minimum PC:	386, MS-DOS 5.0, mouse
Minimum memory:	4Mb
Minimum graphics:	VGA, VESA
Sound:	Sound Blaster, Roland, Ad Lib

CD ONLY

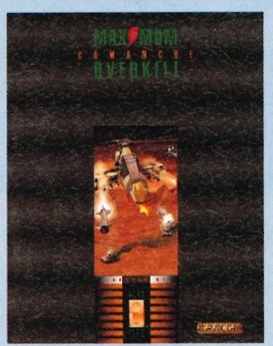
THE REALISM WILL GO TO YOUR HEAD



ARMORED FIST™

A realistic tank sim where American and Russian next-generation tanks do some state-of-the-art damage. Lead your platoon over no man's land and brace yourself as the advance weapons system locks onto your prey and delivers an earpounding blast.

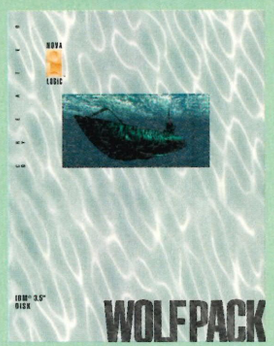
PC CD-ROM



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PC CD-ROM



WOLFPACK™

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PC, PC CD-ROM, Mac CD-ROM, Mac

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Make it big with Transport Tycoon

AVAILABLE NOW



SET THE WHEELS

TRANSPORT $ TYCOON



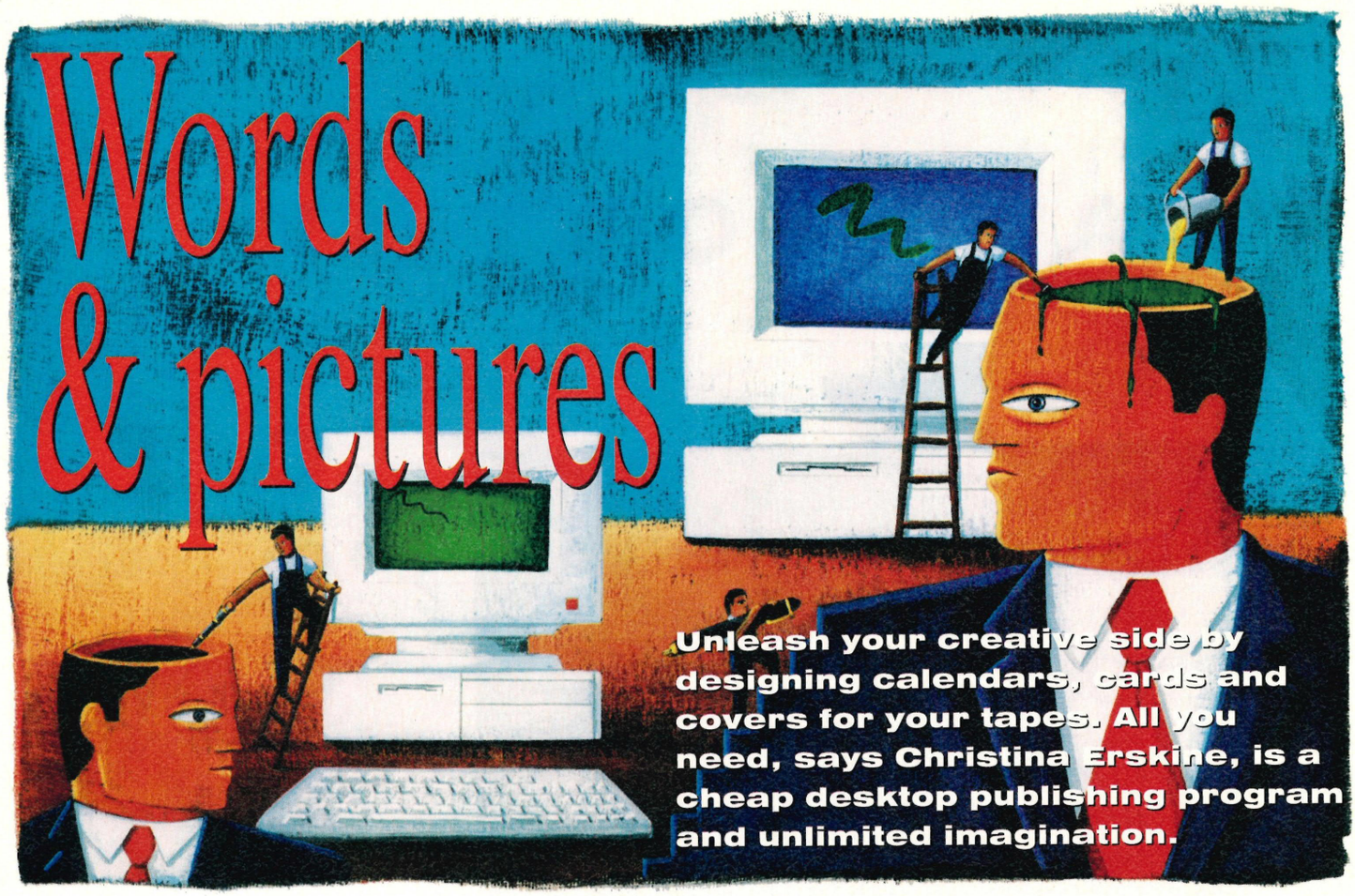
Written and designed by

Chris Sawyer

IN MOTION

MICROPROSE

Words & pictures



Unleash your creative side by designing calendars, cards and covers for your tapes. All you need, says Christina Erskine, is a cheap desktop publishing program and unlimited imagination.

Desktop publishing isn't just the preserve of the enthusiast with a cause and a need to produce a fanzine about it. Calendars, posters, greeting cards, party invitations, fax cover sheets, business forms . . . anything that requires a mix of text and graphics is ideally suited to being put together in a desktop publishing package.

The home PC user is also in the comfortable position of being spoilt for choice when it comes to picking a DTP program. While magazines and newspapers are these days created and designed using heavyweight programs costing maybe thousands of pounds, there are a number of low-cost packages for the individual buyer.

Stumbling blocks

Until recently however, DTP programs aimed at the individual user had two main stumbling blocks. First, the quality of the graphics available for incorporating in your document was less than thrilling. Secondly, things tended to judder to a full stop when it actually came to printing out your oeuvre. No matter how beautifully you'd arranged everything on screen, it would always look shabby on a dot matrix printer.

But now that inkjet printers are the norm and inkjet printing in colour is a perfectly viable option (see PC Review, Issue 40), armed with an inkjet or a laser, what you finally print now can live up to your vision as it appeared on-screen.

Clip-art and CD extras

With graphics, most programs still come supplied with 'clip-art', libraries of small sketches that can be used to decorate your text, but they are still limiting — and there are some clip-art images, such as the exploding bottle of champagne for party invites, that positively scream "amateur DTP!" at the recipient. This is almost certainly why most programs include complex facilities for special text effects, such as logos, to try to detract from clip-art.

More recently, some programs are beginning to include the ability to import pictures from Photo CD. This means that if you have a CD-ROM drive that will read Photo CDs, you can include pictures that you take with a camera and have processed on to Photo CD format. (You can see how easy it is to get serious about this.)

Upmarket

The affordable DTP market has become very competitive over the last couple of years, with competing products adding ever-more sophisticated features at a great rate. This has had the happy result of meaning that there is very little that the 'professional' packages (such as Quark Xpress and Pagemaker) can do, that these consumer-orientated programs can't, if perhaps slightly less smoothly. However, it has sometimes been at the expense of accessibility. You may have thought you just wanted some jazzy party invitations to send out, but being asked whether you wanted to 'kern' your characters to a fraction of a percentage,or finding the text won't fit until you get to grips with leading and indents is hardly conducive to making your desktop publishing enjoyable and productive.

Happily, ease of use — and making it fun — seems to be back on the list of publishers' priorities. All the programs we looked at here come with a wide variety of templates (it used to be that you got a newsletter template which was used for the on-screen tutorial and one or two others — if you were lucky). Now all you have to do is to pick out the template for, say, an appealing-looking brochure and you'll find that the page is already laid out for you. All you need do is type in your text and add your pictures.

Even more impressive are custom-designed pages in which you tell the program which specific text you require and it goes right ahead and designs the whole thing for you as you watch. Your finished layout (finished, I might add, in a matter of minutes) then sits there on-screen as a document, so you can go in and mess around with colours and fonts and edit it as much as you like after that. This type of hand-holding just can't fail with someone like me, who has far more enthusiasm than talent, and it also cuts out that horribly boring stage with any new program where you have to sit down with the manual and attempt to learn how to use it properly instead of just hacking away on-screen.

The programs

We tested four leading DTP programs, all priced under £100, with one notable exception, and all claiming to offer 'professional' features as well as 'load up and get going' accessibility.

We looked at three main areas for the purpose of the evaluation and ratings:

1) ease of use, and how simple it was to create the effects we wanted in the finished documents;

2) how wide a range of applications the program was suitable for, ie, whether it could do 'fun' things like calendars, cards and banners as well as newsletters and business forms.

3) how powerful and feature-rich the program was. We were also concerned with how easy it was to get to grips with the more sophisticated and detailed options — basically, could you master it without having to take a degree in print technology first?

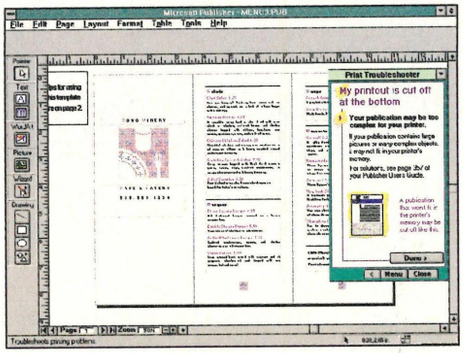
Microsoft's Publisher 2.0 is a substantial upgrade from its v1 predecessor and a pioneer of the 'bespoke' page design idea — Page Wizards in Microsoft's argot. Pressworks from GST is the current incarnation of a long series of programs that began back in the 1980s with Timeworks,and we also tried out the test documents with a beta version of Pressworks 2, a major upgrade to the current version, which should be available in the shops in the next month or so. Serif's PagePlus 3.0 is a basic DTP program to which you can bolt on an ever-increasing number of add-on modules, or you can buy the lot in the Serif Publishing Suite, which is the version tested here. PFS: Publisher, of all the programs tried here, is probably the most useful for the small business user, with templates geared towards newsletters and business forms. All the programs, incidentally, run under Windows 3.1.

The bulk of the test was to to choose four different types of document, and to reproduce these to the best of the program's ability. Two of these were graphic-led, a cassette cover (which also requires working with precise measurements and text appearing both vertically — for the spine — and horizontally along the front cover) and the front cover for a theatre programme, which could also double up as a poster. The others were more text-based, a CV, and a page of articles which could come from a newsletter.

MICROSOFT PUBLISHER 2.0

This program is so friendly it might as well wag its tail at you. Right from the initial installation, it holds your hand, asks you if you want help, butts in with tips every time you try a new option, even offers to design your documents for you. I can't yet get it to make coffee, or pick my lottery numbers, but I wouldn't be surprised if these options didn't turn up in later versions.

The templates — pages set up with columns and boxes that you only need to type over — and Page Wizards — pages for which the program prompts you for specific text, then designs itself on-screen — are so multifarious and all-encompassing that you wonder if you'll ever need to learn any program commands yourself. It has no less than three different cassette cover designs (which bemused me — I thought this would be the one document I'd have to design from scratch each time) set up as Page Wizards, so all I had to do was type in the name of the artist, the title and track listing when prompted by the program. I call that an unfair advantage.



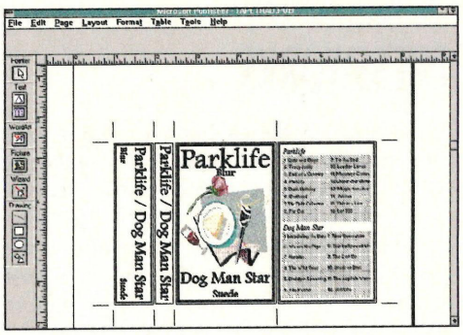
Microsoft Publisher 2.0's Print Troubleshooter option offers to solve any problems you might have with printing — though it doesn't always pinpoint the cause of the trouble.

Even more usefully, many of the templates allow for different sizes of paper and the need to fold the paper after printing, so that, if you wanted to create a tri-folded brochure, the template takes care of all the positioning on the page.

Less useful, but much more fun, are the Wizards for paper aeroplanes and origami — desktop publishing in its loosest sense, but certainly making this an effortlessly entertaining program to use.

Anyway, having sailed through the tape test, Publisher 2.0 also created the CV with a minimum of fuss — a template this time, rather than a Wizard. All the programs with the exception of Pressworks, included templates for a one-page 'resume', the American for CV, all of which tend to have boxes for 'Career Objectives' instead of 'Leisure Interests', but which are still easily adaptable if you wish.

For the poster and the newsletter page, I started from scratch instead of using a template, and found that while Publisher is ideally suited to graphic-based documents, it's slightly weaker when it comes to managing larger amounts of text, especially when divided up into smaller articles. Keeping track of the copy, putting it all into the same style and keeping it consistent, proved unwieldy in all the programs. With a standard 14" PC monitor, it's very fiddly to get exactly the right amount of text highlighted in order to change its font, or size, whatever. And if you zoom the text up to 200% to make it easier, you



The Page Wizards in Microsoft Publisher 2.0 make it ridiculously easy to design things such as calendars, business cards ... and tape covers. Sadly, they can't do anything for my taste in music.

can't see enough of it on-screen at any one time.

The fonts — text styles — that come with Publisher 2.0 tend to be of the 'fancy' variety, rather than anything you would want to use in, say, a CV. Presumably Microsoft reckons that the fonts that you should have with Windows anyway, such as Serif, Times and Arial will do for that, so that Publisher can provide the more decorative stuff.

Given that Publisher 2.0 is so easy to use — and with such pleasing results — it's ironic that this was the only program that gave me problems with printing. It's especially ironic, since it contains a Print Troubleshooter module, which, true to its friendly, caring start, offers to solve any printing problems I might have.

Anyway, it took me ages to work out that the reason why my tape covers looked like Braille was that the program was set up for a landscape-orientated 'letter' (8.5" wide) when the printer was feeding portrait-orientated A4 paper (8.25" wide). This was largely because Print Troubleshooter kept assuring me that it was probably a printer memory problem. As soon as I got the printer and program to agree on paper, the problem vanished.

MICROSOFT PUBLISHER 2.0

Supplier:
Microsoft

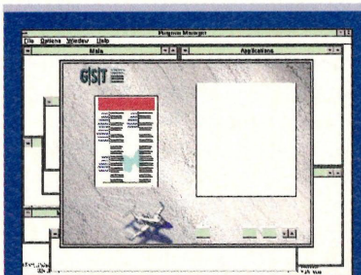
Contact:
(01734) 270001

Price:
£99.00

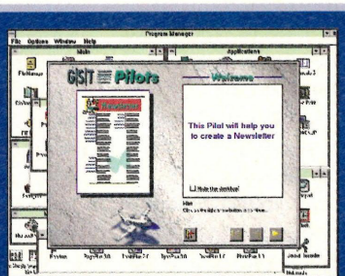
Minimum PC: 386 processor, with 4Mb RAM and Windows 3.1

rating 8

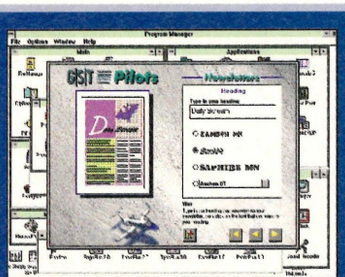
HOLDING YOUR HAND



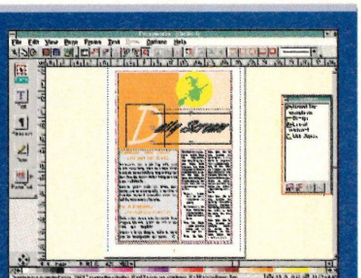
GST's Page Pilots in Pressworks 2 are similar to the Microsoft's Page Wizards in Publisher 2.0, and make designing a document a doddle. First, pick a style you like from the program's samples.



There are Page Pilot samples for different types of newsletter and brochure, and also invitations, menus, and greeting cards. All you need to do is type in specific text when prompted.



Here, for example, you are asked to give this publication a name, and pick a font (typestyle) for the title. You can always change these in Pressworks 2 if you decide you don't like it later.



You also get a selection of colour schemes, and spot illustrations to put in. Once the process is finished, you have a Pressworks 2 document which you can edit to your requirements.

PRESSWORKS

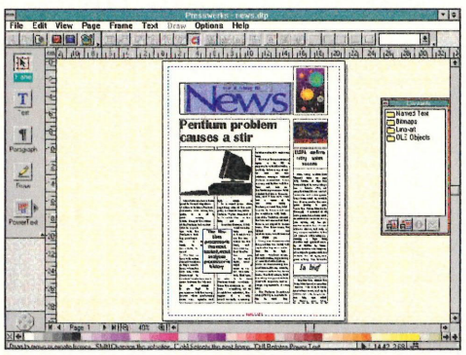
Pressworks has been around for a long,long time, initially as a Gem-driven follow-up to the starter DTP program Timeworks. While the version of Pressworks (now Windows-based) currently in the shops is still recognisably of the Timeworks pedigree, it is about to undergo a major revamp which makes it look much more like a program designed to run under Microsoft's new Windows 95 interface. The new version also includes Page Pilots, GST's version of Microsoft's Page Wizards, proper four colour separation output, and a redesigned menu system, which is far more standardised. Both the current Pressworks and a beta version of Pressworks 2 were used to compile our documents.

Pressworks 2 retains the current program's paragraph styling system, in which you can define a whole set of text parameters (the font, size, line spacing, tab settings and so on), give this style a name and then simply click on each paragraph that you want the style to apply to (as opposed to physically highlighting the appropriate text). This makes it nice and easy to manage large chunks of text, although it doesn't help with long screeds of text by not allowing you to scroll through a multi-page document — you have to address each page separately.

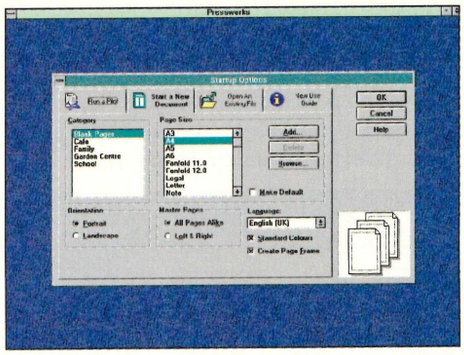
Both versions also come with lots of templates, although in the current version these are mostly for newsletters and documents. In Pressworks 2, the ideas promise to be a bit more imaginative,with calendars, cards, menus and colourful posters to choose from. The existing Pressworks is a bit aloof when you initially start up — you just get an enigmatic dialogue box and it simply asks you whether you want a blank page or a template. Pressworks 2 takes a leaf out of Microsoft Publisher's book — yes, it too wants to to be your best friend.

It also has a template for a CV, which produced a clean-looking document quickly and easily. Although Pressworks 2 has a Page Pilot for a CD front cover, it doesn't provide one for tapes, so to create the cassette cover, I started from scratch.

The program has a 'size and position' option for text and picture boxes which enables you to type in the exact dimensions and on-page position you want, rather than relying on eye and a steady hand with the mouse, so it was easy to



Pressworks 2 has a Windows 95 look to the icons and menus. It also has a Powertext module for creating decorative type, such as the headline 'News' in the sample newsletter above.



Pressworks 2 has a distinctly Windows 95 look to its interface and the opening screen, shown here, while still a bit formal, is a lot more informative than in its predecessor.

create the initial frames for typing in.

For text to run vertically, or other special effects, Pressworks has a module called Powertext, which I used to create the downwards-reading titles. This will also curve, stretch, colour and texture headlines to make logos and so on, without little fuss — and the results are easily editable if you think they look wrong later.

Pressworks also has some impressive picture editing and manipulation options, which came in handy for the theatre poster.Furthermore, the colour options in Pressworks are the most extensive of all the programs here.

It is definitely worth waiting for Pressworks 2, which at £39.95 for the basic program without oodles of fonts and clip-art graphics, promises to be excellent value for money. The new version of the program has so much more in the way of standardised features and a much smoother interface that it should leave behind the old clunkiness of Timeworks for good.

PRESSWORKS 2 POWERPACK

Supplier:
GST

Contact:
(01480) 496666

Price:
£69.95

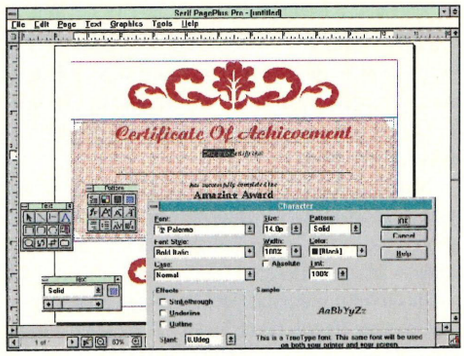
Minimum PC: 386 (486 recommended), with 4Mb RAM (8Mb reco), and Windows 3.1.

rating 8

PAGEPLUS 3.0

The PagePlus series is a sprawling giant. PagePlus v3.0 itself is a basic DTP program, in which you can set up a page — or use a template — import text and/or pictures and give them a basic style. If you want anything beyond your default Windows fonts,you need a Serif FontPack — each one has over 100 fonts,with a good mix of the functional for long columns of type, to the wacky, for eye-catching headlines. If you want to use clip-art for decoration or borders for your pictures, you need Serif's ArtPack. If you want to edit or recolour pictures, you need PhotoPlus. And for special text effects, there's TypePlus.

All these modules make this a flexible way of putting together a suite of desktop publishing aids. They are also available in one package as the Serif Publishing Suite — and there's a CD-ROM version, thankfully; I don't think I could face all that disk swapping — and if you're going to do anything more than dabble, this suite would be the package to go for. It adds up to a



There are lots of different ways to access the menus and options in PagePlus, from using the standard dialogue box from the top menus, or hitting the icons in the floating boxes on-screen.

pretty powerful set of tools — there are far more features in the Serif Publishing Suite than in the all-in-one Publisher and Pressworks. It is also correspondingly less easy just to plug in and go.

It also has the slightly odd feature — though

PRINTING

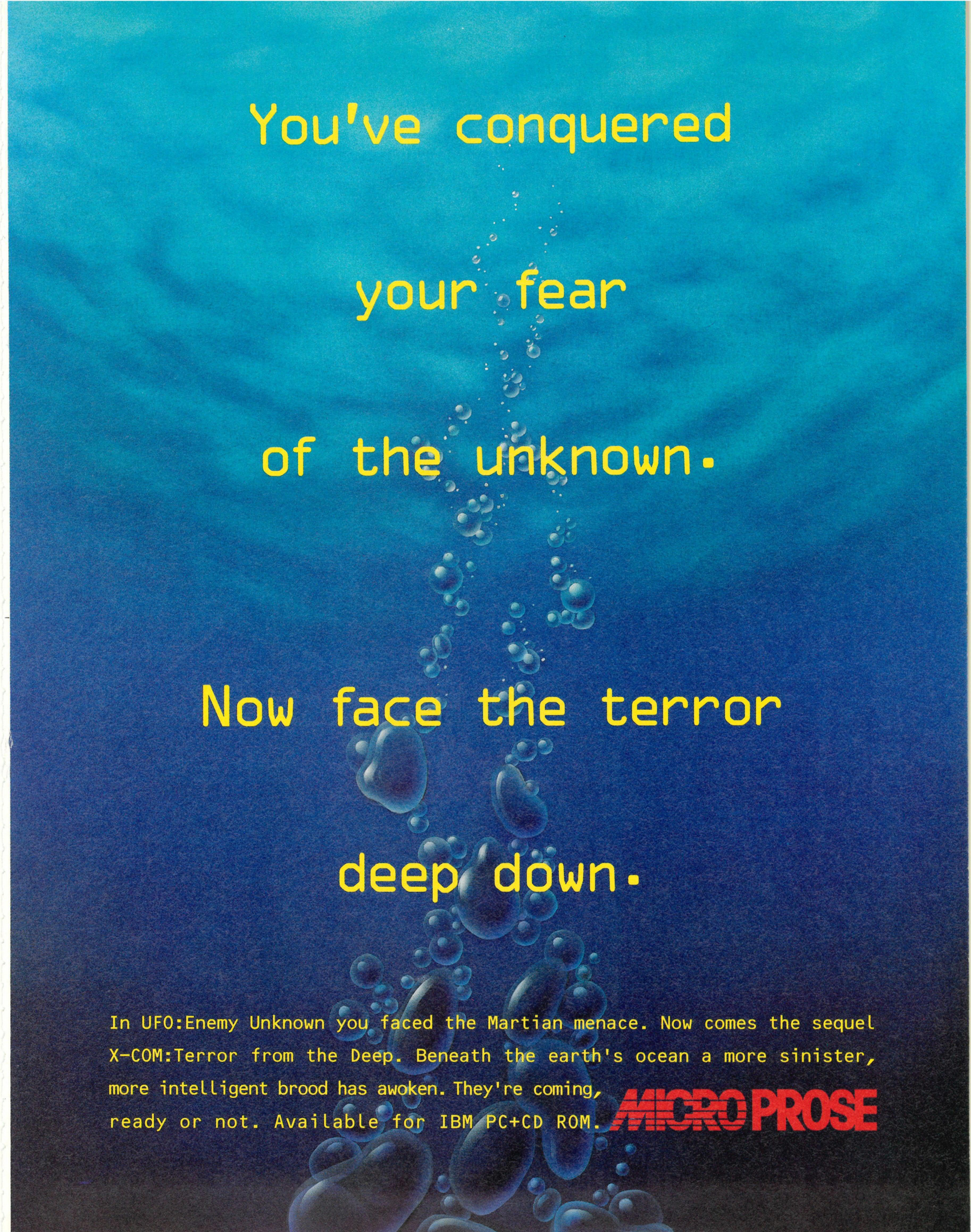
Blithely talking about printing out desktop published documents on colour inkjets is fine for short runs, but not very practical for hundreds of copies of brochures or business cards. The colours won't necessarily be very accurate, it'll be intolerably slow, you'll go through too many ink cartridges and it's a rather amateurish end to what will hopefully be a professional looking document.

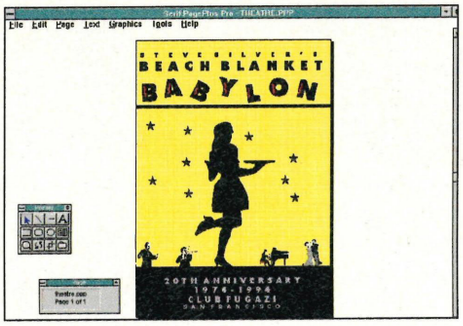
Obviously, you'll want to see what your publication looks like and for a CV, a fax cover,or even the tape covers described here, your own printer may be fine. For a bigger run, or something you want professionally output, you'll want to use a service bureau. You may even need to output your publication as four-colour separated film in order to have it professionally printed.

One solution would be to find a service bureau which uses the same dtp package as you. Well, they might. Otherwise, you can print the document not to your printer but to a file, in Postscript format.This file will contain not only your publication, but also all the necessary instructions for printing it out, *without* the original program. This means that a print shop which can output Postscript files will be able to output your publication correctly,even if they don't have Microsoft Publisher 2.0 or whatever.

Microsoft Publisher 2.0, Pressworks and PagePlus will all save as Postscript files and in each case, the manual gives clear and easily understood instructions for doing this and how to proceed thereafter. The PagePlus manual also reminds you that these files can be quite large, so if you are going to be taking floppy disks to a print shop, it's best to save just one page at a time, or use a compression utility such as PKZip — which is shareware.

PagePlus 3.0 and Pressworks 2 (not the current Pressworks) will also print to colour-separated film, if you need professionally output colour pages over and above what your colour printer and a colour photocopier can cope with.


You've conquered
your fear
of the unknown.
Now face the terror
deep down.
In UFO:Enemy Unknown you faced the Martian menace. Now comes the sequel X-COM:Terror from the Deep. Beneath the earth's ocean a more sinister, more intelligent brood has awoken. They're coming, ready or not. Available for IBM PC+CD ROM.
MICROPROSE



Making the theatre poster was great fun — from a DTP point of view, it involved stretching and rotating text, using colour, and editing imported graphics.

doubtless well-intentioned — of offering three levels of interface, from beginner to 'publisher' to 'professional'. You start out at beginner level by default, which means that there are quite few options not included on the menus,which suddenly appear if you move up a level.

It has a friendly welcome screen and some colourful templates which you can use as a starting off point for your documents. I'm still not sure whether the interface is extremely flexible, or just confusing. There seems to be at least five ways of accessing everything and every so often you leap out of PagePlus into one of its modules — this happens by default into WritePlus, the word processor which is strictly speaking an add-in not an add-on, when you set up paragraph styles, but it can be disorientating.

One of the templates is for a 'resume' which did very nicely for our CV. Most of PagePlus's templates are of the newsletter and brochure variety,although like Pressworks, it includes a CD cover. There are no Pilots or Wizards, though — for hand-holding, you'll have to rely on the weighty clutch of manuals.

The CV having come out easily, I moved on to the cassette cover, which proved much trickier. PagePlus doesn't like rotating text to read vertically or at an angle, and on a cassette box you want vertical text on the spine and horizontal text for the cover and inlay.

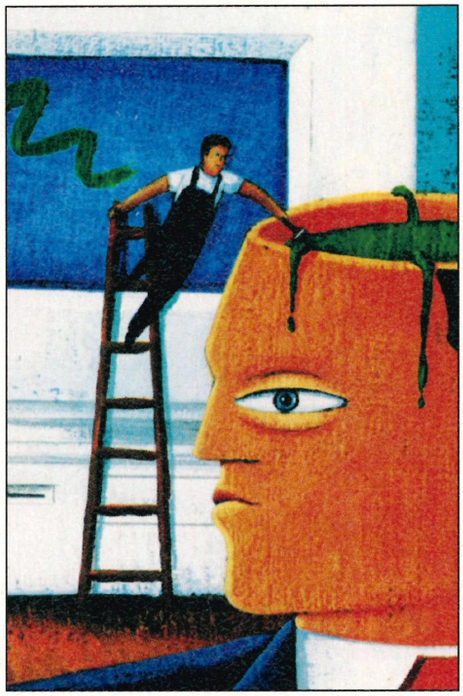
There are two ways round this. One is to use the text effects add-on TypePlus,which will not only set your text at an angle,upside down or in wavy lines but also with shadows and starbursts and in various colours. The problem here is that because it is an add-on, if you do the work on one headline then import it back into PagePlus only to discover that it now looks wrong or isn't quite the right size or alignment,you have to go back out to TypePlus to get it right again. Once you have a TypePlus object on to the page, the editing options are very limited.

The second way is to create the text frame as normal, then choose the option 'convert to picture' from the Tools menu. Picture boxes, you see, can be rotated whereas textboxes can't. Once it's been converted, the text-that-is-now-a-picture can't be edited and once rotated the same strictures about resizing apply. Overall, this made creating the tape cover a lot more cumbersome than it should have been.

The theatre poster was much more successful. The bouncy letters were created very easily — each individually — in DrawPlus, and also put on a slant in DrawPlus before being imported into PagePlus and put on the page.

The newsletter page proved to be difficult to keep clean and tidy — I simply didn't get entirely to grips with PagePlus's text-handling system, where changes can be made either at paragrph level or frame level, and where text can operate outside its frame altogether (Ikept moving the wrong bits around and misaligning them). The finished page looks all right,but not quite as clean as some of the others.

PagePlus may be less straightforward than either Publisher or Pressworks, but in many areas it's definitely more powerful. You can achieve just about any text or graphic effect you want, but you'll probably need to work a bit — with the manuals — to find out exactly how. I also made extensive use of the online help in all the programs, and PagePlus's was less helpful than the others — in explaining how text frames couldn't be rotated, for example, it made no mention of TypePlus. You should also remember



that if you're not going to buy the suite, which is twice the price of the other packages here, you won't get the extras, which would leave PagePlus at a pretty basic level.

PAGEPLUS 3.0 (SERIF PUBLISHING SUITE)

Supplier: Serif
Contact: (01602) 421502
Price: £199.99

Minimum PC: 386SX, with 3Mb RAM, and Windows 3.1. PhotoPlus needs at least 256-colour VGA in Windows.

rating 7

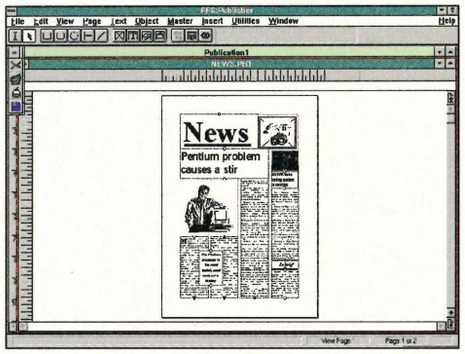
PFS: PUBLISHER

Like Pressworks, PFS:Publisher has been around for a while, and this version of the program dates back to 1993, which means that compared to the other programs here, it might be in the same league, but not the same division.

Firstly, it's geared far more towards business-style documents and publications. Many of Its templates give a set of blank columns and panels for pictures for newsletters or concentrate on things like fax covers and business forms. Well, fair enough. Back in 1993, the home/family/consumer PC hadn't yet taken off and the likes of you and me didn't have colour printers sitting at home. Ah yes, colour. In PFS:Publisher there isn't any. Well, you can import colour pictures — like the others, it supports most major picture formats,but you can't colour text, which when you're trying to compare looks, is a massive drawback. It is much more of a DTP-as-utility program than trying to give the illusion that you can recreate Vogue on your PC.

I'm afraid this all has the effect of making PFS's documents look rather dull. The CV, or resume, template gives quick results but produces a document which frankly you could have put together in Windows Write — and what is the point of a desktop publishing package if not to give you more than a word processor can?

It also has a template for a cassette cover, although looking at it, it appears more suited to listing recordings of bird song than your cherished collection of indie bootlegs. Like PagePlus, it won't rotate text boxes — unlike PagePlus,it simply refuses to rotate them, and you can't fudge around it. Its lack of features makes PFS



PFS handles long lines of text pretty well, but my attempts to make a decorative logo were doomed to dullness.

unsuitable for posters, cards, banners, or anything that you'd like to look jazzy, the theatre poster included. The newsletter page, however, was straightforward. It handles big chunks of text well and straightforwardly, and though it may not be exciting it's certainly functional.

However, I would forgive many of PFS's shortcomings on the grounds of age.There is one feature which I think detracts unnecessarily from using the program. It doesn't save your file sensibly. It saves it all right, but in a current directory rather than saving in its own directory or a 'samples' sub-directory. I spent quite a lot of time with PFS searching for my saved files, one of which finally turned up in the Microsoft Works directory (because I'd switched programs in mid-stream to make some notes), thinking they'd got lost.

PFS: PUBLISHER

Supplier: Softkey
Contact: (0181) 789 2000
Price: £39.99

Minimum PC: 386, with 2Mb RAM, and Windows 3.1. It even claims to support a Hercules monitor!

rating 4

	Microsoft Publisher 2.0	Pressworks & Pressworks 2	PagePlus 3 Publishing Suite	PFS: Publisher
Publisher	Microsoft	GST	Serif	Spinnaker
Contact	(01734) 270001	(01480) 496666	(01602) 421502	(0181) 789 2000
Price	"under £85"	£69.95	£199.99**	£39.99
Prices include VAT, but apart from Microsoft Publisher 2.0, are recommended prices. Street prices should be less.				
Specifications				
Runs under...	Windows 3.1	Windows 3.1	Windows 3.1	Windows 3.1
Minimum processor	386	386	386SX	386
Minimum RAM	4Mb	4Mb	3Mb	2Mb
Space on hard disk (incl clip-art, etc)	7.5Mb	5.5Mb	32.7Mb***	6Mb
On CD-ROM?	No	No	Yes	No
Modules				
Word processor incl?	No	No	Yes (WritePlus)	Yes
Spell checker	Yes	Yes	Yes	Yes
Thesaurus	No	Yes	Yes	Yes
Text import formats	Ascii, RTF, Works, Write, WordPerfect, Ami Pro.	Ascii, RTF, Word, Write, WordPerfect DCA-RFA.	Ascii, RTF, Word, Write, WordPerfect, WordStar, Ami.	Ascii, RTF, Word, Ami, WordStar All PFS fmts.
Drawing	No	No	DrawPlus	No
Pic. import formats	bmp, wmf, cgm, tif, drw, eps, pcx, wpg, pcd.	bmp, wmf, cgm, tif, eps, pcx, art, sld, gem, img, gif, jpg*, pic, tga*, pcd.	bmp, wmf, cgm, tif, drw, eps, pcx, pcd, dxf, cdr, gif, jpg wpg, tga	bmp, wmf, tif, pcx, gif, tga, wpg.
Photo CD import	No	Yes	Yes	No
OLE support	Yes	Yes	Yes	Yes
Tables	Yes	No	TablePlus	No
Special text effects	WordArt	Powertext	TypePlus	No
Printing options				
Print preview	No	Yes*	No	No
Print to file?	Yes	Yes	Yes	No
Colour separations?	No	Yes*	Yes	No
Create colours?	No	Yes*	Yes	No
Pantone colours?	No	Yes*	Yes	No
Templates				
Newsletters	Yes	Yes	Yes	Yes
Brochures	Yes	Yes	Yes	Yes
Calendars	Yes	Yes*	Yes	Yes
CVs	Yes	Yes	Yes	Yes
Greeting cards	Yes	No	Yes	Yes
Invitations	Yes	Yes	Yes	Yes
Posters	Yes	Yes*	Yes	No
Business cards	Yes	Yes	Yes	Yes
Letterheads	Yes	Yes	Yes	Yes
Business forms	Yes	Yes	Yes	Yes
Tape covers	Yes	No	No	Yes
Menus	Yes	Yes*	No	No
Others of interest?	Origami	CD cover*	CD cover	Coupons

	Microsoft Publisher 2.0	Pressworks & Pressworks 2	PagePlus 3 Publishing Suite	PFS: Publisher
Help features				
On-line help	Yes	Yes	Yes	Yes
On-the-fly help	Yes	Yes*	Yes	No
Custom design (Wizards)	Yes	Yes*	No	No
Layout checker	Yes	Yes*	Yes	No
Documentation	Good	Good	Extensive	Good
Text editing				
Fonts supplied	20	15	FontPack	12
Style sheets	Yes	Yes	Yes	Yes
Flow text round picture?	Yes	Yes	Yes	Yes
Coloured text?	Yes	Yes	Yes	No
Patterned text?	WordArt	PowerText	Yes	No
Rotated text?	WordArt	PowerText	TypePlus	No
Density/shading	WordArt	%age of colour*	4 styles	No
Font from menu bar?	Yes	Yes	Yes	No
Kerning	Yes	Yes	Yes	Yes
Hyphens adjustable	Yes	Yes	Yes	Yes
Index generator	No	No	No	Yes
Picture editing				
Scaling	Yes	Yes	Yes	Yes
Resizing	Yes	Yes	Yes	Yes
Cropping	Yes	Yes	Yes	Yes
Rotating	No	EPS only	Yes	Limited
Recolouring	No	Yes	Yes	No
Density/shading	No	%age of colour*	4 styles	No
Transparent option?	Yes	Yes	Yes	Sort of
Clip-art	Good	OK	Good	Poor
On-screen clip-art	Yes	Yes*	No	Yes
Design features				
Line styles	3 styles	8 styles (29*)	10 styles	7 styles
Arrowheads	Yes	Yes	No	Yes
Boxes, circles, etc	32 styles	4 styles	3 styles	3 styles
Background colours	15 cols	108 cols	34 cols	No
Background textures	23 styles	No	6 styles	36 styles
Column guides	Yes	Yes	Yes	Yes
Border styles	102 styles	12 styles (29*)	10 styles	7 styles
Zoom button	Yes	Yes*	Yes	No
Object grouping	Yes	No	No	Yes
Shadowing	Yes	No	No	No
Test documents (marks out of 10)				
CV	7	8	8	5
Theatre programme	7	7	7	4
Tape cover	10	7	5	6
News page	6	7	5	6
Overall ratings	**8**	**8**	**7**	**4**

Notes

* Pressworks 2 only (due for release March 1995). ** Full Suite on CD, including the Mega-Art pack. PagePlus itself is £64.99. ***Full Serif Publishing Suite. PagePlus 3.0 only takes up 5Mb.

Affairs of

Another independent software house succumbed to the lure of long-term lucre when Electronic Arts bought out Bullfrog last month. Christina Erskine finds out what the deal means for both companies.

The PC Review profile

Electronic Arts has long been saddled with the tag of "biggest entertainment software house in the world", a monicker that might be disputed by Acclaim Entertainment, but which has been strengthened by Electronic Arts' acquisition of its long-time affiliate Bullfrog Productions.

Bullfrog is a rare, if not unique, type of development house. For a start, there isn't a single bad game in its back catalogue (even LucasArts managed to sneak out Willow before the days when they became software Gods).

Secondly, it doesn't specialise in any particular type of game — if anything, it tends to produce the undefinable. From Populous, to Syndicate, to Theme Park and Magic Carpet: none of these games can be easily dismissed as strategy fare or a straight simulation, yet all have a characteristic attention to detail in the design and structure. They are designed to be games, not interactive movies, or business simulations, or shoot 'em ups.

Thirdly, in its co-founder Peter Molyneux it has an articulate and intellectual games designer who can meet the kids in HMV one day and discuss lofty ideals of interactive entertainment on the likes of Radio 4's Kaleidoscope the next.

Well known

It's also one of the best-known of the UK developers. Populous has sold over three million copies worldwide in the five years since its launch, Theme Park has been an ever-present in the charts since its release eight months ago. Yet these games couldn't be more different.

All Bullfrog's games have been initially published by Electronic Arts. Peter Molyneux originally sent copies of Populous to all the major software publishers and all of them turned it down ("too different", "not a recognisable genre") until it turned up at EA. What started as a one-title deal became a five year relationship. And although there have been occasional rumours of discontent and imminent splits in the partnership, no-one can seriously doubt that EA's muscle in the market has been beneficial to Bullfrog's profile and its sales.

Anyway, they can't get away now. "We can position Bullfrog as an innovative creator of game design. It's nice to be able to do that with a company that's merged with us, because they can't now go off elsewhere," confirms Mark Lewis, EA's international senior vice-president.

Good relationship

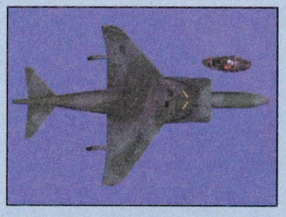
The motive behind the acquisition, for both parties, is broadly the same: finance. It's almost becoming a cliché, but games these days are hugely expensive to produce. Wing Commander 3 cost $4 million to develop, and budgets of over £1 million for a CD-ROM title are no longer uncommon.

"We've been happy with nearly every aspect of the relationship, but as the cost of development, especially CD-ROM development, goes up astronomically, it has become increasingly difficult for Bullfrog to do any long-term planning without long-term investment," says Lewis. For EA, it means that they can throw their promotional weight and cash resources behind a Bullfrog title in the same way that they did with Wing Commander 3 (whose developer/publisher Origin is part of the EA group — see PC Review, Issue 13) and hope to reap much the same in the way of financial reward. Wing Commander 3, for example has already shipped in excess of 250,000 copies, nearly half of those in Europe.

A company the size of Electronic Arts is also going to be one of the first publishers

US Navy Fighters

Data disk



Following up the very good-looking flight simulation which EA released towards the end of last year is this package of 25 new missions, with a new area map and (probably, they say) a network play option as well. Due for release in July.

Black Diamond

Electronic Arts

A video-based adventure in which you play a psychic detective in San Francisco. The video technology used is the key thing here which should mean there's no lag between scenes because of slow CD-ROM access.

Cybermage

Origin

Origin's new interactive adventure is due out in May this year.

Theme Hospital

Bullfrog



Continuing with the idea in Theme Park that business sims needn't be heavy-going. You play a doctor balancing the books versus patients' needs. Do you specialise in cosmetic surgery and get rich quick, or preventative medicine and end up poor, but serving the community?

the Arts

approached by hardware manufacturers seeking software support for new machines, giving EA very early knowledge of system planned by global giants such as Sega, Nintendo and now Sony. EA also teamed up with the leading PC processor developer Intel last year (remember being exhorted to accept no less than a Pentium for your Origin games?) giving it a useful association with the prime mover and shaker in PC hardware. Now Bullfrog can tap into EA's inside knowledge and take advantage of it in its own plans for future game design.

Addressing the weakness

Currently, Bullfrog has one weakness which EA wants to address immediately. Like Take That, it may be huge over here, but not nearly so well-known over there.

"Bullfrog is a brand name in Europe but not in the US — that's the first thing for us to focus on — building up the brand name. Yet Populous, the game, is very very well known in North America. To launch in the US is a marketing event more than anything else. In Europe you can pre-review software and the (magazine) reviews hit as the product goes into the shops. In North America the reviews don't hit until after the product has gone into the shops and you can't build up forward momentum."

In the States, buyers seem to like to categorise games by genre even more than the Europeans — Spectrum Holobyte (MicroProse) is 'known' as a flight sim house, Impressions 'known' for strategy games — but this needn't be a problem, says Lewis.

"Their strength is creativity. It's difficult for the enthusiast to decide to 'buy Bullfrog', because he may get stuff that he doesn't want. However, take Interplay — that has a very strong brand name, but a very diverse product base."

"Currently Bullfrog has one weakness. Like Take That, it may be huge over here, but not nearly so well-known over there."

And one further strength for the Surrey-based team is that — quite simply — they're British. As in some distant golden age of pop music, British programmers are regarded highly for being creative, innovative and a bit quirky. "British programmers have a very strong reputation in the US; look at Dave Perry and Shiny Entertainment" — you can't have missed all the recent outdoor hordings for the console game Earthworm Jim — that was Shiny Entertainment.

"We can trade on this with Magic Carpet, one of the best CD games in history. Carpet may be the first Bullfrog game, after Populous, to swell and pick up through the sub-culture. It got a bit lost versus Wing 3, Myst and Doom 2, when it was released. But by next Christmas Magic Carpet should be on everyone's must-have list."

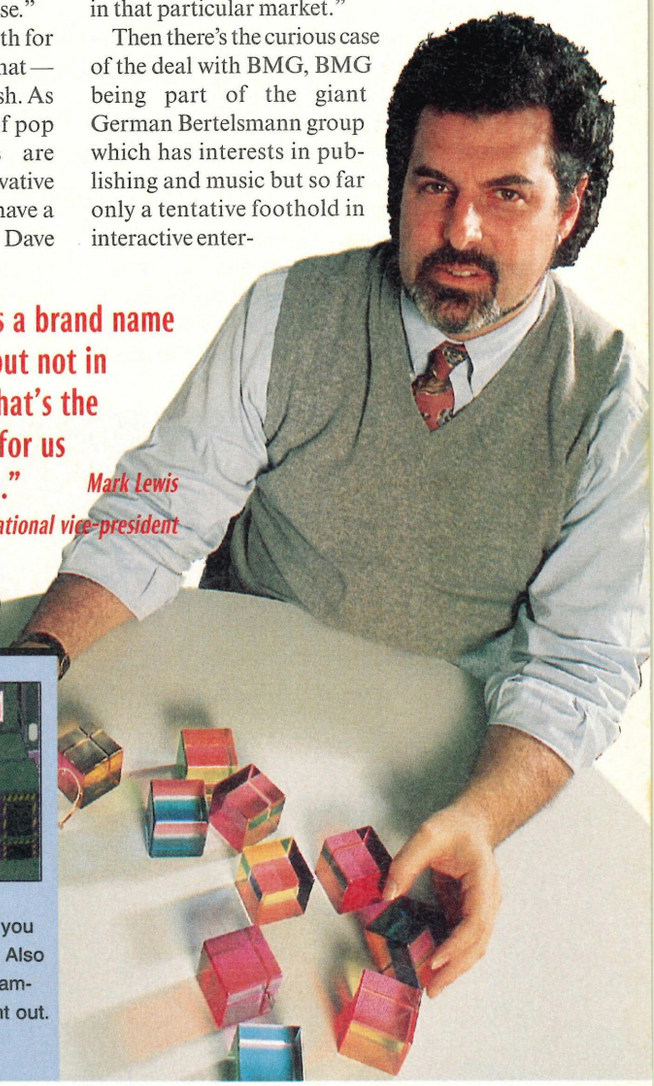
Deals on wheels

Bullfrog is not the only company associated with EA which has been the subject of acquisitions and mergers. A year ago, the company announced that it was to merge with the edutainment publisher Broderbund, best known for Print Shop Deluxe, Prince of Persia and Myst — the last of which has been an absolute mega-runaway hit in the US. Figures of $400 million were being cheerfully bandied around. Not long after that, it was all off.

"After Pearson put a value of $400 million on Software Toolworks, the board of directors at Broderbund decided not to do it. The idea was for EA to expand into other markets. It's possibly dead and buried now but if the market changed the deal might re-emerge if it was made economic."

But has EA looked elsewhere for a partner with a similar mix of popular utilities and educational games? Lewis won't comment directly. "There's no-one else of Broderbund's calibre for Print Shop and edutainment — also Myst of course. There are possibly not other contenders in that particular market."

Then there's the curious case of the deal with BMG, BMG being part of the giant German Bertelsmann group which has interests in publishing and music but so far only a tentative foothold in interactive enter-



"Bullfrog is a brand name in Europe but not in the US — that's the first thing for us to focus on." *Mark Lewis, EA international vice-president*

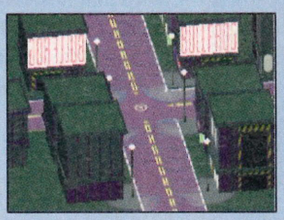
ELECTRONIC ARTS: This year's models

Magic Carpet Hidden Worlds
Bullfrog



This follow up to Magic Carpet is a data disk which will have 25 new levels set in an arctic landscape with plenty of ice and snow scenes. You'll have all the spells from the main game at your disposal, plus one new one — the Homing Meteor. Available soon.

Syndicate II
Bullfrog



This sequel features enhanced graphics over the original, with a fully rotating viewpoint and advanced light-sourcing — when you shoot out a light, it goes out, and stays out. Also adding to the realism is that you can now damage buildings as well as taking them straight out.

THE GREAT GAMES SELL-OFF

Ten years ago, this was just a cottage industry. The average British programmer could be found hand-duplicating disks in his back bedroom. Now he wears a suit, he's an 'interactive multimedia designer' and he's part of the global leisure industry. These are just some of the big deals involving well-known independent games publishers in the last few years.

Psygnosis
The big deal that started them all — Sony handed over the readies in May 1993 in return for Psygnosis's programming know-how on consoles and CD-ROM.

US Gold
Went public — its parent company Centregold launched on to the Stock Market in October 1993 with a capitalisation of £50.3 million.

Software Toolworks (now Mindscape)
Acquired for $447 million by Pearson New Media in 1993.

Interplay
Minority share acquired by Hollywood multinational entertainment corporation MCA (think Paramount, think Matsushita and Panasonic) in February 1994.

Zeppelin
A doughty independent producer of budget games, the Zeps were snapped up by US company Merit Studios for $2.2 million in June 1994.

Renegade
Acquired by Warner Music in September 1994.

Ocean
French media group Chargeurs bought 25% of the Manchester-based publisher in September 1994.

SSI
Acquired by Mindscape last autumn.

Core Design
Acquired by US Gold at the end of 1994.

Accolade
Acquired by Warner Music (see above) in January 1995.

BULLFROG
Acquired by EA for an undisclosed sum in 1995.

tainment. Yet BMG has been rumoured to be interested in buying out Electronic Arts — and despite denials the rumours have not gone away. Mark Lewis, however, is quite happy to add PC Review to the list of publications denied to: "I have been told there have been no discussions with BMG. It's problematic with these rumours because they could jeopardise deals. I've no idea where that rumour came from.

"To my knowledge," he adds for good measure, "There are no discussions with BMG."

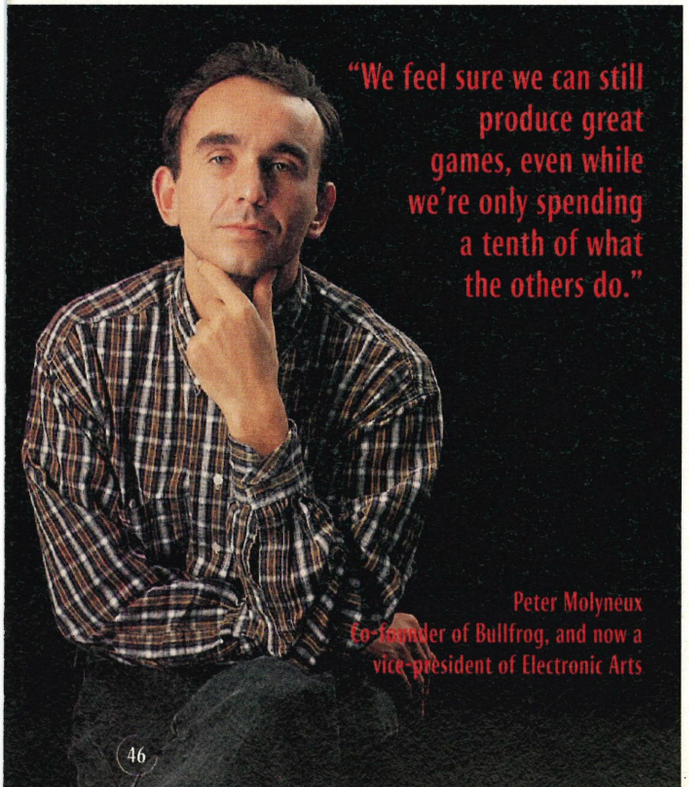
In any case, EA has a strong idea of where the market is leading. "In three years time, PC CD will still be around. All the 32-bit advanced entertainment stuff will be around in their future versions; I mean, it'll be Sega, Sony, and Nintendo, but possibly not the current system versions.

> "We need to reach completely new audiences. World Atlas should go next to the Bible and cookbook in every home."

"If we are developing a game that won't be available for four years then we would go for PC CD — it'll be there even if it's running on an Octium, or whatever."

And Lewis is determined that Electronic Arts will maintain its already large slice of the cake. "EA needs a huge portfolio of games, edutainment and also infotainment. We need to reach completely new audiences, with, for instance, a 3D World Atlas, which should go next to the Bible and cookbook in every home.

"You must get the young adolescent, but I hope to cross the sex barrier. The age barrier is already gone: we've grown a generation of gamers who are now in their 30s."



The biggest?

And that "biggest entertainment software house in the world" label?

"Acclaim put out a release recently saying that it had done $495 million in sales. EA did $424 million, but the time slots were different, so we don't know. EA is interested in more formats and more territories, it has more original titles and holds more of the top 10 slots than any other software company in the world."

Ask him for a personal philosophy however and Lewis will betray his company's Californian roots: "Software marketing is like surfing: you need to move the board with great flexibility but you must stay on the board."

BULLFROG SOFTOGRAPHY

Populous
1989
Sales currently stand at over three million worldwide and counting. With Populous, Bullfrog invented both the God game and the 3D isometric viewpoint, which have spawned hordes of imitations ever since.
Currently available from the Hit Squad at £14.99

Powermonger
1991
More isometrics, but this time with a theme more akin to a war game. Highly rated by critics, but rather overshadowed by Populous.
Currently available from The Hit Squad at £14.99.

Populous II

1992
More of the same, but with some cunning new spells and powers and extra detail designed to appeal to the (now over two million) Populous freaks.
Currently available from the Hit Squad at £14.99.

Syndicate
1993
Half strategy game, half gore-fest, this balanced elements of the board game Risk with a mission-based scenario.
Currently available: from Electronic Arts at £44.99 on disk, £39.99 on CD-ROM.

Syndicate: American Revolt
1994
With 21 new missions for Syndicate, this simply extended the gaming for anyone resilient enough to have made it through the original.
Currently available: from Electronic Arts at £39.99 on CD, with the original Syndicate.

Theme Park

1994
Fresh and humorous take on designing and running a theme park: lots of wacky rides to enthral your visitors, enough drinks and snack bars to make them all feel queasy after the roller coaster.
Currently available from Electronic Arts at £44.99 on disk.

Magic Carpet

1994
Incredibly stylish game involving battles, spell-casting and empire-building.
Currently available from Electronic Arts at £44.99 on CD-ROM. A disk version is also in development.

JOIN THE SQUAD... PLAY THE PC HITS



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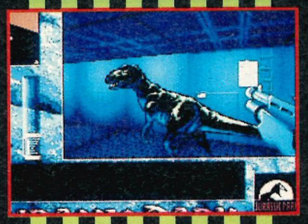
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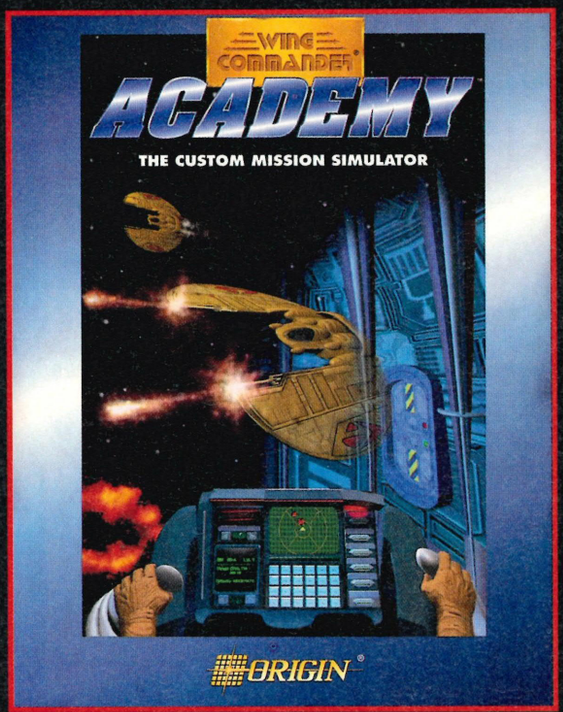




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WING COMMANDER™ ACADEMY

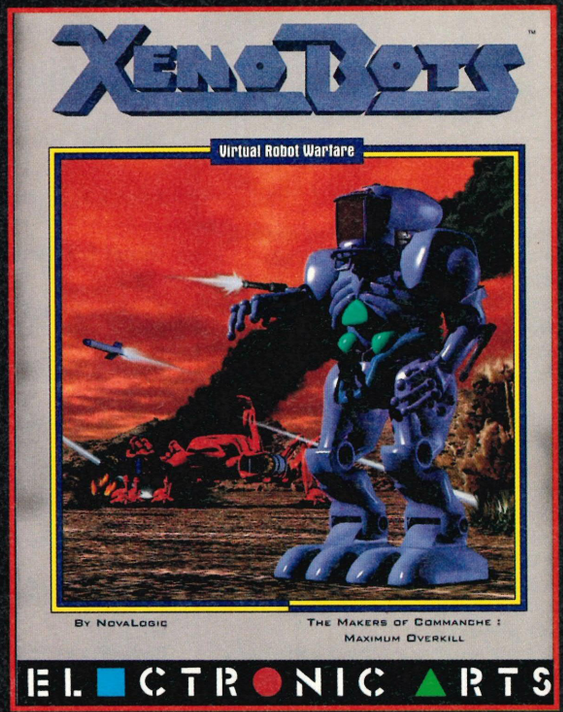


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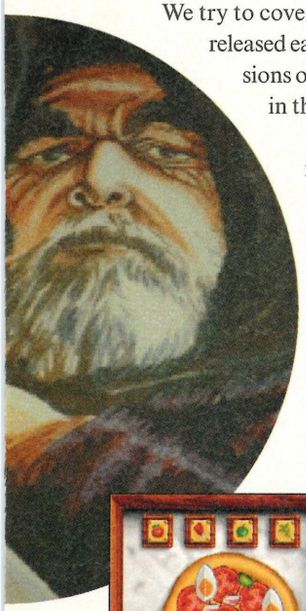
Welcome to our reviews section, packed with reviews, previews and tips covering absolutely everything that's happening in the world of PC games and multimedia. Here's where you'll find reviews of all the latest games and multimedia releases for the PC, extensively illustrated and play-tested in depth to give you the best reviews service you'll find anywhere.

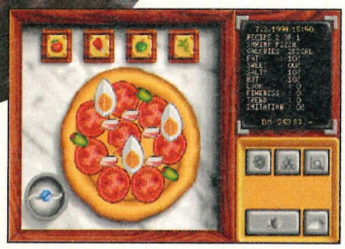
We try to cover *all* the games and multimedia products that are released each month, including budget re-releases and CD versions of games already out on disk. You'll find these mainly in the columns of short reviews, starting on page 73.

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 games questions on the spot.

Finally, we round everything off with the PC games competition, in which you can win a copy of Retribution *and* a 21 inch colour television.







The rating system explained

PC Review gives a single mark out of 10 to rate games and multimedia products. The score takes into account all the product's elements, with particular regard to playability, graphics and sound. We aim to test to completion — where applicable. We can be pretty tough on games and multimedia too — since 'five' is the halfway mark between 0 and 10, you can assume we consider anything rated more than five to be above average in quality.

0: A title with absolutely nothing to recommend it to anyone.
1-2: Poorly implemented, badly programmed, very disappointing.
3-4: A product with some good ideas, but serious drawbacks.
5: Solidly average. 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 release which should appeal to the majority of game players.
8: Very good indeed — a product will need something special in the way of gameplay, scope, 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, etc.
10: The ultimate score. Sheer perfection.

Reviewed this issue

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Disney's Aladdin

Another Disney tie-in picks up the trail blazed by The Lion King. Is it any better than its feline predecessor?

Let's get one thing clear from the start. This game is officially known as Disney's Aladdin. That's *Disney's* Aladdin, in case you didn't catch it the first time. The manual reminds you of this fact over 20 times in the first four pages, but for the sake of convenience I'll just call it Aladdin from now on.

Aladdin is a platform game not dissimilar to The Lion King. The latter is easier, less adult and less varied, but the two share several comparable characteristics. Both boast a relatively small number of levels, feature heroes with minimal defensive options, use music from their respective film sound tracks, and share a remarkably similar secret level.

Both games are also pretty good, so the resemblance isn't such a bad thing. Not surprisingly, Aladdin draws the inspiration for its 11 levels from the plot of the film. The goal is different for each stage (for example, before you can enter the Cave of Wonders you need to find two halves of a scarab beetle in the preceding levels), but the basic aim is just to get through to the end. Three difficulty levels let you decide how tough life should be.

Unique opponents

All the stages have unique opponents, obstacles and collectibles, as well as great variety in graphics and sound. Some characters, such as the guards, appear almost everywhere, but snakes are only found in the desert, spikes in the dungeon, water traps in a couple of stages and fireballs only when you flee the cavern. Coupled with the excellent music, this creates a different atmosphere for every stage of the game.

Aladdin himself has a limited number of moves, all of which are best executed with a joystick. His basic actions include running, jumping, crouching and climbing ropes, but other options such as using flag-poles to hurtle skyward, clinging to magic flying ropes and swinging along clothes lines also crop up from time to time.





Above: the Cave of Wonders is the fifth of 11 levels, and things are starting to get tough. Treasure and trouble are found in equal measure.

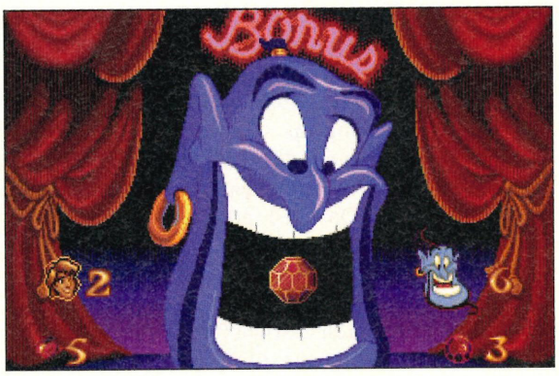
Weapon supplies

Aladdin's only weapons are a supply of apples and his sword, but he can also pick up many other useful items including gems, magic flutes, extra health and lives, exploding lamps, and progress markers. There are also two special collectibles which allow you to take part in the end-of-level bonus games.

This is a pretty impressive platform game. Apart from some slightly fuzzy speech the sound is excellent, particularly the music which is based on the film's soundtrack. The graphics are bold and colourful. The gameplay is compelling but ultimately a bit limited; a few more weapons, more special effects or even a couple of extra levels would have provided longer-term interest. Maybe I'm expecting too much. Aladdin doesn't quite deliver the meaty challenge found in more 'adult' releases such as Prince of Persia 2, but it's still great fun nonetheless.

❍ Gordon Houghton





Below: the Genie's Bonus Machine is found at the end of every stage — if you have collected enough genie tokens along the way.



Cute, fun, colourful platformer.

TECHSPEC 8 RATING

Publisher:	Virgin
Price:	£29.99
Contact:	(0181) 960 2255

DISK ONLY

Minimum PC:	386, MS DOS 5.0 joystick rec
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Sound Blaster, Gravis Ultrasound, ProAudi



Wings of Glory

Forget modern day air warfare, the real knights of the sky can only be found in a World War I flight sim.

It seems strange to me that three flight games, Strike Commander, Pacific Strike and now Wings of Glory, can all be based on the same 3D technology and Realspace game engine and yet play so differently and have such different strengths and weaknesses.

You'd think it was simply a case of altering the storyline, adding the new planes and flight models and making any minor improvements you feel like along the way. Obviously not.

The good news is that after the truly dismal Pacific Strike — a jerky, unplayable, pixelated mess — Wings of Glory is definitely on the right flight path.

The nature of the game doesn't need a great deal of explanation. We're in traditional flight sim territory here, and it's biplane (or even tri-plane) time. No missiles, no radar, no radio, chaff or flares — not even any central heating in the cockpit. Wings of Glory is all about air combat in the most primitive machines ever to take to the skies with a gun on board. Just getting into the air and staying there for a couple of minutes is reason enough to celebrate.

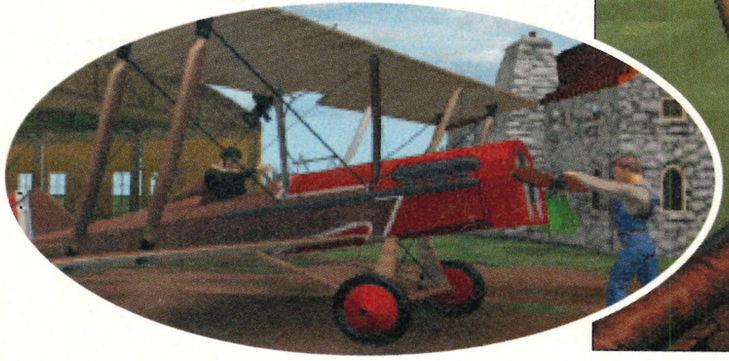
There are five classic aircraft for you to take to the skies in: the SE5a, Sopwith Pup, Spad, Sopwith Camel and the Fokker Dr1 tri-plane, and you get all the standard flight sim trappings, such as external views, a mission generator and flight recorder. Once you're in the air, it's waypoint-based stuff as you'd also expect: hit the 'autopilot' to skip you straight to the action (yes, I know they didn't have autopilots then), and then jump you back to base when you've done your stuff — or navigate your own way if you insist on doing things the hard way.

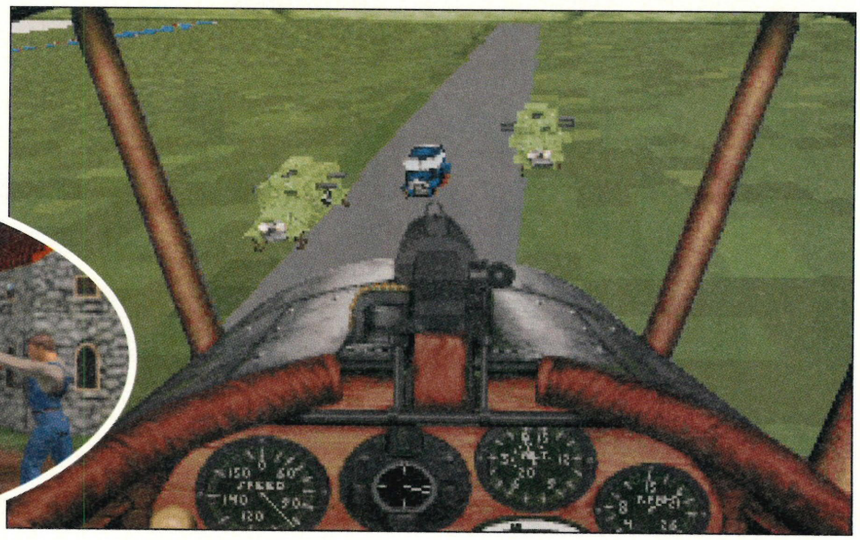
Within the ongoing campaign which follows the fortunes of a small squadron based in France, you fly a series of missions against the enemy, from simple dogfights and patrol runs to bombing raids on German tanks and buildings. And occasionally, the flight engineer will dish you out a couple of rockets wfor a spot of Zeppelins and observation balloon bashing.

Earn your wings

The style of air combat at the time will always lend itself to a good combat game: dogfights really do take place at treetop height, you're always right in the thick of things — and if somebody takes you out, you know exactly who it was because they've been chasing you across the sky for the past 10 minutes.

But on top of that, Wings flies excep-

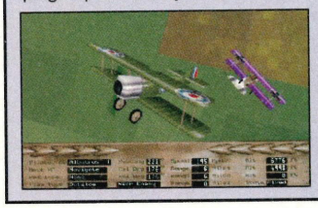




Everything's texture-mapped, of course — but it's miles smoother than Pacific Strike and you don't get the same bendy-pixel nightmares ...

ALTERNATIVELY

DAWN PATROL
Rated 6, issue 39
Empire, £44.99
The only real alternative to Wings of Glory takes the form of an SVGA interactive book. Read about a particular ace and then fight him in glorious SVGA. It's very educational, but the campaign option is very weak.



KNIGHTS OF THE SKY
Not reviewed
MicroProse, £14.99
Positively ancient, but this little number is still able to hold it's head up in terms of playability. It's a polygon-based budget label clunker that also has a superb network facility, so you can dogfight your friends.





No, he's not going to be sick in that bucket ... Wings of Glory wouldn't be the same without the famous Origin cut scenes and 'talkie' bits.

tionally well (and admirably smoothly on a 33MHz 486). It easily makes the grade as a first-rate combat flight sim. All of the planes have been realistically modelled, shaded and well and truly texture-mapped — right down to the creaking struts on the wings and the custom markings on the aces. The combat is tough and intense, and you'll find yourself making more use of the virtual cockpit than in just about any other flight sim as you weave across the skies trying to shake the enemy off your tail.

The first few flights can be a little disheartening, though, simply because your plane flies in what feels like a very realistic manner. In other words it's fragile, lumbering, very slow and prone to falling out of the sky. If you're really into make-believe, this is probably exactly the way you want things. But until you get the hang of the plane's limitations it can be a very frustrating experience. Give it time, though, it really is worth it.

Captain Darling

Of course, Wings of Glory wouldn't be complete without the famous Origin cut scenes: square-jawed, comic book heroes discussing the finer points of the upcoming mission or lamenting lost colleagues. Origin isn't content with simply producing a flight sim, you have to get the whole 'interactive experience' as well.

Usually, this sort of thing doesn't make the slightest bit of difference to me. I play flight sims because I like the combination of speed and skill involved in a flying game, and because I like shooting things (particularly my wingmen). Cut-scenes are just an irritation you skip through as fast as you can to get on with the action.

But like it or not, you get a storyline in Wings of Glory. On the ground you can chat to the various characters like the miserable mechanic, the CO and your fellow pilots. These conversations will reveal useful information about the unfolding plot (including a traitor) and although there's always the temptation to skip them, it's important to pay careful attention. The evolving narrative is shaped by your actions, and the campaign is won or lost by more than just your skill in air combat. This gives Wings of Glory a more complete and invoving feel than it's closest rival, Dawn Patrol's — even if it's not quite as pretty.

There are only two things that let this part of the game down. Firstly, if you've seen the digitised splendour of the interactive bits in Wing Commander 3 (cover game, issue 40) then these simpler, stylised characters will definitely feel like a return to earth with a bump.

Secondly, the characters are camp as hell. What we have are a bunch of effeminate dandies of the General Melchett school, with appalling accents, even more appalling moustaches and stiff upper lips all round (the British officers), and our intrepid clean-cut hero (an American) looking like he's just walked off the set of Top Gun.

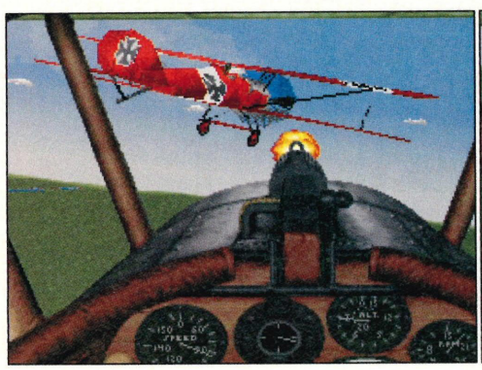
It wouldn't get up my nose quite so much if I thought it had been done with tongue firmly in cheek, but I doubt that very much. Americans? Subtle humour? Nah!

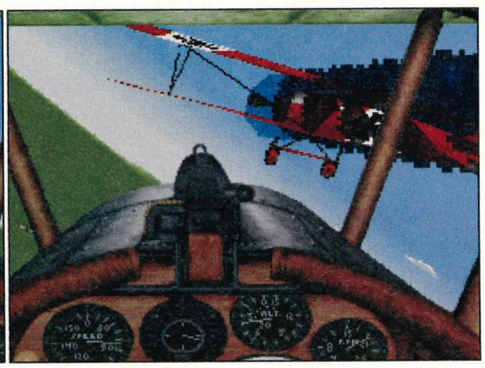
Even if the plot does get pretty daft at times, and the characters even dafter, Wings of Glory is an vast improvement on Pacific Strike in every department. It's more pleasing on the eye, the planes are better defined and the detail is less muddy. True, the landscaping isn't anything to write home about (a bit flat and featureless) but it doesn't turn into pixel-pizza land as soon as you look at it.

I'm surprised that there isn't a real high resolution SVGA mode. After all, we're now seeing it in games like Dawn Patrol, Overlord and US Navy Fighters, as well as Origin's own Wing Commander 3.

But I think we can safely say that Wings of Glory does more than just pass muster in the flight sim stakes. It looks good, it's got atmosphere, it's fun to fly, genuinely exciting and requires plenty of skill. I think that's a fair recipe for a good flight sim. Dawn Patrol may appeal to more hardcore fliers because the Strike series has always had a bit of an arcade feel, but if you want a sim that puts the fun into flying, Wings of Glory has what it takes.

❍ John Bennett





Air combat is a matter of getting as close to your opponent's exhaust as physically possible, peppering him with a low-calibre gun ... and praying it doesn't jam.



'A first rate WWI flight sim.'

TECHSPEC 8 RATING

Publisher:	Origin/EA
Price:	£44.99
Contact:	(0753) 549442
Minimum PC:	486/33
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Sound Blaster, Ad Lib and Roland

CD ONLY

Premier Manager 3



Not one. Not two. But three — yes, three! — Premier Managers. A whole new ball game, or just more of the same?

Football games have proved perennially popular on all machines. Be they management simulations, or on-the-pitch games, the paying public apparently can't get enough, ever since the days of the original Football Manager and Commodore's International Soccer. Both styles of game put that old lament, "My granny could do better than that", to the test.

Management games haven't even changed that much in structure since Football Manager: a few more bells, whistles and graphics and sound to suit the 1990s. This is exemplified with Gremlin's Premier Manager series, which balances statistical detail with playability to good effect. And here comes the grandson in the family…

And why not?

With the ever-changing team line-ups and player statistics, it's certainly not a game that gets tired of being updated. Yet Premier Manager 3 could very easily be subtitled 'More of the same, my friends. Only with some new bits and pieces added on for good measure.'

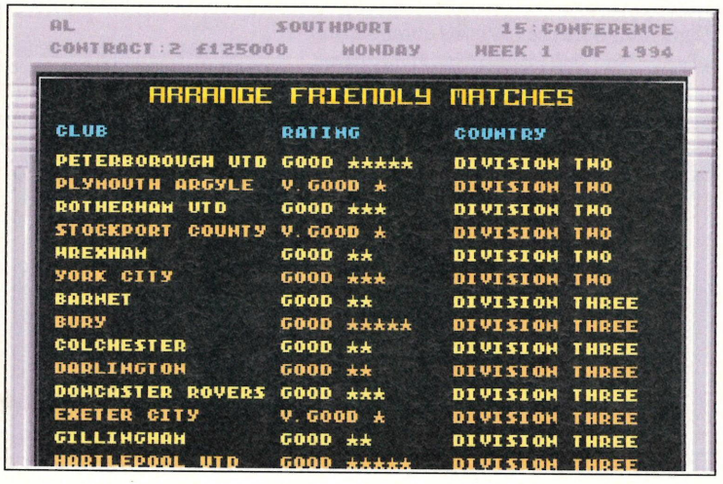
The success of the previous PM games has generally been put down to not only a good mixture of strategy and play, but to the overall user-friendliness of the product. By making good use of a striking icon system, PM managed to bring the genre of footy management games from the traditionally text based affairs to more attractive packages.

Working, presumable, on the theory that 'if it ain't broke, don't fix it', PM3 doesn't appear to have changed all that much from its last outing. What it does do, however, is make the already incredibly friendly control system even clearer, not to mention including a more detailed tactics editor and an improved match representation screen.

Owners of Premier Managers 1 and 2 will no doubt be familiar with the 'rather unsatisfying' match graphics that were used previously, with a ball moving left and right across a bar used to represent the pitch. Though it was fairly innovative when it first appeared, it doesn't exactly get the pulse racing, and has thankfully been brushed aside to make way for more pleasing visuals this time round.





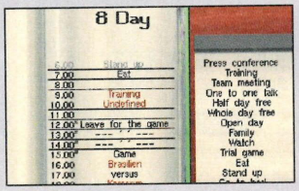


Far left: The truly remarkable icon system that allows you to do lots of great things. Bottom left: The similarly remarkable ground plan where facilities and advertising can be upgraded. Below: No, stop. Friendly text screen alert!

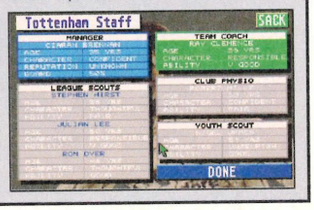


ALTERNATIVELY

On The Ball: World Cup Edition
Daze, £34.99
Rated 8 Issue 35
A management game for the more 'visually expectant' games player. Much the same as all the rest, only with attractive animations and deeper player personalities. Good stuff — and don't confuse this with the inferior league version.



Championship Manager 94
Domark, £29.99
This and Premier Manager are generally considered to be the best of the management sims. PM3 is probably friendlier and more well-presented; Champ Manager more for the serious statistician, with its numerous seasonal updates.



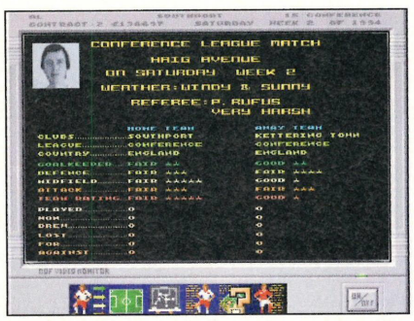
Though essentially providing the same information as the original games did, the matches are now shown in glorious 'Isometric Wooden Player-O-Vision' where, as before, you can alter the speed of the match, choosing to either sit back and make a study of individual players, or just slam it up to warp factor 6 and wait for the result.

During the match you can chose to view both the players and the ball, just the ball's position, the players' numbers, or a combination of these options. Any moments of excitement, such as near misses or bookings, are accompanied by static graphic 'windows' and some excellent spot effect samples. You can of course interrupt the game at any time should you wish to change tactics.

Man on Gary!

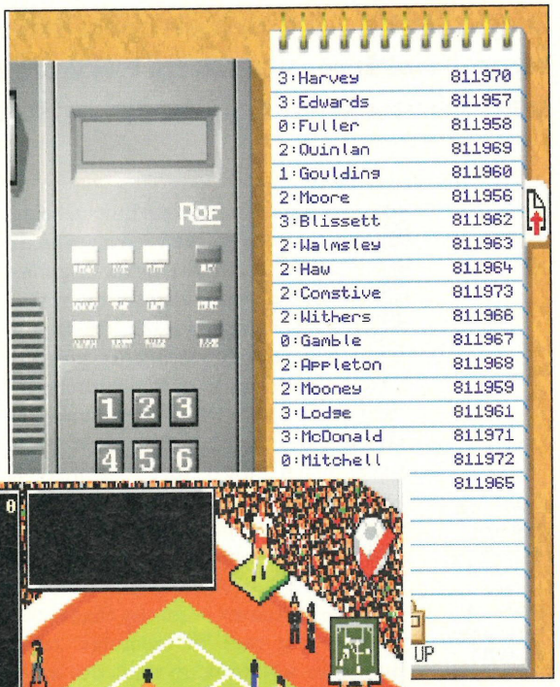
I've already mentioned that the tactics department has had a major refurbishment, and I'd just like to make it clear that I wasn't referring to the wallpaper. With PM3 you can now not only select formations and set parameters around how individual aspects of play are handled (eg, low passing, hard tackling, long shots, etc) but also place individual players in very specific positions depending upon where the ball happens to be.

By examining the player's individual statistics, it may become apparent that some players are better suited to particular positions; so, for instance, you don't want to put a good right footed player in a left wing position. Or a goalkeeper in attack.



Before each match, you are given a side-by-side rating based upon the quality of your team.

Away from the matches themselves, the menus and selection screens have remained much as before. The transfer system, the finances, the bill board advertising, the phone — they're all there; albeit with some 'touched-up' graphic representations, along with the ground improvements and fax utilities. One particularly nice new feature with PM3 is an assistant manager facility, where a skilled 'right hand man' can be hired to look after your training schedules and tedious day to day obligations. You can look into his activities at any point, and step in and make overriding decisions, either based upon his recommendations, or yours.



Full time

Although based upon the tried a tested methods employed in the previous two PMs, with the likes of Daze Marketing's On The Ball pushing footy sims into new areas of graphical excellence, it must be said that some of the match representations do look just a little dated now.



As an overall comment, I think PM3 is still the more user-friendly of the footy management games available — especially for the beginner — but perhaps this is due to the fact that it's quite easy to breeze through without getting too bogged down. I personally get a bit bored with all of the ground improvements and advertising, preferring to just get on with the matches, but considering PM2's success, who am I to say what Joe Public is after?

Ultimately, my only real criticism of PM3 (apart from the lack of imagination with the match graphics) is that I find it a bit too similar to PM2, and unless you were a fanatical PM2 player, I fear you might be paying for just more of the same. Then again, perhaps that's the idea.

Matt Broughton



Very user friendly management game.

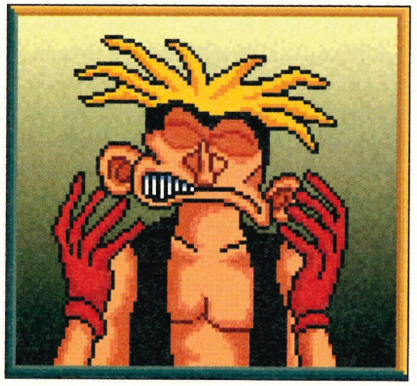
TECHSPEC 8 RATING

Publisher:	Gremlin Interactive
Price:	£34.99
Contact:	(01142) 753423
Minimum PC:	386
Minimum memory:	550K base, 1Mb expanded
Minimum graphics:	VGA
Sound:	Sound Blaster, Ad Lib

DISK ONLY

Woodruff and the Schnibble of Azimuth

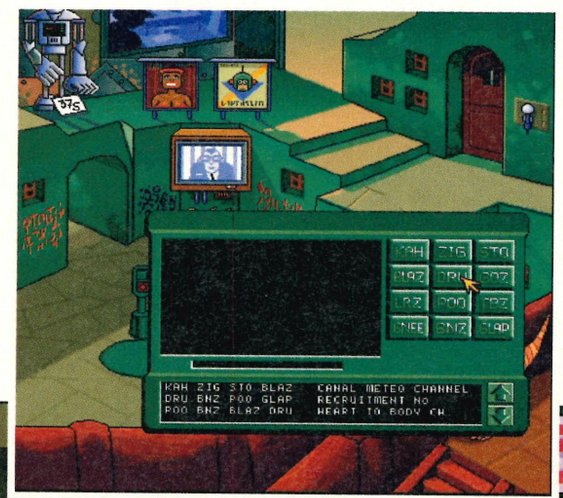
Teddycide is a serious offence in the land of the Boozooks, so when you find yer favourite bear has had the stuffing blown out of him, vengeance is the only answer . . .



It's a sad fact of life that human beings are the most aggressive species on the face of this Earth. I mean, they must be really — you don't see many walruses banged up for murder do you? Or many koalas appearing in court on a charge of GBH. So it was rather a relief for the Earth's less psychotic residents when the humans finally turned on themselves, sparked off a nuclear war and then had to retreat underground for a few centuries to wait for the radiation to fade.

While the humans were twiddling their thumbs down under, the environment had a chance to recover — mostly thanks to a peace-loving race of creatures called Boozooks who took up residence in the humans' absence. With the humans out of the way, the Boozooks succeeded in chucking a bit of Alka Seltzer at the acid rain and stitching up the holes in the ozone layer. Unfortunately, like the proverbial bad penny, the humans eventually returned and promptly grabbed back control of the Earth, enslaved the hapless Boozooks and embarked on a reign of terror. The depths of depravity to which these mortals stooped knew no bounds, but the straw which really broke the camel's back for our hero Woodruff was when his father Azimuth disappeared and a gang of thugs tortured and finally killed Woody's beloved teddy.

So begins the new graphic adventure from the team which brought us the Goblins series. Woodruff and the Schnibble of Azimuth looks very similar to Goblins, since it features the same startlingly detailed cartoon-esque graphics, lavish animation and high quality digitised speech. However, whereas the three Goblins games were purely puzzle games, Woodruff is an out-and-out adventure.



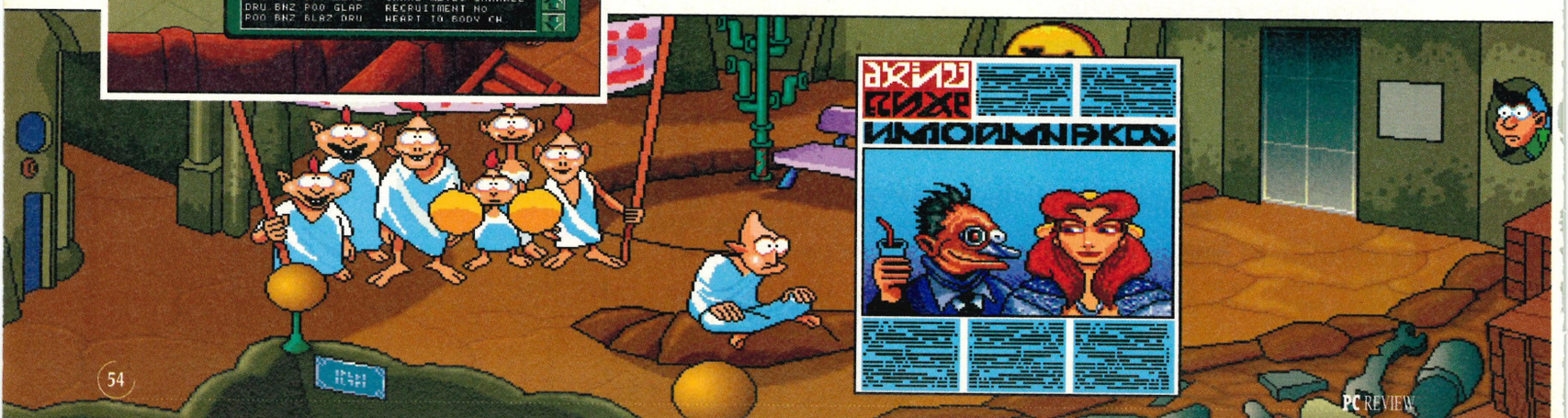
Below: deep in Bigwig territory, Woodruff checks out the latest info coming in via his handy tobozon gadget.

Memory loss

After a smart animated intro sequence we join our hero as he emerges from the wrecked house of his father, Azimuth, suffering from a severe headache and temporary memory loss. From here it's a torrid trip into well-trodden adventure territory — exploring the landscape, chatting to the natives, interacting with all and sundry and solving oodles of puzzles.

I must say, I greatly appreciated the simplicity of the control method — you automatically pick up any objects in the area — the inventory is the only thing you have to fiddle with. Some, of course, will consider this a disadvantage and yearn for a more complex system, an intricate icon panel and more control over the proceedings, but you can't please all of the people all of the time, can you?

The main aim of the game is to find Woodruff's dad and avenge the violent murder of his teddy (you watch poor teddy being pumped full of lead by the villains of the piece in the animated intro sequence — one of my favourite bits of the game, incidentally). The mystery surrounding the



word "Schnibble" for which Azimuth is universally renowned is also gagging to be unravelled and is something which keeps cropping up in conversation almost from the very start.

On leaving Azimuth's house you immediately start rabbiting to the peeps hanging around. A small but utterly irritating problem with the game is that when you start chatting you have to keep clicking the mouse to perpetuate the conversation. All well and good but there's no indication when the conversation is finished and you therefore have to keep clicking until the conversation starts again from the beginning, which makes for a huge amount of unnecessary repetition — highly annoying.

"There's a fine line between adventures which are too easy to crack and those which are too obscure for words."

Cruel slaughter

The game is certainly huge and is divided into different sections — you can wander around a certain amount of horizontally and vertically scrolling screens from the start, but can't progress to the next set of screens until all the puzzles have been solved and required objects collected.

It's in the first section that Woodruff's memory returns in a blinding flash and he discovers his true identity. He remembers the cruel slaughter of his beloved teddy and finds that the mastermind behind all the evil goings-on in the area is a Mr Bigwig who appears to have unlimited power and control and whom Woodruff immediately resolves to hunt down and give a right royal kicking. It is also at this point (according to the manual) that Woodruff reaches true manhood.

And so it goes on and on and on, (I told you this game was big) with Woodruff dragging you screaming ever deeper into Bigwig's domain where you encounter all sorts of oddballs and even fall in love with a foxy little lady called Pooh Lett (if, of course, you can find her). And then there arealways the inevitable tasks to complete and puzzles to solve before progression in the game is possible.

It is in this area where my main quibble with the game emerges, and this ultimately leads to the perhaps lower than expected rating. I know adventures aren't everybody's cup of tea, but I think most people can derive a huge amount of satisfaction from cracking the rationale behind a game and achieving progress through the application of logic.

This game, unfortunately, is sadly lacking on the logic front and takes the word 'obscure' into a whole new dimension. We're talking "insert the donkey into the needle's eye to reap the harvest to get a kiss from the llama" type of logic here.

There's a fine line between adventures which are too easy to crack and those which are too obscure and inconsistent for words and which instead of challenging are simply frustrating.

This game, unfortunately, falls into the latter category and although you're restricted to just a handful of screens at a time until all the puzzles are solved, you tend to have around a dozen items in your inventory at any one time and you end up having to try using them on every single character and interactive object you come across in the vain hope that something will happen.

I appreciate that the Goblins series has a fair number of fans, in which case they may enjoy Woodruff. For myself, a desire to rise to the challenge and my appreciation of this game's looks, sound and undoubtedly polished presentation soon turned to frustration and then extreme boredom and I have a feeling that all but the most advanced and passionate adventure fans will feel the same way.

❍ Lucy Hickman

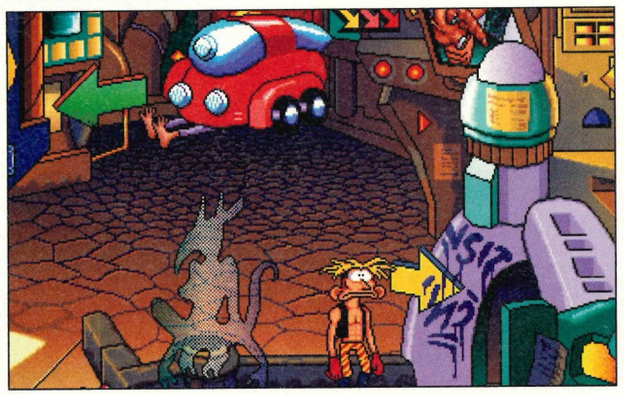
ALTERNATIVELY

GOBLINS 3
Sierra, £49.99
Rated 7, Issue 29
Goblins 3 and its prequels are similar in looks and logic to Woodruff, but are puzzle games rather than adventures. The puzzles are too obscure for some tastes, but the series has a lot of fans. Quirky — try before you buy.



SAM & MAX HIT THE ROAD
LucasArts, £44.99
Rated 8, Issue 29
Based on a cult cartoon strip, Sam & Max is almost as bizarre as Woodruff — humour is a tad obscure at times. The bright graphics and appealing characters make this a winner, especially the speech-enhanced CD version.

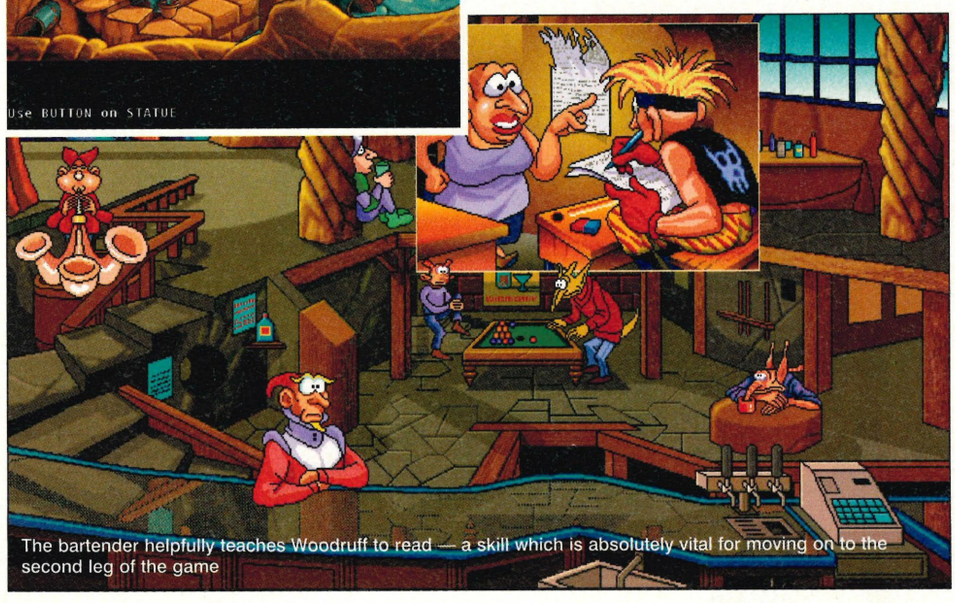




Above: Woodruff sulks because having failed to secure the highest score, he's thrown the machine through a nearby window — at least it's left him some dosh which inserting in that money machine in the far corner might be a good idea.

Below: use a button on a statue... are you mad? Not necessarily — the logic in this game is hardly logical to say the least.





The bartender helpfully teaches Woodruff to read — a skill which is absolutely vital for moving on to the second leg of the game



TECHSPEC

6

RATING

Big, beautiful, but far too obscure.

Publisher:	Sierra
Price:	£39.99
Contact:	(01734) 303322
Minimum PC:	25 MHz 486, Hard Drive, Doubles
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	S.Blaster, ProAudio Spectrum, Roland

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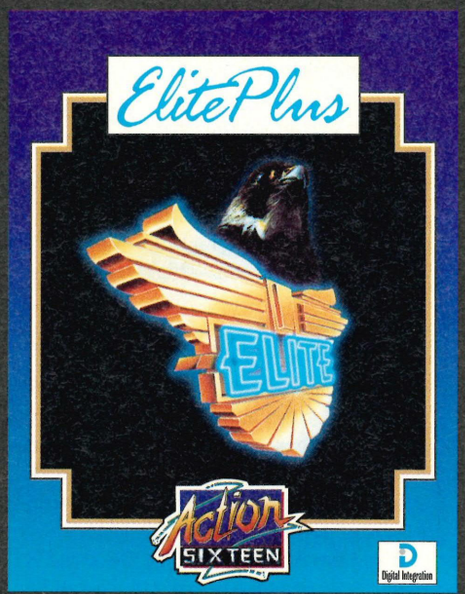






PC Screen shots

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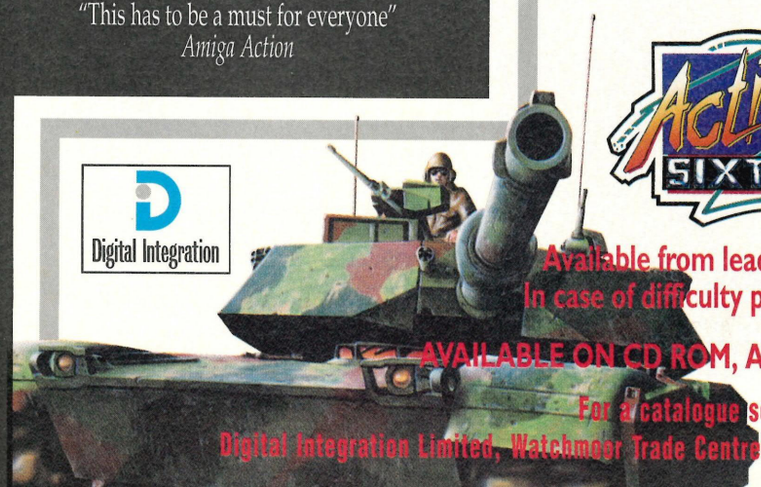






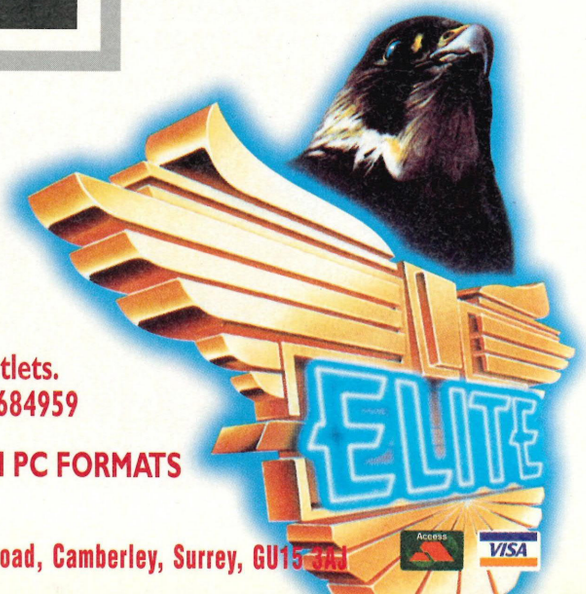
PC Screen shots

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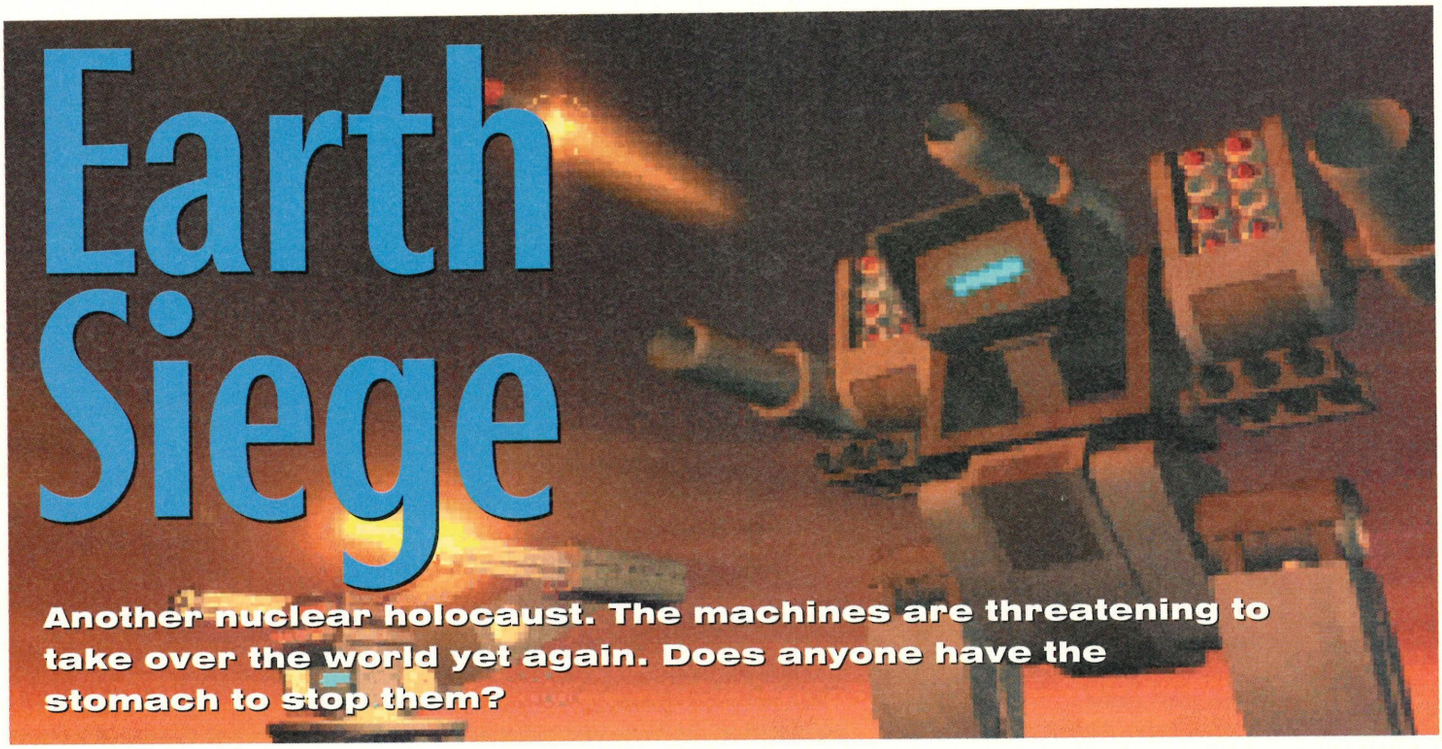
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Earth Siege



Another nuclear holocaust. The machines are threatening to take over the world yet again. Does anyone have the stomach to stop them?

We've had so many warnings about metal fiends terrorising the planet after a nuclear war, I wouldn't be surprised if every reader of this review took a hatchet to the nearest washing machine right now. EarthSiege predicts more gloom from future mechanoids. It's set in the 25th Century, when mankind has created cybernetic hybrids (Cybrids), taught them how to fight, and watched as they wasted our world in one big war.

The Earth is ready for conquering, and Humans and Cybrids are the only contenders. Each has a stock of Herculean fighting vehicles (HERCs), massive bipedal mechanoids capable of negotiating the wasteland left behind by the war. It's a battle of wits and firepower. It's a race against time.

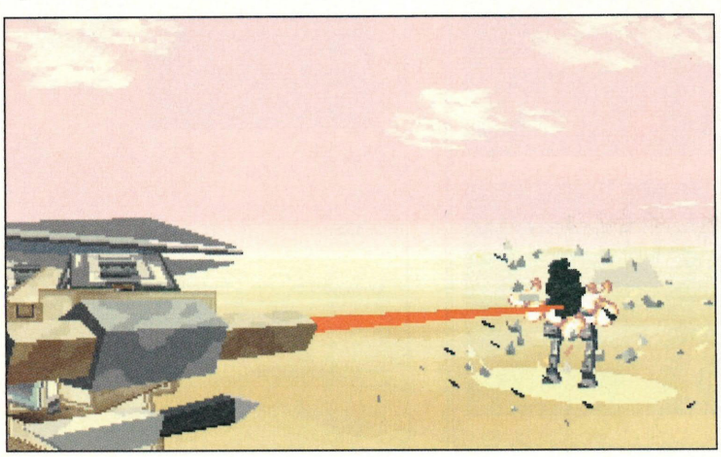
Controlling the monster

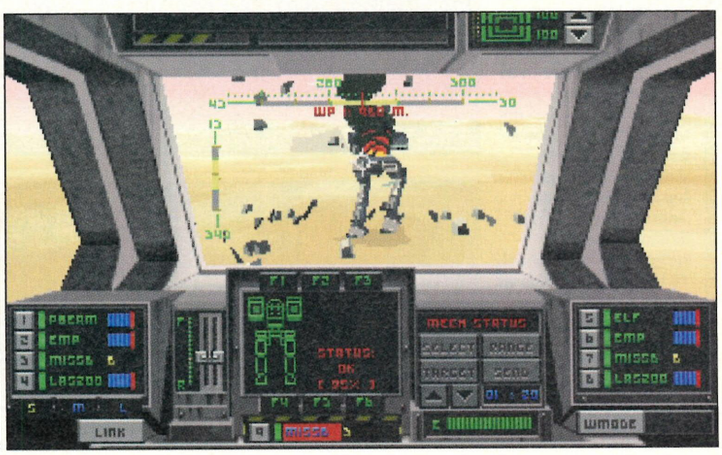
Actually, it's another arcade-style combat simulation, albeit with fancy future hardware. The usual simulation options are available: a choice between single missions and a career, mission briefings, arming screens, 3D combat with a variety of viewing options, and debriefings. I'll talk about the three different types of game later on — but first, the action.

The HERCs are easy to get to grips with, but are also complex enough to make the more difficult missions dependent on skill rather than luck. From the very beginning however, simple keyboard commands coupled with a mouse allow you to wander around, use weapons, examine tactical screens and play about with the external and internal 3D views.

For nostalgia fans, the action is a cross between the ancient arcade game, Battle Zone, and an old LucasArts title, Koronis Rift. There are 45 different missions, divided into eight distinct types: scout, patrol, raid (stealing enemy resources), scramble (defending your base), search and rescue, strike (destroying a Cybrid base) and escort. The gameplay from one to the next isn't radically different even if the mission objectives vary dramatically. You explore the terrain in a variety of conditions, engage the enemy and return to base.

The graphics and sound are very good throughout. Texture-mapping and light-sourcing adds realism to the HERCs and their surroundings, although the terrain sometimes looks a bit bland. One particularly nice feature of the graphics is that the stepping motion of your vehicle is reflected in the deliberately jerky view from the



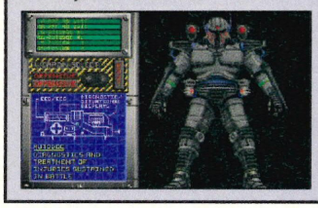


Below left: It's generally not a good idea to enter into combat using the external view, but it looks spectacular.

Below right: it's easier to score a hit when you've got the enemy lined up in your sights. Smokin'!

ALTERNATIVELY

Terminator 2029
US Gold/Bethesda, £39.99
Rated 5, Issue 21
Visually this is closer to Doom than EarthSiege, but the post-holocaust scenario, robots and scavenging tasks ally it to Sierra's far superior effort. Unfortunately the graphics aren't great, and the novelty soon wears off.



BattleTech: Hawk's Revenge
Activision, £35.99
Rated 5, Issue 3
Pretty mediocre game along the same lines as EarthSiege, featuring 31st Century Mechwarriors piloting 30 foot BattleMechs. The missions are tough enough, but rudimentary graphics and sound fail to generate much atmosphere.





Above right:: the Heads Up position is the standard view from your HERC, and gives you navigation, weapons and targeting control. The visual field is widened by the left and right windows, which give you just enough warning of an enemy's approach. Inset: the external camera view

cockpit. Decent sound effects, moody music and digitised speech all add greatly to the overall atmosphere.

Choose your game

As I mentioned, there are three distinct game types. The first two involve single sorties against the enemy and provide a quick, arcade fix. Instant Action gives you exactly what it says — a randomly selected mission with a briefing and a chance to load up with weapons before you're thrown into the fray. The single mission option allows you to specify the type of scenario from the eight listed above, and lets you fiddle about with the game parameters. These include ammo restrictions, damage limitations on your HERC, enemy difficulty, in-game visibility and the time of day. In both quick games you get the chance to pilot any HERC from the eight models on offer.

The career game provides longer-term satisfaction, charting your progress through 45 different missions. Your general aims are to fend off Cybrid attacks, weaken their defence network and steal their technology.

This last goal is particularly important, because when you begin your career only the two basic HERC models are available. Any materials you scavenge from the enemy are used either to make repairs or to create more advanced HERCs.

The Cybrids begin with four vehicle types but make rapid progress. Tactics against them vary according to circumstances, but it's generally a good idea to fire on the move, gang up on targets and make sure your team is evenly equipped; ultimately, your range of weapons encompasses a number of pulse systems, cannons and missiles. Cybrid tactics vary from game to game, so you can never be absolutely sure what they are going to do next.



Strength in depth

EarthSiege is neither the greatest simulation nor the greatest arcade game around, but it is a good compromise between the two. As a simulation it would have benefited from more varied and interesting presentation, but it can't be faulted on its wide range of missions or the ever-changing tactics required to master each scenario. As an arcade game it eventually lacks a little variety during missions, but the visual and aural effects can be stunning, and there are enough surprises to keep you going. As a whole, it isn't a game that will have you burning the midnight oil until you've completed every last mission, but there is enough long-term appeal here to keep you hooked for a good while.

❍ Gordon Houghton

STAGES OF DEVELOPMENT

Eight HERCs (Herculean fighting vehicles) are your only defence against the mechanical menace of the Cybrids. You begin the game with only the most rudimentary models available, but scavenging enemy technology eventually allows you to create new designs. The most basic HERC is the Roadrunner, a reconnaissance vehicle weighing in at a measly 18 tons and capable of carrying only three weapons. The most powerful is the Colossus: 77 tons and nine weapons slots, but relatively slow.





A compact, atmospheric simulation.

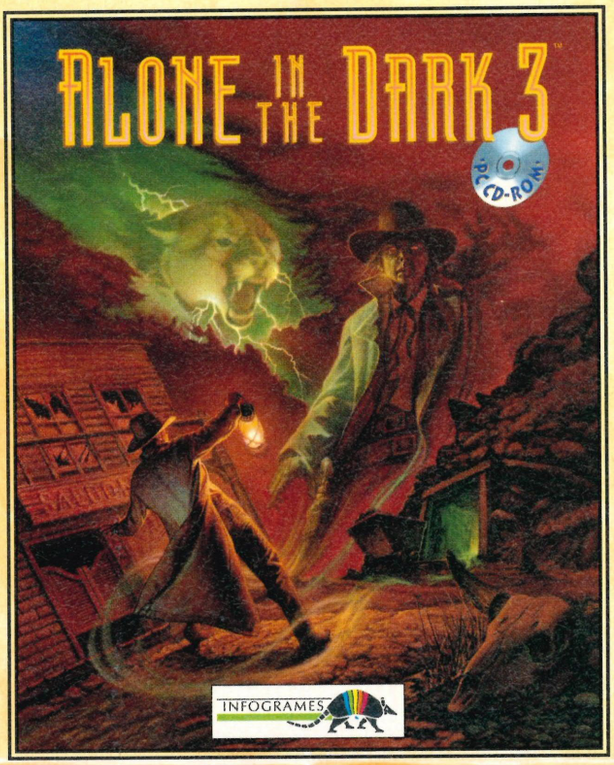
TECHSPEC 7 RATING

Publisher:	Sierra
Price:	£44.99
Contact:	(01734) 303322

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Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Sound Blaster, ProAudio Spectrum

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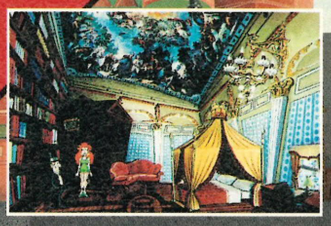
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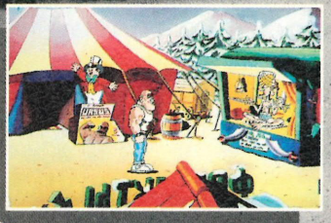
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Pizza Tycoon



You really want a game about pizza? You got it.

The mind boggles, honestly it does. What kind of person wakes up one morning and says, 'I know, let's make a game about pizza restaurant management'? What were they on at the time? Well, MicroProse has obviously decided that the world is in desperate need of Sim Pizza, because here in front of me is a pizza management game.

There are two distinct aspects to Pizza Tycoon (he says, pausing briefly to put on a straight face). First there's the social side, which involves building your pizza empire, running a slick competitive business that creates jobs and helps people fill their craving for, er, pizza.

And to a degree, the social part is standard fare for a business sim — pick your location, build up your restaurants, buy new sites, add central warehouses, that sort of thing. Keep the punters happy and watch the money rolling in.

But it's not that simple. To begin with, you've got to go about hiring, firing and paying your staff, and keep tabs on them. And that's only the half of it. German business and strategy games are famous for their love of stats and options, but Pizza Tycoon beats any other I've seen. There's a menu and stat sheet for *everything*.

And the best is yet to come. You've got to design your pizzas. No, seriously. There are some pre-set favourites that you can slap on the menu straight away, but the real route to success is making your own. The 'pizza design' screen is a riot. You've got God knows how many ingredients to chose from, and complete freedom to make the most disgusting, inedible monstrosity ever created. At the end of which your culinary effort is judged on various criteria, not least of which is its 'aesthetic' merits. So back to to the drawing board on my banana and cauliflower special ...

Kneecappings

The other aspect of your dealings concerns the Underworld — in other words, your connection with the Mafia. This is where I started to feel like I was on more familiar territory once I got into a spot of gun running, robbery and sabotage (using rats and insecticide).

But of course this works both ways. If you're dishing it out to your competitors, then they'll be throwing it straight back. And if you double-cross the mob and get caught, they'll pay you back in the most direct, concrete overcoat type of way.

The thing is, you can't win the game if you concentrate solely on the seamier side of life, anyway.

Married to the Mob

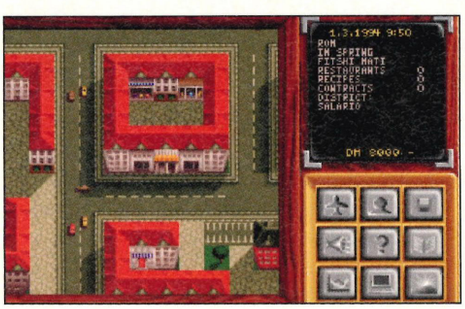
If you can cope with the weird humour, the dated (and very ropey) graphics and the thoroughly daft subject matter, then Pizza Tycoon has actually got quite a bit going for it. As an empire building game, it's got all the necessary ingredients: plenty of detail, a tough and varied challenge and hours of gameplay. Most importantly, the underworld bit gives it a nasty edge that other games of this type rarely offer.

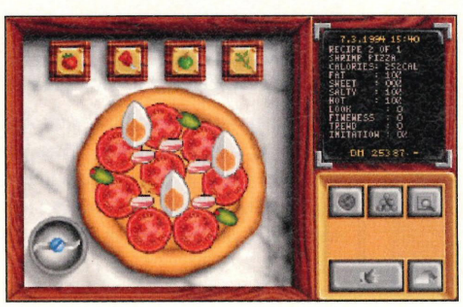
Once I'd got over my initial disbelief, I got quite into it. I'm just not sure I like to admit that in public, and I'll certainly never look at a pizza the same way again.

John Bennett

Below left: locations are all important — what kind of local amenities are there, that sort of thing.

Below right: the pizza design menu has to be seen to be believed. Chop the ingredients up, position them, layer them — then watch the customers leave in droves.







Very silly, strangely appealing.

TECHSPEC 6 RATING

DISK ONLY

Publisher:	Sierra
Price:	£39.99
Contact:	(0734) 303322
Minimum PC:	33 MHz 386, mouse
Minimum memory:	4Mb 580k
Minimum graphics:	VGA
Sound:	Sound Blaster

Iron Assault

Turn your back for five minutes and two robot warrior games sneak up on you. After Sierra's EarthSiege, this is Virgin's version of metal mayhem.

Mechanical warriors have been battling it out for over a decade in board games, films, comics and computer games. The scenario for this genre is almost always the same: mankind creates robots, robots do useful things like washing the dishes until there's a nuclear war, then robots take over. Who can blame them?

Iron Assault offers a slightly different plot. Yes, there's a terrible war — and, yes, there are robots (known as units). However, unlike most of these stories, the opposing robot groups are both controlled by people. The bad guys run a corporation called Giant Tech, who have vowed to crush anyone who tries to stop them conquering the Earth. The good guys are rebels trying to overthrow Giant Tech. You, of course, play one of the rebels.

Get ready

The action starts well, with some deliberately grainy full motion video footage creating an effective introduction. After that, you begin to realise that Iron Assault is not quite deep enough to be a true simulation, nor exciting enough to be an arcade game.

Once you've created a log for yourself, you have two basic choices. You can either play the simulator (a fairly miserable first-person blaster for one or two players — see Mission In A Box below), or you can throw yourself into a career.

On the career ladder

A career is by far the more satisfying option, because it lets you try out the missions, which eventually lead to the more interesting strategic side of the game.

You begin in your barracks at Unicorn Base, America, late in the 21st Century. In your room you have a personal log which permanently records your efforts, and a computer terminal. The computer gives you access to the World Net (WNET), which provides the latest news about hardware developments and briefs you on the

SIM WORLD



Iron Assault features a simulator which allows you to sample four major terrain types in advance: City, Mountains, Antarctic and Desert. There are two types of sim, each with four increasingly difficult missions. The one-player simulator drops you into enemy territory with orders to destroy everything that moves. The two-player version (using a modem or serial lead) pits you head-to-head against a friend. Both games allow you to hone your skills without damaging valuable units.

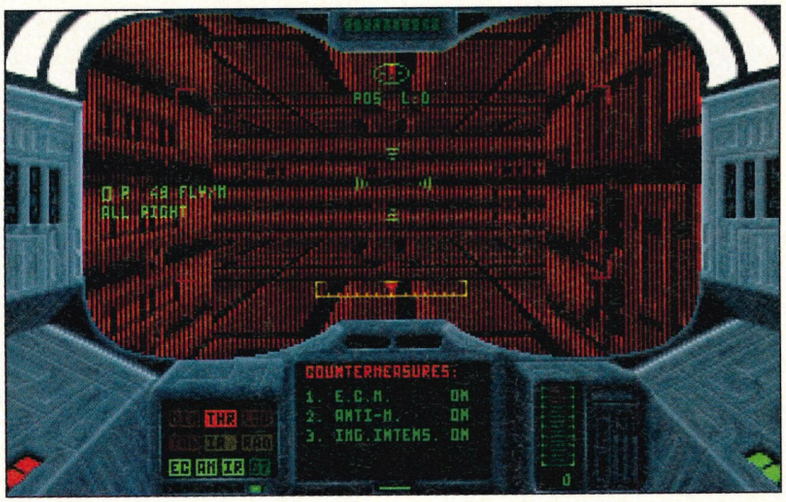
MISSION IN A BOX



You begin each mission by accessing the World Net computer (WNET). This lets you read about your objectives in the next scenario, study maps and behind-the-lines video footage, and arm your chosen unit.



This time you've been sent to a mountainous region, where your goals are to eliminate the enemy's latest piece of robotic hardware and to retrieve a crate from that depot ahead. Watch out for the guards.



Special effects are few and far between in Iron Assault. This is the unit's Image Intensifier — basically, a night sight.

next mission. It also lets you select a unit from those available and arm it with all the weapons of your choice.

In practice, these presentation screens are a bit crude and clumsy. Apart from some decent video sequences, the graphics aren't particularly stunning: the maps are very basic, the unit graphics are nothing special, and the news lacks visual or aural excitement. The WNET is clumsy partly because of the time it takes to access from the CD in the first place, and partly because the weapons and units aren't all on the same screen, which means that you have to fiddle about to arm your machine. It's not a disaster, but it could have been easier.

Strategy and action

Later levels give you the chance to control a team of units, which makes things more interesting both in terms of strategy and the action sequences. Once you reach the rank of Colonel you even get to take over enemy bases and gain command of continents: the WNET continent map screen lets you target vulnerable enemy installations, depots and factories.

At the rank of General you can move between each of the four continents, keeping a watchful eye on the state of war in each and deploying your units accordingly.

Control yourself

This tactical element eventually provides some welcome relief from the action sequences, which are a bit dull. Once you've selected a mission, you're taken to the drop zone and left to complete the goals at your leisure. These might include destroying the enemy's latest hardware or collecting vital technology; but whatever task you get, it's all presented in unspectacular, sprite-based 3D vision.

> "A range of controls and enemies provide a decent challenge. But the action and graphics are not stimulating enough."

A wide range of cockpit controls and some nifty enemies (particularly of the kind you discover later in the game) at least provide a decent challenge. But neither the action nor the graphics are stimulating enough to fight off the monotony of searching and shooting. The progressive mission structure is well worked out in terms of difficulty and variety, but fulfilling the missions soon becomes tedious.

Iron Assault has some nice touches, but they are few and far between and are often offset by irritating aspects. So, where you might admire the way landscape is destroyed when shots miss their targets, you're quickly irritated by the constant thread of tongue-in-cheek humour. Annoying features don't make a bad game, particularly when there's some decent strategy awaiting anyone prepared to persevere; yet even so, Iron Assault is a long way from being great.

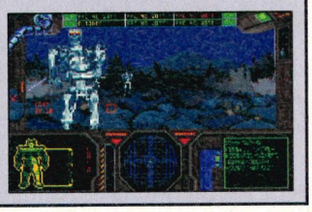
❍ Gordon Houghton

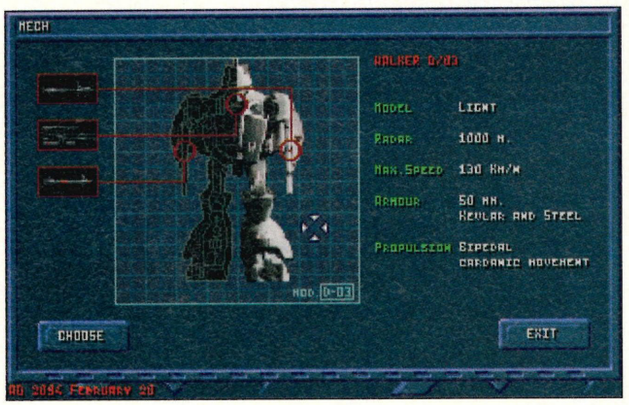
ALTERNATIVELY

EARTHSIEGE
Sierra, £44.99
Rated 7, Issue 41
This is a more rewarding variant on the post-holocaust robotic warrior theme. Polygon-based graphics give a wider variety of views than Virgin's effort, and the understated music is more appropriate.

THE TERMINATOR 2029
US Gold, £39.99
Rated 5, Issue 21
Nineteen large missions and The Terminator name doesn't make this a good game. The reassuring features are sorely let down by weak graphics and dull gameplay. Iron Assault is better.







Above: initially, only a couple of unit types are available for use, along with a few measly weapons. You get more hardware to play with as you progress through the missions.



Having achieved your primary goal, you blast open the depot doors and step inside. A couple more guards are no match for your superior firepower — but it looks like you've just stepped on the crate.



Back at the base, the mission summary confirms that your task was only half completed. Your personal log will record your shame forever — but at least you came out alive. This time.



TECHSPEC

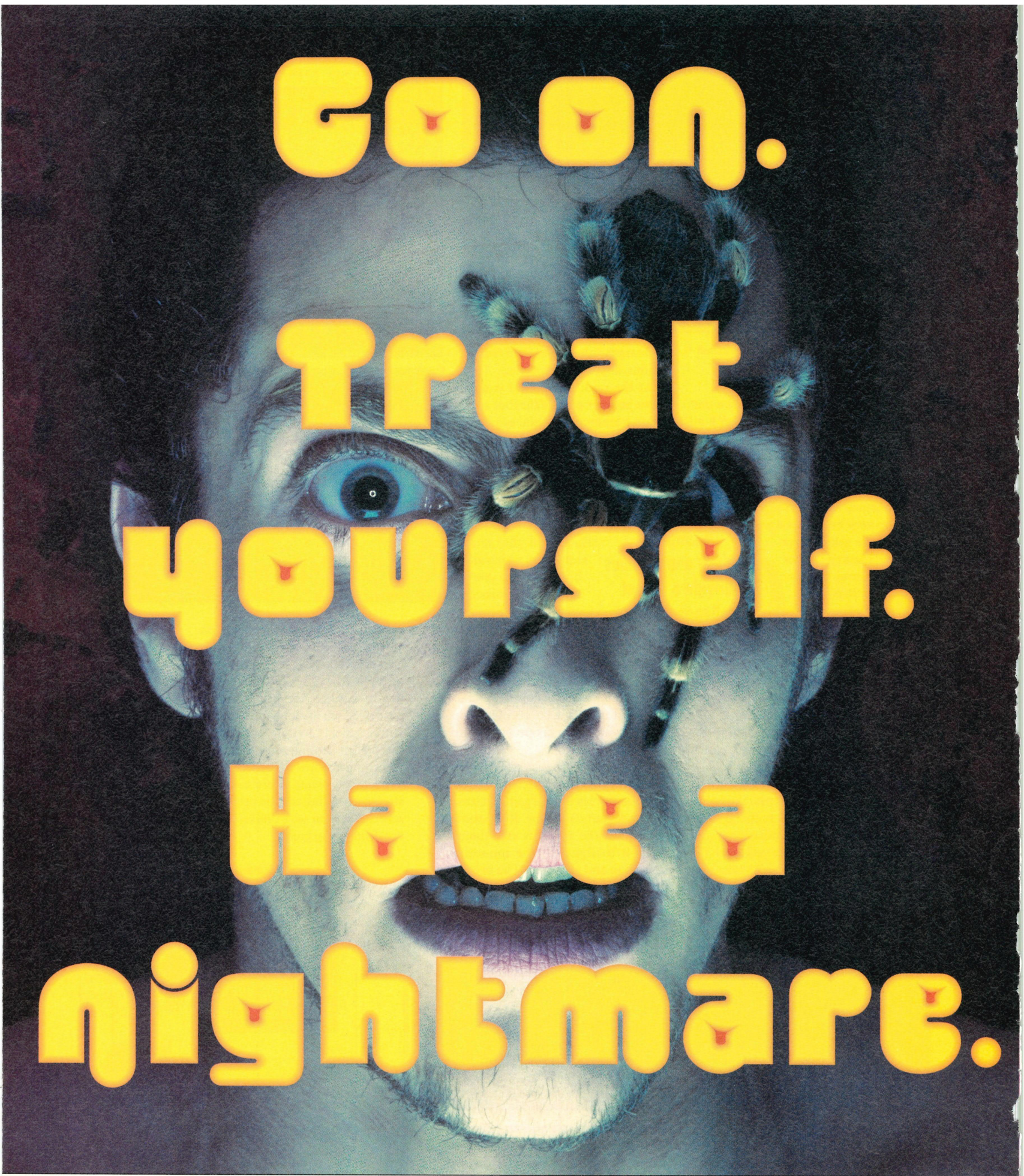
5

RATING

Interesting, but generally monotonous.

Publisher:	Virgin
Price:	£34.99
Contact:	(0181) 960 2255
Minimum PC:	386, MS DOS 5.0 mouse cdrom
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Sound Blaster

CD ONLY



ECSTATICA

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This game was developed by Andrew Spencer. Animation by Alain Maindron.

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an Andrew Spencer game

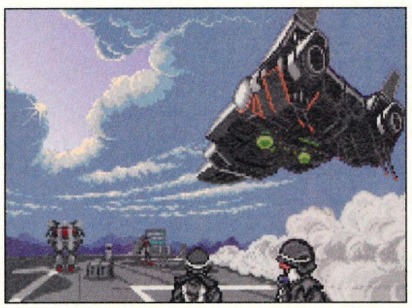
CD-rom

Metal Marines

This little strategy game from Mindscape just goes to prove that great things come in small packages. Bombs away!

Once in a while, a game comes out of nowhere and really surprises you. Metal Marines is an incredibly simple game — a sort of high-tech version of that old pen and paper game Battleships — and yet it's absolutely packed full of gameplay. It's the sort of game that's ideal for filling in the odd 10 minutes, but once you get started it's very hard to leave.

Metal Marines runs under Windows and uses it to full advantage. There are three main windows in the game (all resizable and movable), one containing your home island, another containing the enemy island and a third containing the installations you need to build. Both you and the enemy have at least one base, and the idea is to try and destroy his or her bases without losing any of your own. When you've succeeded, you progress to a harder level and start again.





Top: the grey hexagonal things are bases, and all three of mine are still intact. The enemy only has one left, so I'm going to go for it.

Bottom:the bottom window contains my island, while the top window is the enemy island. As you can see, I'm doing a bit better than he is.

Camouflage

At the beginning of each level you are given an island which is seen from an isometric point of view. On the early levels your island will come ready equipped with gun pods, missile launchers, radars and so on which you may add to if you wish. The first step is to place your base or bases in a safe position, after which you can add to the installations you've already been given, camouflage your bases and build dummy bases to fool the enemy. All these installations cost money, of which you have a limited amount.

Missile command

Until you've fired a missile, the enemy island appears blank, but when one of your missiles makes contact, any installations in the vicinity will be revealed. There's no guarantee that your missiles will hit home, however, because like you the enemy is armed with interceptor missiles. Fortunately, when your missile appears over his territory you'll be able to see which direction the interceptors are coming from and thus gain a rough idea of where the launchers are. In the early stages you have to try and build up a picture of where everything is, after which you carefully pick off the installations one by one. Your ultimate weapon is the metal marine, a sort of giant transformer robot which flies to the enemy island and then trashes everything..

> "This is one of those rare games which you can jump straight into and get hooked on straight away."

Metal Marines is tremendous fun played against the computer, but you can also go head to head against a human opponent if you fancy a real challenge. This is one of those rare games which you can jump straight into without reading the instructions, and gets you hooked straight away. I'm not a fan of hardcore war games but this game is simple enough for anyone to pick up, and is hopelessly addictive into the bargain. A breath of fresh air.

❍ **Cal Jones**



Deceptively simple, intensely addictive.

TECHSPEC RATING **8**

DISK ONLY

Publisher:	Mindscape
Price:	£34.99
Contact:	(01444) 246333
Minimum PC:	486, Windows 3.1, mouse
Minimum memory:	4Mb (8Mb for modem play)
Minimum graphics:	SVGA
Sound:	Sound Blaster, Roland

CANNON FODDER

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Star Trail

Attic's follow-up to Blade of Destiny shows signs of improvement — but only just.

Come back with me through the mists of time. . . Open up the September 1993 issue of PC Review . . . Blade of Destiny receives a frosty welcome . . . It scrapes a miserable 3 out of 10, thanks to an over-enthusiastic use of statistics, a clumsy combat system and an overall lack of atmosphere.

It's now 18 months later and the bad news is that Star Trail uses basically the same role-playing system as its predecessor. The good news is that a few minor improvements and some CD-based frills have brought the action up to a reasonable standard. It still won't have you shrieking with pleasure, but there's a huge challenge ahead for anyone who is prepared to sit down and slog through the plot.

Assuming you're one of these people, the first thing you have to do when you start the game is assemble a party of adventurers. There are a dozen character races in Star Trail, each with positive and negative attributes and over 50 improvable skills. As ever with role-playing games, balance and diversity are the keys to a successful group — so a couple of magic wielders, a few fighters and someone who can handle a bow without falling over is ideal.

The main goal for your newly-formed happy band is to retrieve the mystical Salamander Stone which you can then sell at a profit or return to its rightful owner.

This conflict between virtue and villainy is a constant theme in Star Trail, and is a welcome choice for anyone who's sick of altruistic adventuring.

Two mode action

The action is divided into two basic modes: town/dungeon exploration and wandering through open countryside. Towns and dungeons offer a first-person 3D viewpoint with faded perspective, reasonably smooth scrolling and plenty of opportunities to enter dwellings and annoy people. The controls are slightly too responsive at first, but you soon learn to cope.

Travel through countryside is based on an overhead map, offering a variety of paths, on-the-spot encounters and the inevitable combat action. Combat, as in Blade of Destiny, is a turn-based, isometric affair in which you can control each party member individually or sit back and leave it to the computer. Either way, it's all a bit of a chore — combat encounters drag on for far too long and are too mechanical to give you any sense of excitement.

Masses of statistics

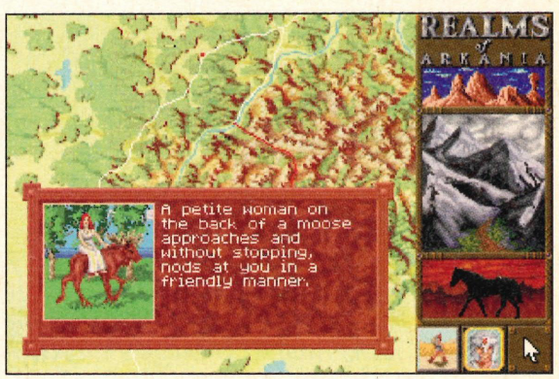
This is true of the game as a whole. It gives a strong impression of variety, with masses of statistics and a wide range of options in exploration, camping, talking and fighting — but it always feels like heavy going.

The two difficulty levels, non-linear plot, complex attributes and decent speech and graphics all help create a certain fondness for the program's quirkiness.

But overall Star Trail is probably still just a little too keen on informing you of every minute statistical change for my liking I'm afraid.

This, along with some comically cliched writing, dulls an otherwise strong sense of involvement. Buy it only if you pine for old-style RPGs.

❍ **Gordon Houghton**



Above: Star Trail's maps are impressive. This view allows you to plan routes between towns and across country.





The combat system will be familiar to anyone who has played Blade of Destiny — a 3D isometric battlefield, with menu choices determining the level of computer involvement.



TECHSPEC 5 RATING

Large and complex, but rather dull.

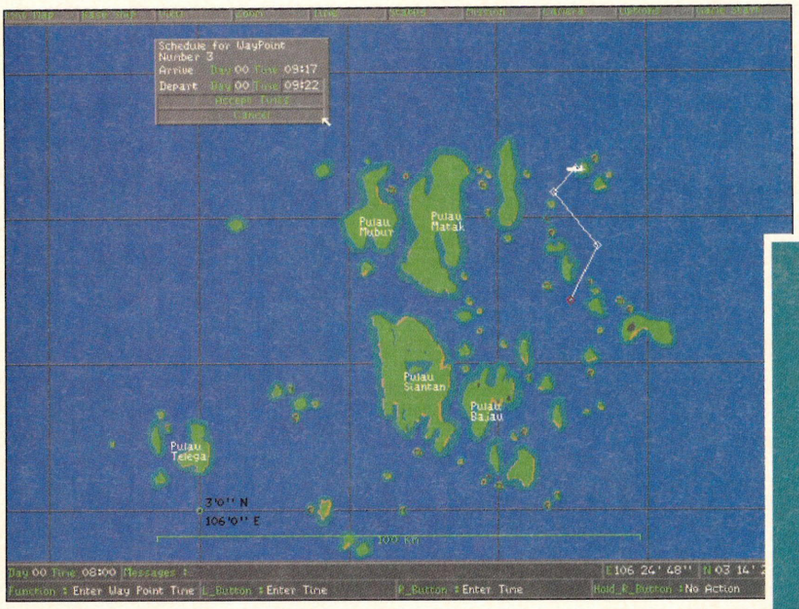
Publisher:	US Gold
Price:	£44.99
Contact:	(0121) 625 3366

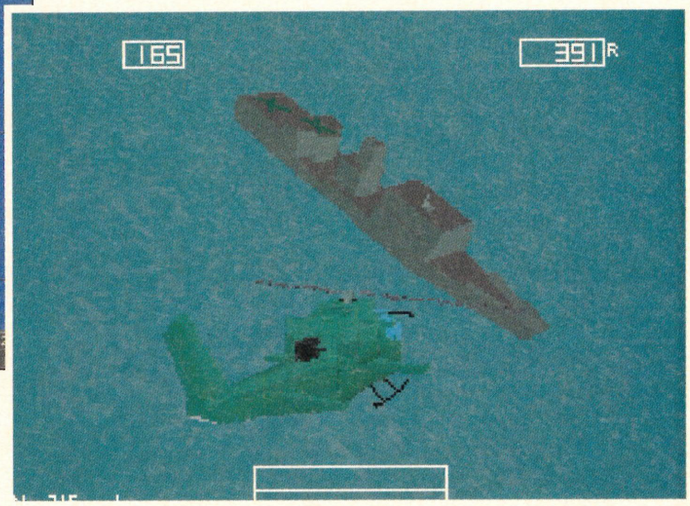
CD ONLY

Minimum PC:	386, MS-DOS 5.0 CD-ROM drive
Minimum memory:	2Mb
Minimum graphics:	256-colour VGA
Sound:	All major sound cards

KA-50 Hokum

We've had jet sims, WWII sims and even biplanes. Now, for the first time in years, you can hug hills and hover in your own helicopter sim.





Above: these are the islands you are fighting in. All your fancy mission planning gets done on this screen, organising reconaissance sweeps and bombing runs.

It deserves a fanfare of trumpets, really. Here we are in 1995, with beautiful Gouraud-shaded and light-sourced landscapes at our fingertips, and till now no-one has produced a flight sim capable of taking advantage of it. You can't really appreciate the view when your jet is flying at 30,000 feet or travelling at Mach 2. No, you really need something completely different to amble along valley floors and follow the contours of the land . . . something like a helicopter.

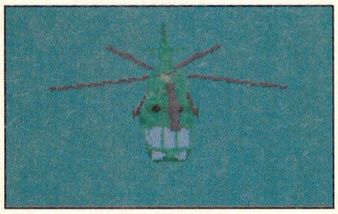
Hence the excitement with Hokum, the only real helicopter flight sim since the phenomenally successful Gunship 2000 — a real classic in its heyday, but now looking a tad dated.

And what a difference those years have made on the graphics front. Gone are the garish green pyramids slapped onto a flat plane. Now the hills melt into the ground fluidly, with different coloured grass up the slopes and sweeping curves instead of jagged sharp edges. That's what we want to see when flitting over steamy tropical islands, as is the case in Hokum.

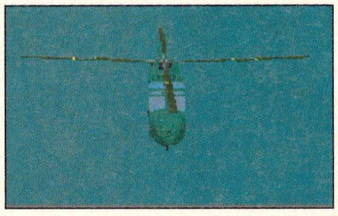
The premise of the game (and there's quite a strong campaign setting, so it's

STATE OF THE ART

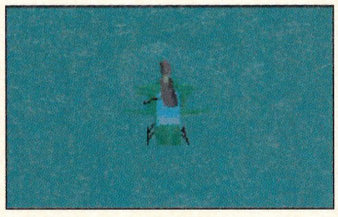
So, you're in the ship's hanger, looking for a suitable copter to fly. Well, you've got a choice of four on the deck....



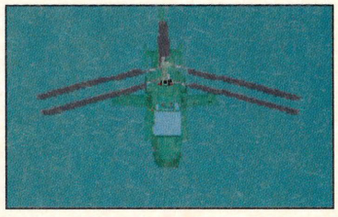
The Mil Mi-8 HIP. Basically a troop transport, but since you haven't got any troops to transport it's been converted to a heavy-duty gunship. Slow and unco-operative when manoeuvring, but you sure can load it up with lots of ordinance.



The Westland Lynx is Britain's entry in the mercenary helicopter market, and although a bit lightweight it's fine for reconnaissance missions. It's also the only model that stocks Hellfire fire and forget missiles as an air-to-ground optional extra.



The Bell AH-1W SuperCobra. Nippy and manoeuvrable, with Sidewinder missiles: this makes the best air-to-air vehicle. Wherever and whenever the enemy send one of their helicopters up, scramble a Cobra to shoot it out of the skies.



And introducing. . . the Kamov KA-50 Hokum, from which the game gets its name. This is the twin-rotored baby that every helicopter jock'll want to get his hands on. A great all-rounder — fast, easy to fly, and well armed. You can't ask for more.

ALTERNATIVELY

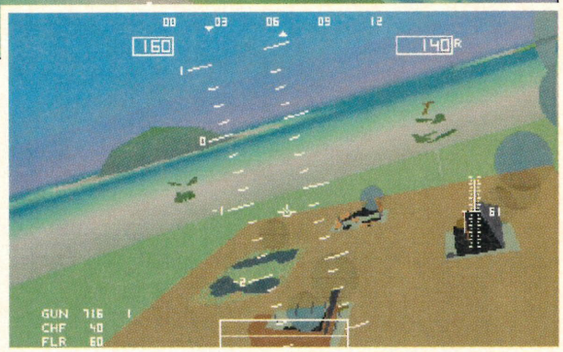
GUNSHIP 2000
Powerplus, £16.99
Rated 7, Issue 40
Now very much the grand-daddy of helicopter sims on the PC, this is still a superb and very playable game. Old-style polygon graphics, even for the landscape, don't stop it being a winner in 1995, especially at a budget price.



COMANCHE MAXIMUM OVERKILL
US Gold/Novalogic, £45.99
Rated 6, Issue 16
Not so much a helicopter sim as a helicopter flight game, in Comanche you throw strategy to the wind for a faster-paced 'blow them to bits' experience. Very pretty and very enjoyable, if that's your cup of tea.







Top: approaching the target village over the brow of a nearby hill. The full-screen in-cockpit view allows you to see far more without losing the vital HUD information.

Above: one last fly-by to check the mission's complete — yep, nothing but smoking rubble left here.

important to be au fait with the waffley bumf that inevitably sets the scene at the beginning of the manual), is that pirates are running rampant on a group of idyllic islands and using the palm-fringed beaches for their own nefarious and illegal aims. You represent a group of mercenaries who, in a nutshell, have to put an end to this scandalous behaviour. How? By sailing your ship, tooled up with the latest military-grade hardware, straight into the middle of the area and beating the hell out of the enemy with the ultimate aim of destroying their base.

Hefty firepower

Sounds easy enough? Well, don't be so sure. The pirates have some pretty hefty firepower on their side too, and make no mistake, they'll throw it all at you over the course of the campaign. Since the game is from the creators of AV8B Harrier, the strategy side is very similar. You have a map of the region on which you can set up missions for your group which comprises of eight helicopters and the base ship. Where AV8B was overly complex for anybody but the hardened strategy buff, Hokum is perhaps a tad over-simplified, missing some options I would have liked — but you can't have it both ways, I guess.

> **"Hokum has its fair mix of good and not to good. If there's one thing that dragged the mark down a notch, it's lack of atmosphere."**

The nicest feature to be retained is the ability to jump into any cockpit and take over control half way through the mission. That way, even though you may play the entire campaign in real time, you can skip the boring getting-to-and-from-the-target sections, and concentrate on the action.

The campaign style has both good and bad sides. The good side is the amount of thought that has gone into the progress of the battle. It gets incrementally tougher as you muscle your way in, offering harder challenges around every hillside. On the minus side, the missions you'll end up flying are all very much of a muchness. Load up with air-to-ground weapons and fly to the village or base. Fire your load while avoiding flak and SAMs, and return to the ship. There isn't even a good variety of different targets (I've encountered around a dozen so far), which makes the flying sections of the game far less interesting than might otherwise have been the case.

To give the flight-sim part of Hokum its fair dues, the four types of helicopter all fly extremely well, and each does have the requisite individual quirks and characteristics. You really know when you're flying a HIP as opposed to a Cobra. Control is simple, but you get just enough information to keep you aware of what's going on, and the three main views (cockpit, full-screen and external) are all excellent.

Since I started this review on the graphics, let's talk visual splendour for a moment here. For all the graphic majesty of the landscape, Hokum feels a very bare-bones kind of game. There just isn't very much *on* the ground, excepting occasional clusters of buildings and tanks as potential targets. No, a token gesture of a palm tree or two sprinkled across the islands just won't cut it. We need jungles here, with small paths through the vegetation, or at least signs of other human activity. A log hut by a stream and the like.

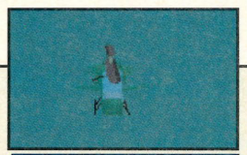
Empty skies

The ground isn't the only culprit, either. There isn't nearly enough going on in the air to make the flying environment interesting. The skies feel empty. Now, I'm well aware that with helicopter sims you'll expect less dogfighting and more ground attacks, and I'm further aware that occasional enemy helicopter attacks do happen. Unfortunately there's too little activity and this leaves the whole game pretty lifeless as flight sims go. Instead, it's better to think of it as a strategy game with action sequences kicking in when you send your helicopters out.

To be perfectly fair, though, part of the blame for the lack of feel in Hokum is due to the sound. No dramatic music to get the pulse racing and the effects don't pass muster either.

When all is said and done, Hokum has its fair mix of good and not so good. If there's one thing that dragged the mark down a notch, though, it's lack of atmosphere. An overly sterile game won't excite anybody for long, even if it is the first of its kind since Gunship 2000's release in 1991. It flies well, looks pretty good, and has a very decent campaign, but when all's said and done it just falls short of being a star.

❍ Martin Klimes



TECHSPEC

7

RATING

A competent effort at a helicopter sim.

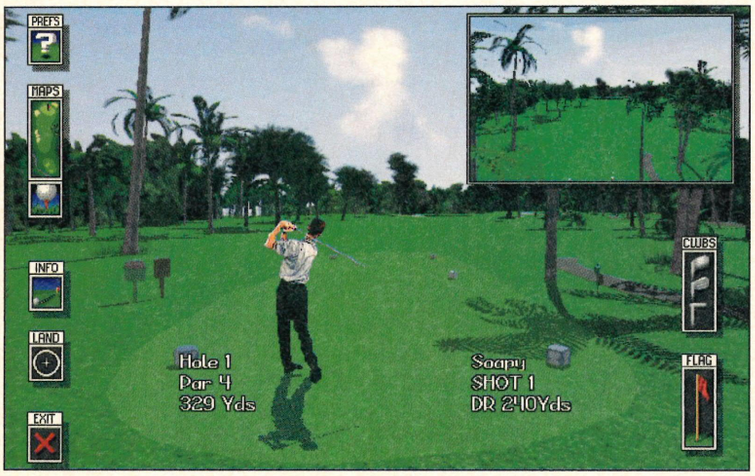
Publisher:	Virgin
Price:	£49.99
Contact:	(0181) 960 2255

DISK ONLY

Minimum PC:	33MHz 386
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Sound Blaster

World Cup Golf





Tee off into the world of doglegs and divots with the latest in hi-tech golf sims.

As far as the basics of a good modern golf game go, World Cup Gold is right up there with the best of them. You want multiple views and camera flybys, sophisticated, accurately modelled stroke setups, digitised players and high res, detailed landscaping? Fine, it's all here.

And even if it only has the one course (with more planned as add-on discs) it's got a lot of gameplay packed onto the two CDs. I particularly like the format for the world cup option — which gives a bit more of a competitive feel to a one player game rather than just pottering round trying to improve your score — but there are something in the region of 16 different match types you can work through. Can't grumble at that, now can you?

The trouble is the implementation. World Cup Golf certainly looks the part, but when you get out on the course you soon realise that there are a number of really silly things that marr the overall effect.

For a start, the three-quarter screen view is a bit of a disappointment, and the Hyatt Dorado Beach course may be a tough one to play, but it's very flat and samey. Maybe that's how it really is, I don't know, but then the producers should have chosen a different — more interesting — course.



Forlorn figure

What's more, the views can be, frankly, bizarre. You aren't always looking directly over your player's shoulder, sometimes he's a small, forlorn figure 30 yards ahead of you. Not so bad when you're on the fairway, but sometimes, in the rough, I couldn't even see my player — let alone the ball — because he was completely hidden by a forest of palm trees in the foreground. Now that is just plain daft.

I never really felt that comfortable with the control system. It was always one click too many to do something that should be quite simple. Fiddly would be the only way to describe it — and there's no excuse for that when it's just a variation on the tried and tested power-bar system used by every golf game since the dawn of time. The putting is the worst part. Without a grid option, the greens were almost indecipherable and there was no way to get any sense of 'touch' or 'feel' on the shot.

Grinding commentary

And finally (I'm being picky here, because you can always toggle it off) the game commentator should be shot. Bring back Peter Allis, all is forgiven — anyone would be better than the guy giving out surreal advice like 'try to cut the corner . . . but watch out for the lemon and lime trees' in this game. Why? What is a lemon tree going to do to me?

Anyway, the point is we're not exactly bereft of choice when it comes to golf sims, so a new one has to stand out that bit more than new arrivals in different genres. This is where World Cup Golf falls down.

It's pleasant enough, playable enough, looks very pretty and has some nice touches. It just doesn't reach out and grab you: Electronic Arts PGA 486 is better to look at and far more fun (although it needs a monster PC to run at anything like a sensible pace), Access' Links game is considerably more detailed and a better all round golf simulation — and there's Links 486 on the horizon, too.

While I'd be quite happy to hack my way through a few rounds of this, it would still be my third choice of golf game if it came to spending any cash.

❍ John Bennett



TECHSPEC 5 RATING

Nice, but unoriginal. Par for the course.

Publisher:	US Gold
Price:	£39.95
Contact:	(0121) 606 1800

CD ONLY

Minimum PC:	33MHz, 386, MS-DOS 5.0, mouse
Minimum memory:	4Mb
Minimum graphics:	SVGA
Sound:	Sound Blaster

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MORE MEMORY + MORE SPEED + MORE FUN

SSI's latest release is a strange concoction of New Age mysticism and sci-fi technology. Weird? Yes.

Alien Logic

Alien Logic is a game which determinedly refuses to be pigeonholed, so for want of a better description I shall call it an arcade adventure. This nebulous term refers to the fact that the game contains elements of both role-playing and platform-style action, so one minute you'll be deep in discussion with a character; the next you'll be fighting off some large, slavering beast. Ultimately, the problem with this is that in trying to please everybody by throwing in a bit of everything, Alien Logic runs the risk of satisfying no-one.

The game has a somewhat convoluted plot which, reduced to its constituent parts, boils down to that trusty old favourite, saving the world. The action takes place on Jorune, a planet permeated by a strange energy known as Isho (very mystic, that). Only the shanthas, the original inhabitants of Jorune, understand the true nature of Isho, but a few human mutants are able to utilise it. And it just so happens that you, the hero, are one of those mutants. Armed with a handful of spells (or dyshas as they are known in the game) you must traverse Jorune, talking to the friendly creatures, fighting the not-so-friendly creatures, solving problems and cutting Bio-Tec Corks.

Right: and now it's time to travel to WarpWorld (TM). This is the easiest way to get around Jorune.

Below: ah, yes, the combat screen. Here you have to fight off the nasty toothy things with your dyshas.

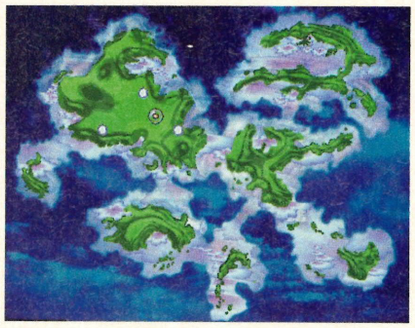


Come again? As you might have gathered, Alien Logic is filled with all sorts of weird mystic stuff and is probably the second most bizarre game to surface this year (next to the hallucinatory Commander Blood). Anyway, to help you on your travels, you need Recos — organic robots which have their own specific functions such as mining or healing — and these are created from a genetic material known as cork. You can determine what function you want your Reco to have, and can even create hybrids if you're clever enough.

Doing the dyshas

Other moments which prove briefly interesting are the trips to Weaving World and WarpWorld. Personally I prefer Disney World, but these will have to suffice for now. Weaving World is the place you go to learn new dyshas, and to get there you have to pay the master of a kerning bay (spell school, in other words). During the game you should have found, bought or mined the Isho-rich crystals (this game gets more New Age as it goes along) which you need to attract dyshas. Basically, you enter Weaving World and lay a line of crystals which, you hope, will attract a dysha to the exit. If you make it, the dysha is added to your collection, but if you run out of crystals it stays put and you'll have to go back.

WarpWorld is a bit simpler: it's really just a way of teleporting yourself around Jorune. This is fine for long distance travel, but shorter distances have to be covered on foot via a map, and this quickly becomes tedious. The worst part of the game, though, is the combat. It's inevitable that you will eventually run into something which wants to eat you, at which point you are flung into combat mode. This horizontally (and jerkily) scrolling screen is not what you'd call the height of graphic excellence, and worse still, the fighting itself is too easy and too repetitive.



At the end of the day, Alien Logic is a game which fails to live up to its early promise. You won't stay interested for long.

❍ Cal Jones



Ambitious, but ultimately disappointing.

TECHSPEC 5 RATING

Publisher:	Mindscape\SSI
Price:	£49.99
Contact:	(01444) 246333
Minimum PC:	486 MS-DOS 5.0, CD mouse
Minimum memory:	8Mb
Minimum graphics:	SVGA
Sound:	Sound Blaster Gravis ProAudio Spectrum

CD ONLY

National Lampoon's Blind Date

Join in the battle of the sexes with this latest multimedia game from Domark.

Abandon good taste all ye who enter here... Blind Date is a dead ringer for the 'least tasteful CD that isn't actually pornographic' award. The aim of the game is, quite simply, to get your date into the sack. The chat-up lines you use dictate the way she behaves. Come on too crude, you'll get hit. Don't come on at all and she'll dump you as a wimp.





Seems reasonable so far

First you take your date for a game of pool (classy, huh?). Cue video clip: she says something (loaded with suitable double entendres) and you chose from a list of answers. The humour is halfway between American, thirty-something singles bar pick-up lines (with little left to the imagination) and the nudge nudge, wink wink approach of the Carry On films.

And then on to the next video clip ...

That's where the boredom factor starts to creep in. Blind Date is nowhere near as bad as some CDs I could mention, but there are still moments where whatever answer you chose, the girl on-screen gives the same response regardless.

Papering over the cracks

However well they paper over the cracks, this is still just a series of video clips linked together in a multimedia authoring package. Sorry, but that doesn't make much of a game at the end of the day.

The best that you can say about Blind Date is that it's a bit of a giggle, it's quite slick, and it's rude enough to be funny, but really not too rude to spark off a religious war of any sort.

Depending on how politically correct you feel (and on an average day I usually rate a one out of ten on the PC scale), you might even enjoy it. But do you really want to pay nearly fifty quid for the privilege?

John Bennett



More tea, Vicar? Er, no thanks.

TECHSPEC RATING 5

Publisher:	Domark
Price:	£39.95
Contact:	(0181) 780 2222
Minimum PC:	33MHz, 386, MS-DOS 5.0, mouse
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Sound Blaster, Roland

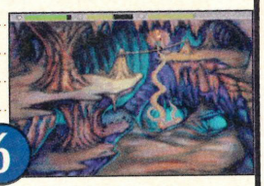
CD ONLY



SHORTS

Quest for Glory: Shadow of Darkness (CD)

Sierra, £44.99
(01734) 303171
386, 4MB RAM, VGA, MS-DOS 5.0, mouse
Disk version first reviewed
Issue 30, rated 6



6

This attractive fantasy adventure/RPG is a pleasant enough diversion, though it lacks the depth of some other Sierra games. The puzzles are a tad too simple and the arcade fighting sections may put off hardcore RPGers, though it has few faults otherwise. Not bad, but nothing special either.

Twin Calibre (CD-ROM compilation)

Hit Squad, £19.99
(0161) 832 6633
386, 1MB RAM, VGA, MS-DOS 5.0, mouse
First reviewed
This issue

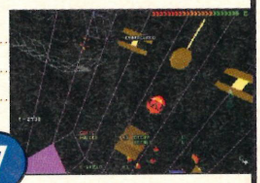


6

Car and Driver and Stormovik make an odd couple: the former is a good driving sim in which you can try out a number of flashy sports cars over a variety of tracks, whilst the latter is a five year old Russian fighter sim which, like most flight sims that age, is now well past its sell-by date. Fair value, but you can get Car on its own for £14.99.

System Shock (CD)

Electronic Arts, £39.99
(01753) 549442
386, 4MB RAM, VGA, mouse
Disk version first reviewed
Issue 37, rated 7



7

Could be described as Ultima Underworld in space, though this sci-fi RPG has enough character of its own. The idea is to outwit an evil, sentient computer, and this involves exploring a space station, killing cyborgs and hacking into cyberspace. Atmospheric and involving, though there are few extra frills on the CD version.

Elder Scrolls (CD)

US Gold, £44.99
(0121) 606 1800
386, 4MB RAM, VGA, mouse
Disk version first reviewed
Issue 31, rated 8



8

Arena is the role-playing equivalent of Elite: a huge game in which you can go where you want and do what you want. There are missions, but you don't have to follow them if you'd rather explore the massive game world. The sheer scale of the game is daunting. The 3D graphics are impressive, but you need a 486 to do them justice.

Cannon Fodder 2

Sensible Software goes back to war, but is Cannon Fodder 2 a great new game, or just a collection of new levels?

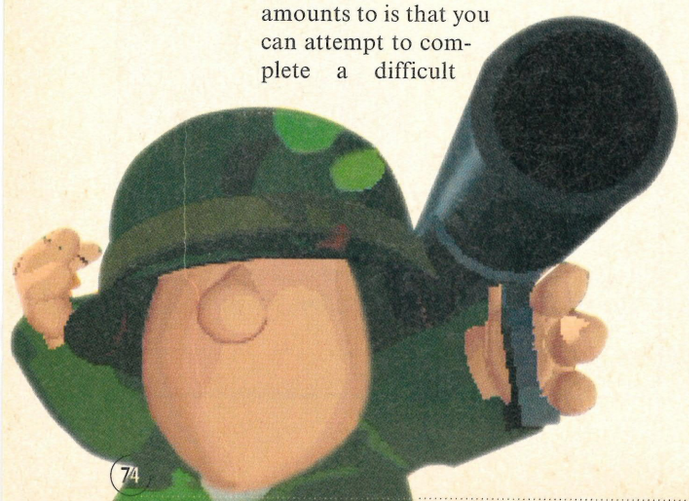


If you've never played Cannon Fodder before, then these first few paragraphs are just for you. It's a game that definitely needs explaining, because although it looks fairly simple, it's a fiendishly difficult game to master and complete. And I'm only talking about the original game here. Cannon Fodder 2 is even more difficult. Some might use the word "tough" to describe it, others may say it's "formidable". I think it's almost impossible

In Cannon Fodder you are the commander of a small platoon of soldiers, which you must attempt to guide safely through a number of increasingly difficult missions. These missions usually involve killing all the enemy soldiers and blowing up installations, and each one consists of several sub-missions or 'phases' which must be completed before you can move on to the next, even harder mission.

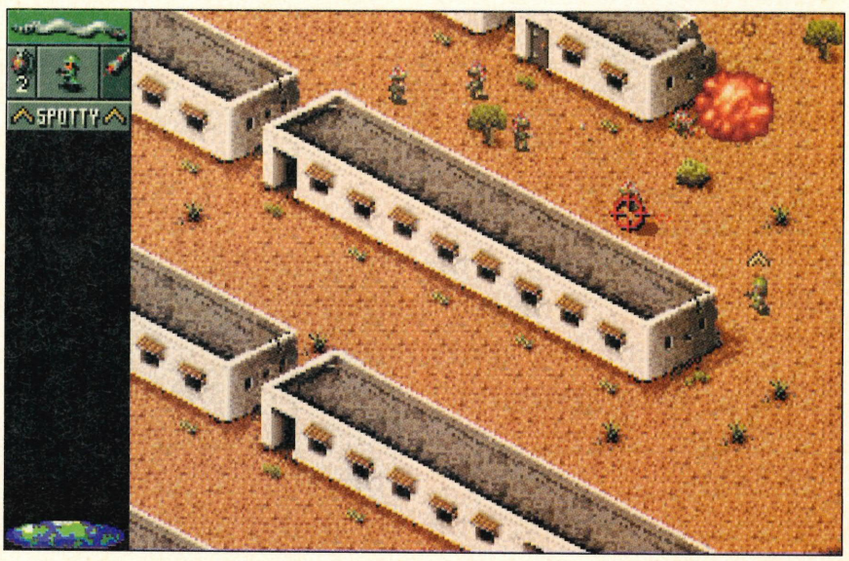
Coming home in a body bag

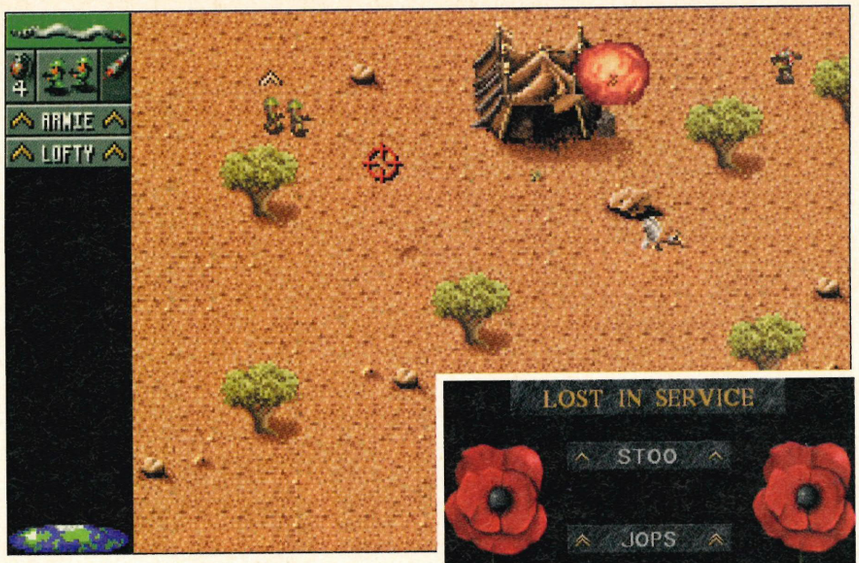
After every successful mission, more raw recruits are drafted in to your reserves and should you fail a phase (which roughly translated means that all your men are killed), replacements are pressed into service by the recruiting officer. What all this amounts to is that you can attempt to complete a difficult mission again and again, as long as you have sufficient reserves to do so. Of course, if you fail and your reserves are exhausted, then you lose and the game ends.



You move your troops around the battlefield using the mouse and although the tactics may be complicated, the control system certainly isn't. To move your platoon, you simply position the mouse pointer where you want your soldiers to go and then click the left mouse button. Pointing at targets and clicking the right mouse button, transforms the mouse pointer into a crosshair and your soldiers will fire a volley of bullets at it. Lastly, pressing both mouse buttons at once allows your men to throw a grenade or fire a rocket.

So with the mechanics out of the way, what's new in Cannon Fodder 2? Obviously the basic gameplay is the same and so are the small soldier sprites. But the rest of the graphics are also the same; the "Phase Complete" music is absolutely iden-





tical and the sound effects are very reminiscent of Cannon Fodder 2 without the '2' on it. Apart from the fact that the levels are new and some of the enemy soldiers are wearing tea towels on their heads, you wouldn't really notice the difference between the two games at all.

Same old drill

Of course, Cannon Fodder 2 is much harder than the original and if you're looking for some kind of benchmark, it's like playing the last few levels of Cannon Fodder right from the word go. OK. There are a couple of easy-ish missions to ease you back into the swing of things, but if you're a Cannon Fodder neophyte, the game isn't very forgiving. Before you know what's happened, you've got blokes firing rockets at you left, right and centre and within seconds your elite squad of troopers has been reduced to a squelching mass of intestinal goo and assorted body parts. It might put you off.

Cannon Fodder 2 is a veterans' game and since the original is now available as shareware, you'd be better off trying that first. If you're an old hand at Cannon Fodder however, you'll find that Cannon Fodder 2 is a lot of fun to play. The sound effects are good, the music is catchy and the game retains all the addictive qualities that characterised the original: there's even a couple of missions set in deep space which add a bit of variety.

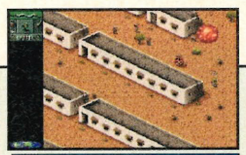
Repetitive

But, to my mind Cannon Fodder 2 has two major disadvantages. Firstly, it's very tough and if you haven't got the hand-eye co-ordination of a console-owning 12 year old, some of the missions can end up being so frustratingly difficult that you just want to give up and try something else. On the other hand, if you're a Cannon Fodder vet then you'll relish the challenge, but even then you may be a bit disappointed that there hasn't been that much of an overhaul in terms of graphics, sounds or gameplay. Cannon Fodder kept me playing solidly in to the early hours of the morning, but because the sequel is virtually a carbon copy, the whole concept has become a bit repetitive. Still, it seems that people wanted more and just as Doom 2 provided Doom fanatics with tougher levels, Cannon Fodder 2 does the same for Cannon Fodder freaks.

> **"Within seconds your elite squad of troopers has been reduced to a squelching mass of intestinal goo."**

It's a very enjoyable game (if you're a Cannon Fodder fan that is) and admittedly it's fun to play for a while. But considering the difficulty of the levels and the lack of anything to distinguish it from the original, there's ultimately little in Cannon Fodder 2 that seems worth the £34.99 asking price.

❍ **John Bennetter**



Nice, but hardly original.

TECHSPEC RATING 7

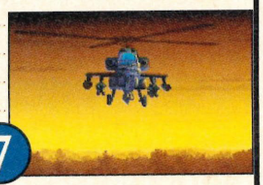
DISK ONLY

Publisher:	Virgin
Price:	£34.99
Contact:	(0181) 960 2255
Minimum PC:	386SX
Minimum memory:	2Mb RAM
Minimum graphics:	VGA
Sound:	All major sound cards

SHORTS

Combat Classics 3 (CD compilation)

Empire, £34.99
(0181) 343 7447
286, 640K RAM, VGA, MS-DOS 5.0, mouse
First reviewed This issue



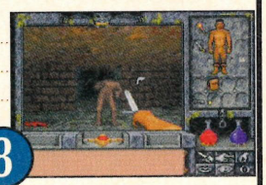
7

This good-value package contains three very different games. Gunship 2000 is good fun,even if the graphics have dated. Historyline 1914-1918 remains one of the best hex-based war games around. Campaign, though, is very average. Good value, nonetheless.

DISK ONLY

Ultima Underworld

Hit Squad, £19.99
(0161) 832 6633
386, 2Mb RAM, VGA, mouse
First reviewed Issue 8, Rated 9



8

Underworld was a landmark in role-playing games because it was the first to move away from flick-scrolling and on to smooth, multi-directional movement. This game oozes atmosphere, but on second viewing it looks quite unsophisticated — the view window is tiny! Even so, this is a brilliant, engrossing and challenging game which is well worth the money.

CD ROM

CD ROM Interactive Collection (CD comp)

Kixx XL, £49.99
(0121) 625 3366
386, 4MB RAM, VGA, Windows 3.1 MS-DOS 5.0, mouse
First reviewed This issue



6

At £50 for 16 titles, this collection of leisure and reference software is good value if mixed in terms of quality. Highlights include World Atlas, the Animals! and Links plus MIDI music from different artists. Packaging is poor, with unprotected CDs rattling around in a huge box.

CD ROM

Legend of Kyrandia (CD)

Hit Squad, £14.99
(0161) 832 6633
286, 640K RAM, VGA, MS-DOS 5.0, mouse
Disk version first reviewed Issue 13, Rated 7



7

The first adventure in the Kyrandia trilogy doesn't have as much humour as its sequels, and the story centres around Brandon and his efforts to defeat villainous jester Malcolm. Incredibly pretty, though Brandon's bland personality is less than endearing. A good game, though, and good value at budget price.

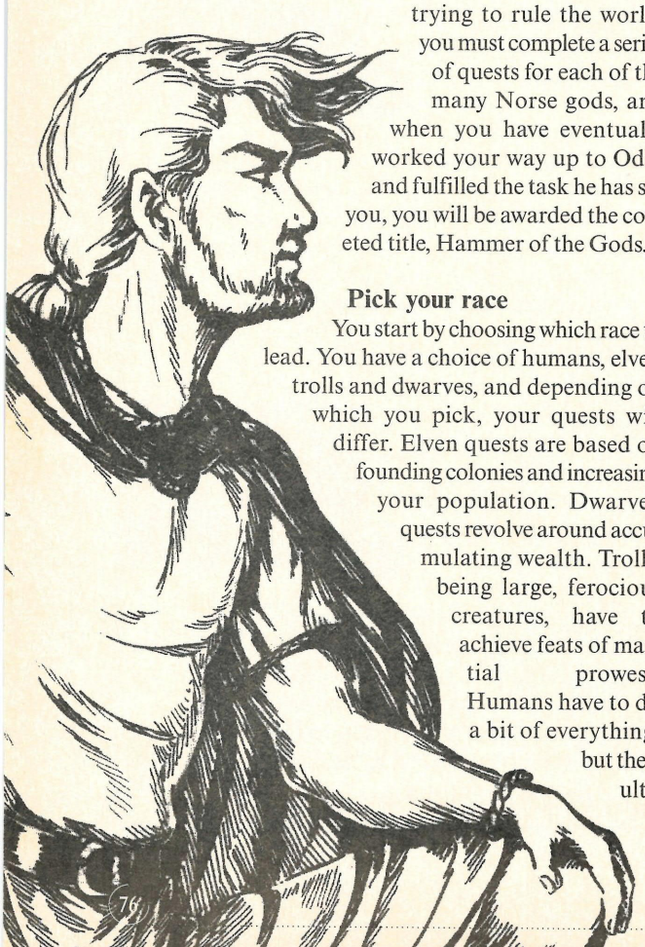
CD ROM



Hammer of the Gods

Get on Odin's good side and you could become the most important Viking since Hagar the Horrible. Strategy goes Norse.

First impressions can be deceptive. I say that because the first thing I thought after I'd got Hammer of the Gods up and running was that it was basically Civilization, but with Vikings. It isn't, as it happens, but there are more than a few similarities. Like Civilization, you are in charge of a race of people and your aim is to explore the land, conquer rivals and found new colonies. Nothing startlingly original here. But wait, there is one major difference between this and other games of its ilk. Instead of simply trying to rule the world, you must complete a series of quests for each of the many Norse gods, and when you have eventually worked your way up to Odin and fulfilled the task he has set you, you will be awarded the coveted title, Hammer of the Gods.



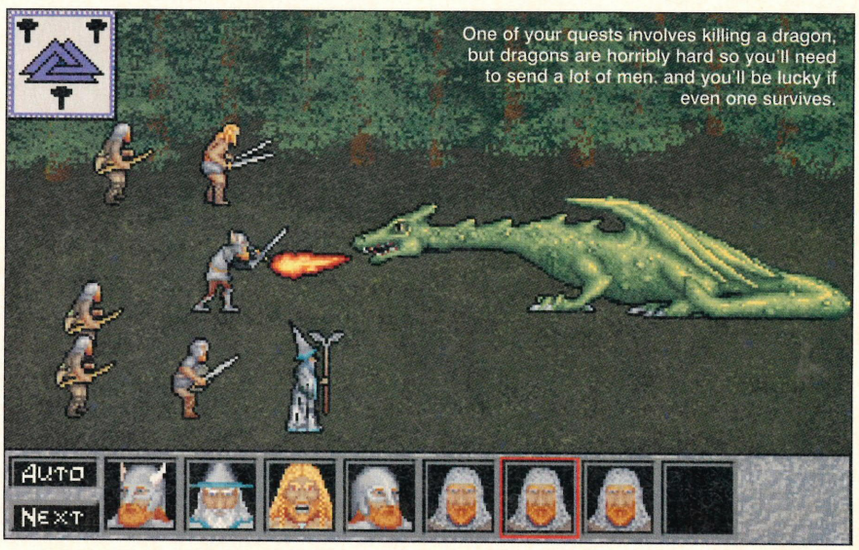
Pick your race

You start by choosing which race to lead. You have a choice of humans, elves, trolls and dwarves, and depending on which you pick, your quests will differ. Elven quests are based on founding colonies and increasing your population. Dwarven quests revolve around accumulating wealth. Trolls, being large, ferocious creatures, have to achieve feats of martial prowess. Humans have to do a bit of everything, but their ultimate aim is to get hold of several magical weapons. What this boils down to is that you can play Hammer of the Gods as each of the four races and have a completely different game every time.

The first few quests are very easy, ranging from donating your daughter's hand in marriage to a minor god to exploring a certain number of map squares (the map is uncovered in much the same way as Civilization: you move a unit onto a square to reveal whether it's grassland, mountains, forest, water, village or whatever). Later, the quests get tougher, and could include seeking out and killing a dragon or polishing off an enemy's capital city. The final quest, set by Odin, is of course the hardest.

My kingdom for a Norse

You don't have to perform these quests at the expense of your other conquesting and colonising activities, though. When you complete a quest for a god, he or she will reward you with something useful, such as a unit of fighters, a Viking hero, a magical weapon or ship, extra fertility for your lands and so on. Such things come in very handy. Apart from completing the quests, you are also trying to raise your race into a position of power, and since the rival races are also trying to do the same thing you're going to end up fighting. You start with one city, your capital, but to gain extra revenue and fighting forces you need to expand your empire. Unlike Civilization, you can't just send out some colonists and build another town just anywhere. Settlements have to be founded on a designated city site, and you'll probably find that most of these have already been built on. This means that you'll have to raze or subjugate an enemy town. While you're weak you should try to avoid picking a fight with a rival race, because when you're at peace you can make



One of your quests involves killing a dragon, but dragons are horribly hard so you'll need to send a lot of men, and you'll be lucky if even one survives.



Left: when you've defeated a town, you can choose whether to raid it, pillage it, raze it to the ground or take it over.



Left: the map graphics aren't too hot, but then they never are in games of this type. Poor graphics almost always guarantee good gameplay in strategy games.

extra cash by trading with them. You can, however, pick on neutrals such as Saxons and Christians as much as you like. They'll fight back, but you won't lose out on trade and you won't start a full-scale war. Eventually, though, you will have to fight another race because your quests demand it, but by that time you should have plenty of dosh, lots of expendable troops and magic weapons.

To start a fight with someone, you simply have to take a load of well 'ard geezers to the town you'd like to conquer and march them in. This takes you to the combat screen. Combat is strategic and turn-based, with your men standing on one side of the screen and the enemy on the other. You can either move each of your men in turn or just sit back and let the computer take over, but the general idea is to wipe out the opposition and take over their town. If you're successful, you have a choice of what to do with the place. The only troops capable of starting a colony are swordsmen and archers, so if you have brought any of these along you can opt to subjugate the town, making it your own. You could instead, raze it to the ground, grabbing all the valuables and leaving the site available for colonisation at a later date. Or you could simply pillage it. The choice is yours.

Waiting for God knows

So far, Hammer of the Gods sounds like a promising, if not entirely original game. However there is one problem. A big one. Speed. The blurb on the box claims that the minimum processor needed to play Hammer of the Gods is a 386, but I wouldn't believe that if I were you. Not in a million years. I reviewed the game on a 33MHz 486DX — not the fastest machine in the world, I'll grant you, but quite a bit quicker than US Gold's idea of a minimum spec — and I was appalled about how slow it was. I'm not talking about the actual in-game stuff here — moving your men around the map takes very little time at all. What I'm talking about is that period of time between the end of your last go and the beginning of your next when the program's AI is trying to figure out what the other guys (the other three races plus the neutrals) are going to do. This gets longer with every turn, so although I was waiting only a couple of seconds at the beginning of the game, it was more like five minutes after 50 turns and by the time I'd reached 80 moves it was getting ridiculous. Hammer of the Gods is no more complicated than Civilization, Colonization or Master of Magic and so I'm not sure why it has to "think" for so long in between turns. It gets to the stage where the time you spend waiting is more than ten times as long as the time you spend actually playing the game. This, of course, is how it was on a 33MHz 486. On a slower machine it will take even longer. Conversely, on a faster machine it won't take quite so long.

I found Hammer of the Gods was, initially, an enjoyable game, largely because it has the same sort of addictiveness that made Civilization so good.

It was unfortunate, then, that the waits I endured in between turns were so ludicrously long. Had it played at a Civilization-type speed I would have enjoyed it a great deal, but as it was I gave up in sheer frustration. In the end I awarded the game a six, but you can add on a mark if you do, indeed, own a DX4 or Pentium, and knock off three marks if you own a 33MHz 486 or slower.

❍ Cal Jones





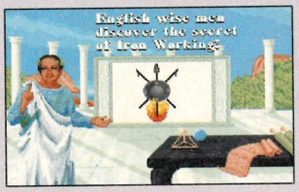


Below: you can recruit troops at any time during the game — providing you have any available.

ALTERNATIVELY

CIVILIZATION
MicroProse, £39.99
Rated 7, Issue 1
The ultimate world-builder, Civilization may not be anything special in the graphics department but it's simply superb to play. The idea is to turn your stone age primitives into a race of space-faring supermen. Unmissable.

MASTER OF MAGIC
MicroProse, £44.99
Rated 7, Issue 37
Best described as Civilization with magic. Explore, conquer, colonise, rule and defend your empire by using spells. Interesting and addictive, but less challenging than Civilization. Better suited to less experienced strategists.







TECHSPEC

6

RATING

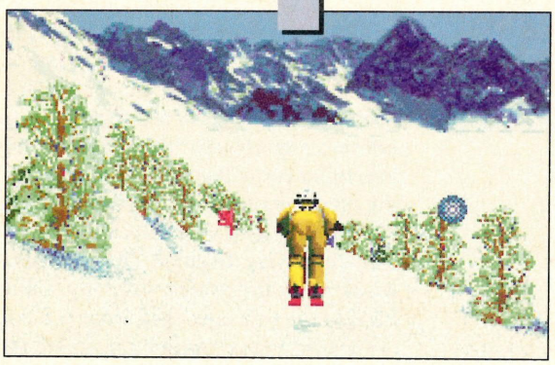
Fun strategy, but for fast PCs only.

Publisher:	US Gold
Price:	TBA
Contact:	(0121) 606 1800
Minimum PC:	66MHz486, MS DOS 5.0, mouse
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Sound Blaster, Roland, Ad Lib

CD ONLY



Superski Pro



Above: is this what they call a brown-eye view? The basic downhill race — steer John Lloyd's bum to victory.

This is the only game I've played where you spend most of the time staring at someone's bottom. What fun!

It's still winter, so it must be time to settle down in front of a roaring fire with toasted crumpets dripping with butter and Ski Sunday on the box. It must, therefore, also be the time when software publishers rush out their winter sports games, which is precisely what Mindscape has done.

Superski Pro attempts to simulate most of the skiing events, including downhill, slalom and giant slalom as well as ski jumping. It also cashes in on the current snowboarding craze, and on the CD-ROM version, there's even a bobsleigh event.

Below: the ski jump is a bit hit or miss, though you can rotate the view around and call up an action replay if you want to review your Eddie "the Eagle" Edwards-style leaps.

Whiz down the slopes

First up you have to choose which event you want to try, followed by the difficulty level, number of players (up to four can take part but you need a very fast PC to cope), and whether you're happy to whizz down the slopes in training mode, or try your hand at a championship event.





Then you need to pick your course, skis and nationality. In a mad fit of patriotism, I plumped for the Union Jack. The spoken commentary informed me that British skier John Lloyd was one of the three favourites for the race. I'm sorry, but a British skier with a chance of winning? John Lloyd? Are you mad?

Anyway, once you get past all that, it's on to the race itself. In the skiing and snowboarding events, the race is a simple matter of steering your man (sorry, no women in this one) down the course, aiming between the flags and trying not to end up with your legs either side of a rather solid tree trunk. Falling over is something that happens frequently, but unlike the real thing you're allowed to get back up and carry on. Likewise, you won't get disqualified for skiing the wrong side of a gate but you do get a time penalty.

Haphazard

Ski jumping is a bit different. You start with your man high on the ramp, and all you have to do is click to get him started and click to launch him into the air. There's a gauge which tells you whether he's veering left or right, so you have to move the cursor around the screen to adjust his position. However, I attempted the ski jump without reading the instructions at all and got a record jump on only my second attempt. This isn't to say that I'm brilliant or anything; just that the event is a bit haphazard and luck has more to do with the result than skill. And anyway, it's not that exciting.

By far the most annoying event is bobsleigh (only on the CD version), where you have to frantically waggle your mouse (or joystick, or keyboard) to prevent the bob from going straight up over the edge of the run and into orbit. Not only is this tricky, but it's also not much fun.

Superski Pro is not entirely bad; the presentation is quite attractive and the skiing events are playable. However, it's not, as the jokey warning on the box states, "so realistic you may get frostbite!". Don't expect too much and you won't be disappointed.

❍ **Cal Jones**



Come back David Vine, all is forgiven.

TECHSPEC 5 RATING

Publisher:	Mindscape
Price:	£39.99disk\ £39.99 CD
Contact:	(01444) 246333

DISK & CD

Minimum PC:	33MHz 386 MS-DOS 5.0, CD, mous
Minimum memory:	4Mb
Minimum graphics:	SVGA
Sound:	Sound Blaster

PIZZA TYCOON



Do you want to know what's cooking?

Do you knead to make some dough?

Then get a piece-of-the-action with Pizza Tycoon.

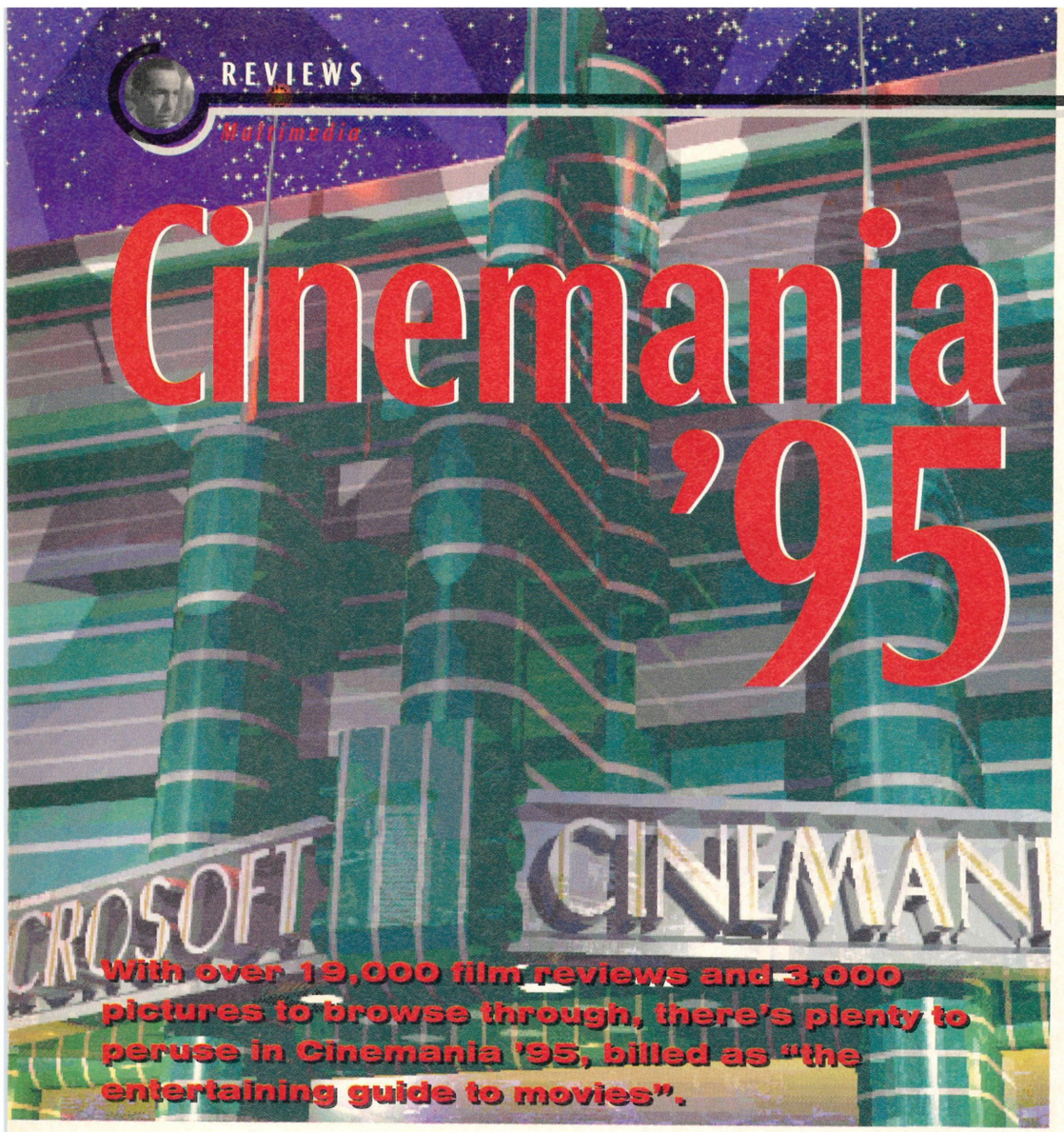
A business simulation to get your teeth into.

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Because at MicroProse, we deliver.

AVAILABLE FOR IBM PC COMPATIBLES MICROPROSE

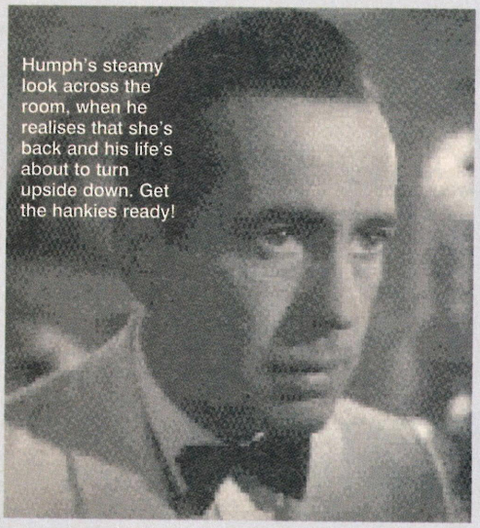
Cinemania '95



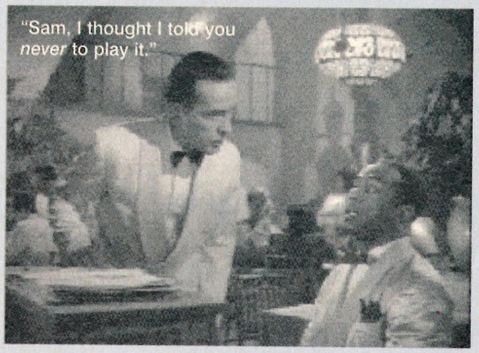
With over 19,000 film reviews and 3,000 pictures to browse through, there's plenty to peruse in Cinemania '95, billed as "the entertaining guide to movies".

AS TIME GOES BY

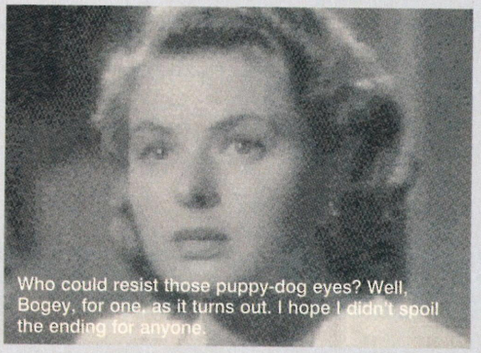
Yes, the old classics all get an airing, including this little piece of history. Of course, I'd personally have put the ending scene in, and that bit where Victor first shows up, and . . . oh heck, I'll just have to tape it next Christmas I suppose.



Humph's steamy look across the room, when he realises that she's back and his life's about to turn upside down. Get the hankies ready!



"Sam, I thought I told you *never* to play it."



Who could resist those puppy-dog eyes? Well, Bogey, for one, as it turns out. I hope I didn't spoil the ending for anyone.

If you've ever wandered glassy-eyed around your local video store, unable to come to any sensible decision for a night's viewing, Cinemania '95 could be the program that you've been waiting for. With Cinemania '95, you can call up a specific selection of films which suit your tastes, and could be a God-send to all of us going down to the video shop on a Monday night, as well as a funky database in its own right for all us armchair Barry Normans. And in this updated form, it contains more than 300 new reviews of films which didn't make it into the original edition.

The actual information contained within Cinemania isn't so very different in scope from, say, Halliwell's Film Guide or the Time Out guide, but you can't thumb through Halliwell and have all British comedy films automatically torn out and listed for you.

Cinemania's 'engine' and sorting facilities mean that it can do a whole lot of things that the book-based guides can't do. And it has lots of stills from the movies in question. It also has around 20 classic video clips, over 4,000 biographies of actors and actresses and more than 100 tracks of film music.

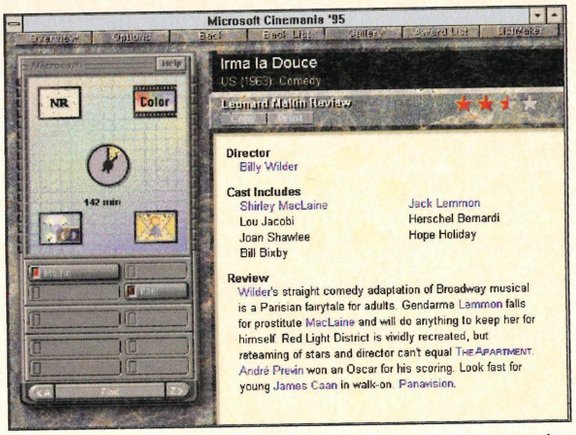
Cinemania '95 is a lovely piece of kit. Stunning, in fact. Got the message?

What makes it so good is the fact that it's Microsoft that has produced it. Generally I don't believe that the giants of the computer world necessarily do things better, and often the smaller outfits run rings around their less-specialised larger cousins, but this is one area that Microsoft has got the jump on the small players in the field.

B-movie heaven?

Why? Well, two reasons really. Firstly, it has the resources. This means it has the manpower to go out, research, and collate information on just about every English language film in existence. Cinemania 95 contains the complete text of Leonard Maltin's Movie and Video Guide 1995 (19,000 reviews), Roger Ebert's Video Companion 1995 (1,700 reviews) and 2,500 reviews taken from Pauline Kael's 5001 Nights at the Movies.

It also has the money to buy the rights to film clips, dialogue and sound tracks. And we're not talking B-movie heaven here, either. Every clip is a bona fide piece of cinema history. You can argue the toss about whether Microsoft picked the right bits to show, but that's always the way with reference software. Each of us has our own opinion of course, but somehow there's



Above: the Windows 95-style interface is a beaut. Within seconds you'll be clicking all over the place, and wherever you go, you'll find something fun to see, hear, or read.

Below: here's the clip we've all been waiting for. The sound of Darth rasping away comes out perfectly, although I'm looking forward to a version which will show the video full-screen.

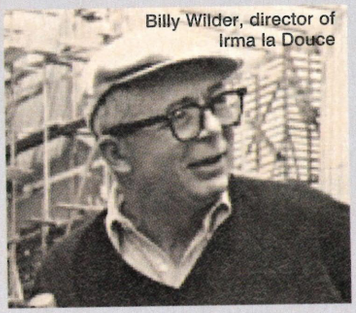
HOW EASY?

Looking for that dead and buried B-movie? Searching for an archive classic? Cinemania 95 makes it a doddle. For example . . .

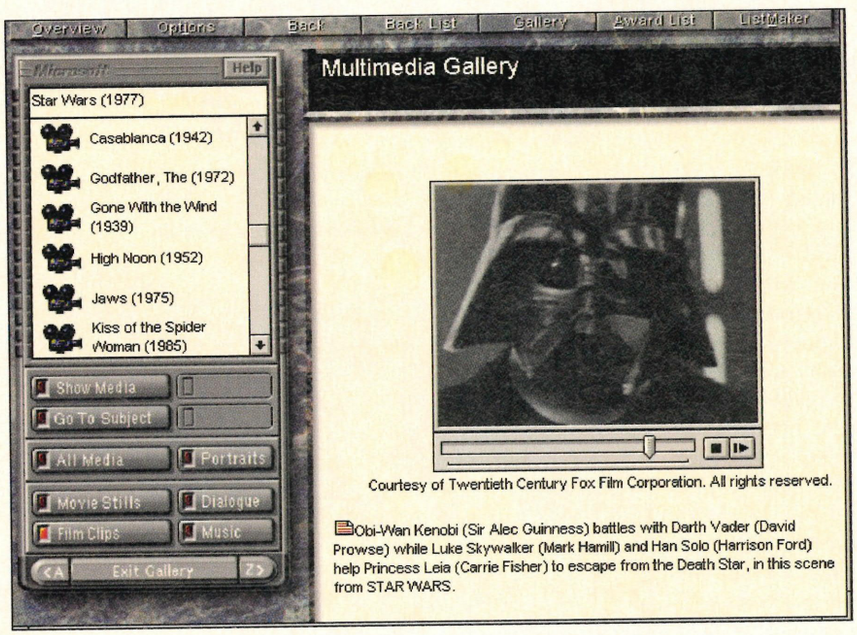
1) Clicking into the database I decide to hunt for an old personal fave — Irma la Douce with Shirley McLaine and Jack Lemmon. Never heard of it? That's the idea, it's a test to see whether Cinemania can handle obscure titles, too.

2) Well, blow me down if it isn't a full review with a star rating: "Red Light District is vividly recreated, but reteaming of stars and director can't equal The Apartment". Hey, that's exactly what I thought, though there's usually a second opinion if you don't trust that review.

3) You can even look up pictures of the important folks involved — here the director Billy Wilder. Nice to see that it's more than the best-known handful of films that get pictures, clips and soundbites into the database. Very slick.



Billy Wilder, director of Irma la Douce



Courtesy of Twentieth Century Fox Film Corporation. All rights reserved.

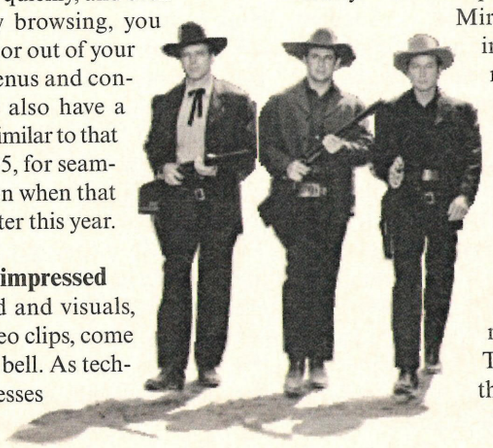
Obi-Wan Kenobi (Sir Alec Guinness) battles with Darth Vader (David Prowse) while Luke Skywalker (Mark Hamill) and Han Solo (Harrison Ford) help Princess Leia (Carrie Fisher) to escape from the Death Star, in this scene from STAR WARS.

enough here to satisfy most tastes and whet your appetite for stuff you'd probably never have considered otherwise.

As for the second reason why Microsoft is the right company for this kind of job, no matter what you think of it in general, you have to admit it does have an eye for detail and presentation. Believe me, in Cinemania in really shows. The interface is nothing short of superb, meaning that among all the thousands of entries you can find whatever you want quickly, and even if you're only browsing, you never feel lost or out of your depth. The menus and control interface also have a look and feel similar to that of Windows 95, for seamless integration when that is launched later this year.

Thoroughly impressed

All the sound and visuals, including video clips, come out clear as a bell. As technology progresses in data compression I'd like to see full-screen pictures and clips, but that's a limitation that most multimedia publishers admit to. Otherwise, I was thoroughly impressed with the disc.



Still, even Cinemania has to have its little glitches and downfalls, no matter how minor. While this 1995 version has been updated to include 1994's films (well, more or less everything up to Four Weddings and a Funeral), not all the elements of the program seem to have been revised consistently. For example, the biography of Miranda Richardson implies she's done nothing since Dance with a Stranger in 1985, although Enchanted April (1991), The Crying Game (1992) and Damage (1992) are all reviewed. Then Richardson's filmography includes 1994's Tom and Viv, although that's *not* reviewed.

You also need to be quite precise when searching for films in the alphabetical index: typing in Nikita, for example, gets you nowhere. You have to remember it's listed as La Femme Nikita (unless you reach it via the hypertext link in the biography of its star Anne Parillaud).

This became something of a personal quest when I discovered that The Assassin, the recent big budget US remake of Nikita, wasn't in the database either. When it comes to very recent films, you have to accept that information wasn't always available at the time the program was written. But by this time, I'd spent a happy two hours browsing through the program, one idea triggering off another in almost random fashion.

Tiny whinges aside, the fact remains that Cinemania 95 is hot stuff. Unless you hate all movies and violently detest everything that the global film industry stands for, then it's a must-have, easily the best of the movie guides on CD-ROM, and one of those rare products that I can heartily recommend without reservation . . . until Cinemania '96, of course.

❍ Martin Klimes



Ever useful, endlessly fascinating.

TECHSPEC 9 RATING

Publisher:	Microsoft
Price:	£99.99
Contact:	(01734) 270001

CD ONLY

Minimum PC:	386SX (486 reco), Windows 3.1
Minimum memory:	2Mb
Minimum graphics:	VGA
Sound:	Any Windows compatible card

Global Languages

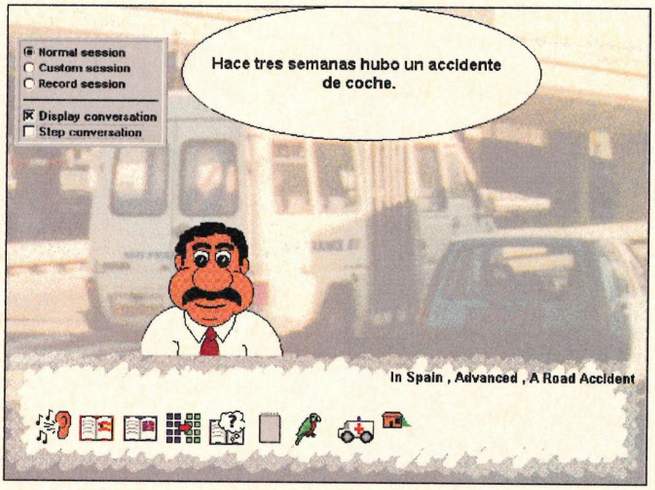
Need a crash course in French, German, Spanish or Italian? Global Languages aims to teach you the basics via CD-ROM.

Knowing languages is a great thing. Putting aside all the Euro-unity claptrap, there's something immensely gratifying about ordering your baguette in its mother tongue, a smugness that only comes with the attainment of knowledge. That, and the fact that the locals can't talk about you in front of your face when you go on holiday any more.

And now, rightly so, language tutors are becoming two a penny on the PC since multimedia arrived. It's a natural environment to learn in, with sound, video, and even the ability to record your voice without investing thousands in your own language laboratory or private lessons. Unfortunately, the Global Language series doesn't take advantage of all these possibilities. In a field as competitive as this, with big boys like Berlitz getting in on the act, that could be bad news for the long-term chances of this bunch of discs.

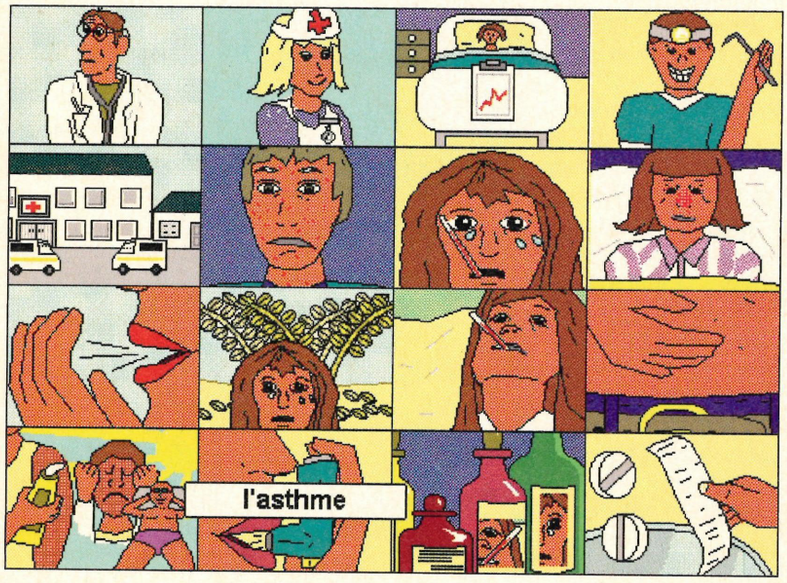
Something for everyone

Not that the Global products are a disaster. Not at all. They're aimed at a mixed market, offering something for everyone. Once you load it into Windows, you'll find the pastel background pictures are bright enough to be interesting to children without being garish and off-putting to adults. And while there are sections on business language available, you don't have to go through them if you just want to brush up your vocabulary for use on holiday. Most people will find highlights in their chosen package.



Above: the funky phrase section of the program is where you get to chat with cultural stereotypes from your chosen country. In this instance that means a man who looks just like Manuel from Fawlty Towers and a woman who resembles my current French flat-mate rather too closely for my liking.

The non-linear approach works very well. Rather than being a structured course, set into lessons 1 to 36, you can dip into any part at any time and have a browse. After a little learning you can then move on to something else. The icons are easy to follow, and nicely animated to offer a bit of light-hearted relief from the torment of learning endless vocabulary lists.

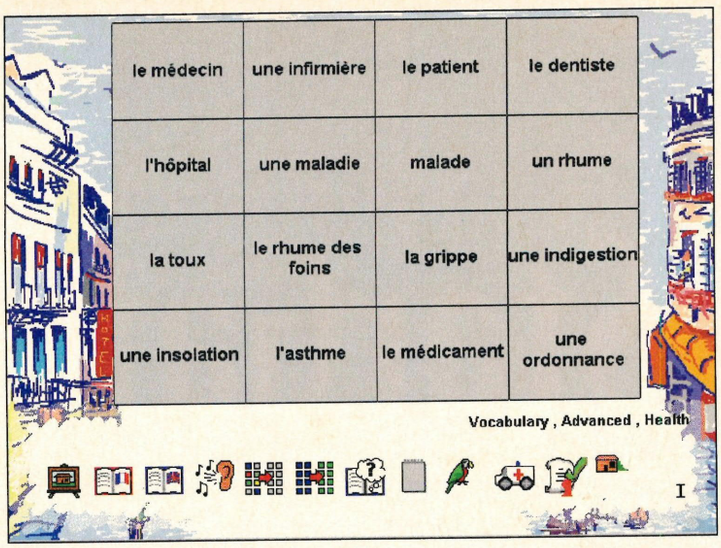


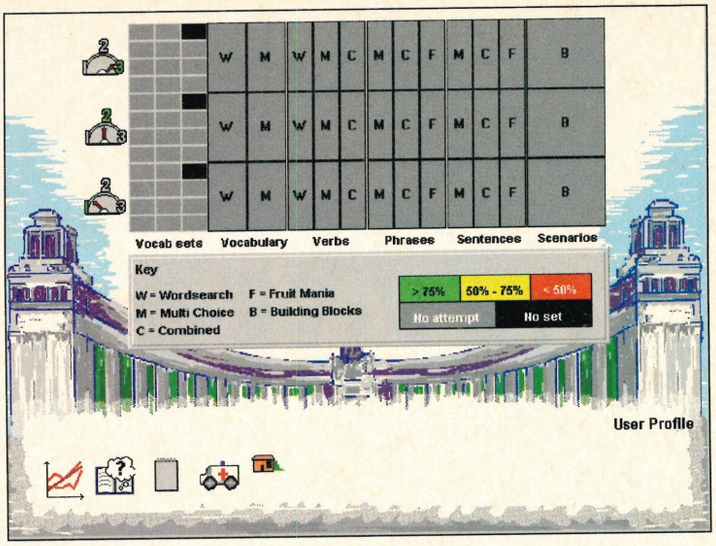
Below: if the words get too much then you can replace them with pictures. But there's no escape really, since the words are hidden, lurking underneath all along, waiting to be learnt.

The actual learning itself is split into three main sections: skills, themes, and profiles. In the skills section you do things as you would have done them in school, by choosing a part of the language (point of grammar, adjectives, nouns or verbs) and reading the lesson. This is a bonus for people starting from scratch who need to learn the structural basics, and also for students who could use this program for their revision purposes.

Pick a theme, any theme

If that seems a little dry and academic to you, then try the 'themes' area. Pick a subject that seems relevant to you (let's say people or travel if you're going on holiday, business and hotels if you're going to sign a deal) and work your way through words, phrases and sentences that are appropriate. The screen shows you objects and you have to learn their foreign equivalent. You can have the computer pronounce them at you, so that you know how to pronounce them too, although there's no record option for you to hear your own voice and figure out how your pronunciation matches up.





When you feel confident with the grammar and the vocabulary you want, then it's time to move to the profiles. Each user logs in under their own name, and each one collects a profile as they progress, showing just how they've been doing. You can choose to do tests as you go, which help make sure that what you've just learnt sticks in your mind, but in the profile area you are put through a series of short games to calculate your proficiency. Business users needn't be put off — the games aren't overly twee and childish, so you shouldn't feel a total fool going through the process (unless you fail every time, of course).

It all sounds a well-balanced, nicely presented piece of software, and in truth it really is. Quite some thought has gone into making the global products appeal to a wide range of potential users.

Four languages are available in the series — French, German, Spanish and Italian — and each disc has three difficulty levels on board. If you know the basics then move straight on to the intermediate or advanced stages, although for most of us, even the basic vocabulary is useful.

For people without CD-ROM drives, the disk versions only contain one difficulty level per set, so you have to choose your start-point a bit more carefully at this stage.

Above: you start with a grid of words on a chosen theme, in this case those vital holiday medical words like 'acne' and 'anti-depressants'.

Below: topics vary depending on the level of the language you've chosen. Here I've opted for the advanced 'media' section. Sadly, there's no phrase for underpaid journalist here — surely an oversight?

Shallower than an empty bath

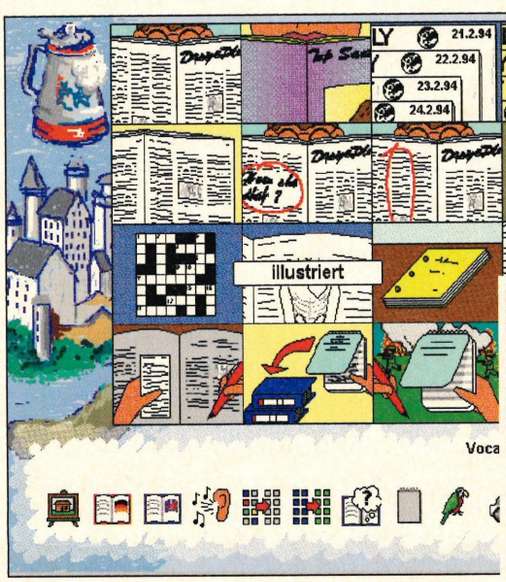
However, and here comes the big downer, there isn't a great deal of depth to each area in each level. Shallower than an empty bath, it's hard to see anybody actually feeling confident in any topic after going through their Global course. The vocabulary is selective and sketchy, and the grammar is skimmed over far too briefly to be of real use. By going from zero to the end of the course without other help you'd still be a beginner, no matter what the difficulty levels say. 'Beginner', 'intermediate' and 'advanced' should more realistically read 'Absolute beginner', 'know a couple of phrases already', and, 'can string a basic sentence together'.

> "If you want to say hello, goodbye and mine's a pint of lager, then the Global products should be just enough to cope."

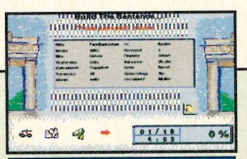
With that in mind, there's still a market for the Global series. It just isn't anywhere near as all-encompassing as Mindscape, the publisher, would have liked. The presentation and bare basics of how the programs work is quite nice, and if you think of it as a substitute (and less portable) phrase book instead of a language course, then you won't be overly disappointed at all.

As I said, the other thing that saddened me was the way the Global language discs avoid the use of recent multimedia advances. With the exception of the computer pronouncing the words at you, there isn't really any concession to the audiovisual possibilities. Video footage of real people in real situations is forsaken for a series of cartoons. Objects are represented by sketches rather than photographs, and (most seriously) the chance to use speech and have the participant talk back wasn't taken. There are plenty of packages on offer, some using very sophisticated techniques, and if you want to get serious about getting more language skills then choose one of them. It may cost a few more pounds, but it's still cheaper than weekly lessons with a private teacher. If you want to be able to say hello, goodbye, and mine's a pint of lager, then the Global products should be just enough to cope.

❍ Martin Klimes







TECHSPEC 5 RATING

Some fun, but not enough to be of use.

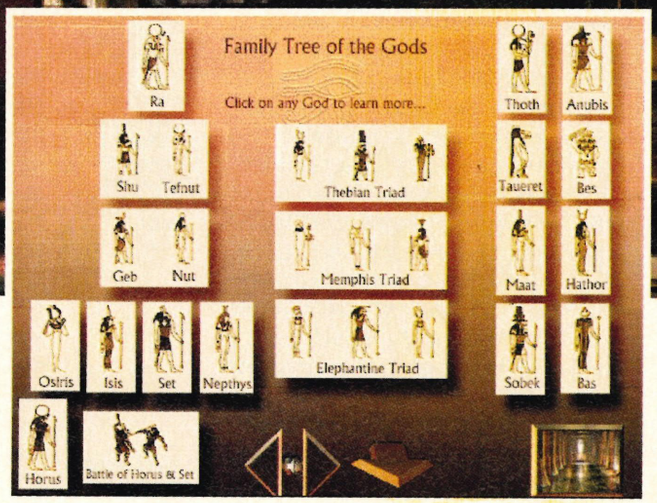
Publisher:	Mindscape
Price:	£39.99
Contact:	(01444) 246333

CD ONLY

Minimum PC:	40MHz, 386SX, Windows 3.1
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Any Windows compatible card

Secrets of StarGate

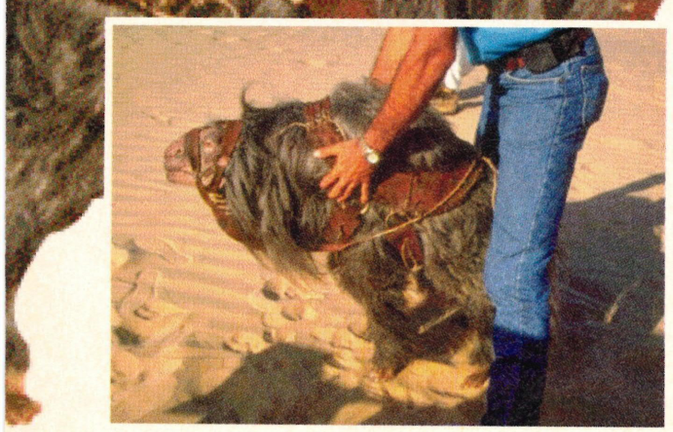
Take a look behind the scenes of one of the biggest movies to be released this year. StarGate gets the multimedia treatment.



Above: if StarGate has aroused your interest in Ancient Egyptian customs and mythology, you can also find information on these topics in the Ancient Wisdom section. This screen shows the Egyptian Gods.



Below: the mastadge puppet, used in close-ups, is surprisingly small in real life. For shots where the mastadge was seen galloping across the desert, the production team used a horse dressed in a furry costume.



By now you must have heard of StarGate, the sci-fi epic which busted quite a few blocks in American cinemas last autumn and is currently trying to do the same over here at the moment. If you haven't been to see it yet and have somehow managed to miss out on the trailers, magazine articles, interviews and so on (in which case, what on Earth have you been doing with yourself for the last three months?), the film centres around an Ancient Egyptian artefact which, when activated, allows people to travel to other worlds. The heroes, an army man played by Kurt Russell and an Egyptologist played by James Spader, end up on a planet which closely resembles Egypt, from the climate and architecture to the indigenous population. Unfortunately, the planet is ruled by the tyrannical Ra (Jaye Davidson), an alien masquerading as a god. On learning that the StarGate has been reactivated, Ra plans to destroy the Earth and remove the human threat.

This package, then, promises to take you behind the scenes and show you how the movie was made as well as giving you a bit of information on Egyptian culture. Whether it actually lives up to those promises or not is another matter entirely.

> "Secrets of Stargate would make a nice present for someone who really enjoyed the movie"

Throne room

The whole thing is neatly presented, treating you to a trailer for the movie (not, unfortunately, full-screen) before dumping you in a lavishly rendered approximation of the throne room in Ra's spaceship palace. This throne room, for all its opulence, is really just a giant, walk-in menu. The idea is to stroll around, admiring the view, and if you walk far enough in the right direction you'll reach one of the other rooms in the palace. Each of these rooms represents a different subject such as people who've worked on the movie, storyboards, stills and artwork and the movie itself. But if you don't want to bother exploring the palace, you can instead click in the top right-hand corner of the screen to bring up all the currently available subjects.

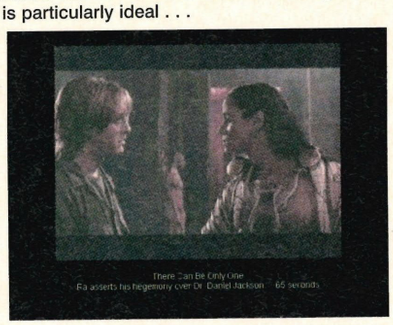
Of all the topics, the one entitled Movies will probably grab your attention first. Enter this section and choose to view clips from the movie, look at special effects, peek behind the scenes or enter into an interactive interview with members of the cast and production team.

Film footage, whether it's a special effects sequence or a clip from the movie itself, is shown in a tiny window barely larger than a matchbox. You can increase the size of the window, but you lose some picture

SIZE VS CLARITY

The CD is filled with 40 minutes worth of film footage showing both sequences from the movie and behind-the-scenes clips. The video window can be resized so that the footage is either small and sharp or big and fuzzy. Neither is particularly ideal . . .





quality, so neither option is perfect. This is a fundamental problem with standard video on PCs rather than a fault of the package itself, and until the full screen video problem is cracked once and for all, we'll have to put up with it. However, what it does mean is that some of the film clips are hard to make out.

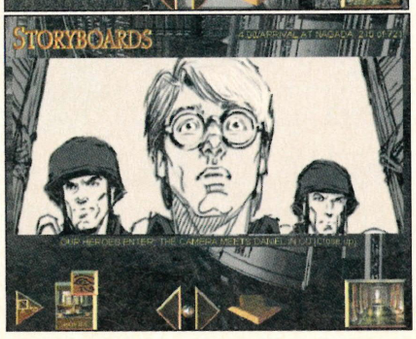
On the whole, Secrets of StarGate is very well presented, and contains some fairly interesting stuff. The storyboard section which contains over 700 illustrations, really emphasises how much work actually goes into shooting even one scene of a movie. The Ancient Wisdom section, is also interesting because it gives background information on the Ancient Egyptian civilisation, although it doesn't really go into enough detail.



Below: there's information on the actors, designers, writers and so on, as well as interactive interviews with key members of the cast and production team.

Bottom: you can also browse through the storyboards for several scenes in the movie, each of which comprises of hundreds of individual illustrations. Impressive, huh?



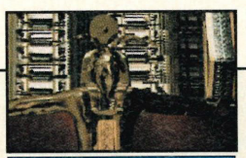


Special effects

What disappointed me was the behind-the-scenes stuff. You'd think that if you clicked on the special effects section, you'd find out how the special effects were created. Instead you get a silent video clip showing that particular effect and maybe two explanatory lines of text. What I want to know is what went into making the effects. The actors' biographies, movie stills and artwork are nice, but the really interesting stuff is glossed over.

Secrets of StarGate would make a nice present for someone who really enjoyed the movie. It's not too pricey as multimedia doodahs go, but given its content, it can't really afford to be any more expensive. This 'making of' package is a good idea, but like the film itself it barely scratches the surface of its subject, leaving you entertained but not entirely satisfied.

❍ Cal Jones



TECHSPEC

6

RATING

Well presented, but lacks depth.

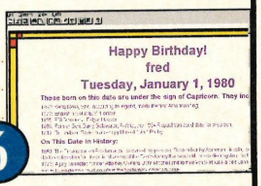
CD ONLY

Publisher:	Compton's New Media
Price:	£34.99
Contact:	(0171) 490 1323
Minimum PC:	486, Windows 3.1, mouse
Minimum memory:	4Mb
Minimum graphics:	SVGA
Sound:	All Windows-compatible sound cards

CD & EDUCATION SHORTS

Expert Birthday News (CD)

Software Partners,
(01480) 497622, £29.99
386DX, VGA,
4Mb of RAM
First reviewed
This issue

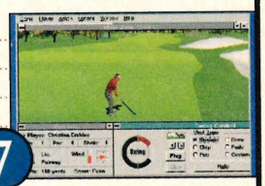


6

This is a mini-DTP package that allows you to send birthday greetings either as a certificate, card or newspage. Contains a database of birth-date related news, to spice up the message. Can be fun for the kids, but it's not a patch on searching through stacks of birthday cards.

Microsoft Golf V2.0 (CD)

Microsoft Home
(01734) 270001, £40
16Mhz 386SX, SVGA
4Mb RAM
First reviewed
This issue

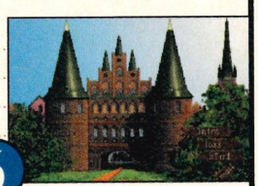


7

Compatible with the classic Links 386 Pro — and its range of available courses — this is an eye-catching and very slick golf simulation which boasts a few minor tweaks since its original release. The package only comes with one golf-course, Firestone, in Akron, Ohio, but other championship courses are available.

The Patrician

Daze/Ascon
(0171) 372 7435, £16.99
386SX, CD-ROM, MS DOS
4Mb RAM, 6M hard disk
First reviewed
Issue 22

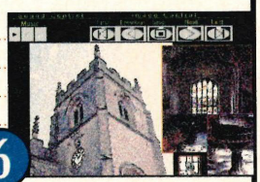


6

Make your way to the top of the trading ladder in this business simulation set in mediaeval Germany. The game is slow to get started, but soon requires complex strategy and a mind for business. One for frustrated traders only.

A Literary Guide to Shakespeare

QADs Multimedia
(01477) 544148, £35
386 PC, CD-ROM drive
4Mb of RAM
First reviewed
This issue



6

Comprehensive reference on the life and works of William Shakespeare. Although the interface and the overall presentation are somewhat primitive, the intentions are certainly worthy and with the wealth of material here, there's no doubt this CD would be very useful for students and schools as a reference tool.

Coral Reef

Uncover the secrets of the coral reef in this latest multimedia offering from Arnowitz and Maxis.

Top right: the program includes many close-up colour images of the reef's inhabitants.

Bottom right and below: just a snap-shot of the striking colourful forms that coral can take.

Seventy percent of the Earth's surface is covered by water, yet what goes on under the surface of the oceans and seas is shrouded in mystery for most people. Arnowitz Studios has set out to enlighten us with its new release Coral Reef, also sub-titled 'The Vanishing Undersea World. It covers practically every aspect of coral life from how reefs are built, to how people make a living off the reefs, to the ecological problems of preserving them.

Astoundingly, Arnowitz has packed a stunning journey and exploration of many of the worlds reefs into a single CD-ROM that includes 60 minutes of video, 600 photographs, and over two and a half hours of narrated stories. The majority of these images and audio clips are capably reproduced, resulting in glorious colour images of undersea life on the coral reefs. You could almost reach in, pull out some of the fish and eat them!

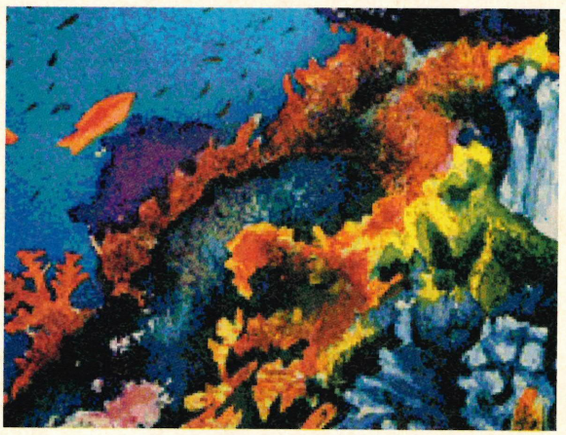
Elegant navigation

Although I have no more than a passing interest in reefs, I have to admit that I found myself strangely drawn into the program. The simple and elegant navigation method for moving around the data on the CD and the ease with which it allows you to 'drift' through subjects is responsible for this and is surely a sign of a well thought out product.I'd sit down to examine various aspects of the program for this review, only to find myself, 10 or 20 minutes later, reading or looking at a completely unrelated topic to that which I started out examining. This ease of use is what makes Coral Reef a pleasure to sit down with.

Opting in

When you boot up the CD you are faced with two options. The first of these is an overview tour. This takes the form of a narrated guide that takes you right through the program from start to finish, but lets you jump in at any point and explore a particular subject in more detail if you wish. The second option allows you to pick an element of the CD and watch, view and listen to the information presented. From these points you can link to other areas, backtrack through the disc or find a particular subject matter using a keyword and text search.

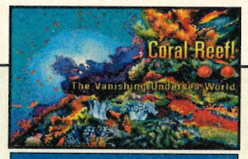




More information

I'm not sure of the real educational value of this disc, I would have liked to have had more information available on individual aspects of reefs, and more data on particular species of undersea life for instance. I'm also not convinced that having educational information on only coral reefs is particularly useful. If this was part of a whole collection of discs covering all aspects of the undersea world I could understand it, but how many people want information on just reefs? But for entertainment and reference, I have yet to see better. Coral Reef: The Vanishing Undersea World is a fascinating insight into its intended subject matter. It is well produced and a delight to use and the kind of CD-ROM that is perfect for showing what multimedia and your new CD-ROM drive can do.

❍ **Andy Leaning**



TECHSPEC

7

RATING

Entertaining, well presented guide.

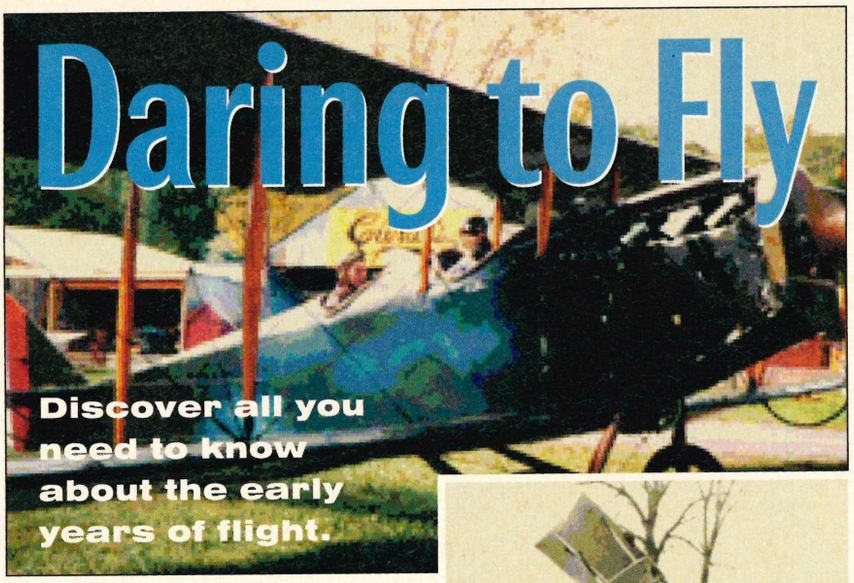
Publisher:	Maxis
Price:	£39.99
Contact:	(0171) 490 2333

CD ONLY

Minimum PC:	386 DX, CD-ROM drive
Minimum memory:	2.5 Mb
Minimum graphics:	VGA
Sound:	Sound Blaster



Daring to Fly



Discover all you need to know about the early years of flight.

If like me you're fascinated by mankinds exploits in the air, you'll love Daring to Fly — From Icarus to the Red Baron. It really brings the early years of flight to life and packs over 700 videos, illustrations, photos and news clips, two hours of sound and 45 minutes of movie footage all on to one disc.

There are three ways of accessing the data on the disc, a general narrated tour that takes you though the disc, a chronological search system and a subject specific search system. With the narrated tour you simply sit back and let the program take you though the history of flight and the information on the CD-ROM. The chronological search system is probably the less useful of all three search methods but strangely the most fun to use. Clicking on this option brings up a time-line with icons floating over clouds, the icons representing specific developments for a moment in time. Clicking on an icon as it passes brings up detailed information on it. The third method of interrogating the disc contents allows you to summon up narrated stories on particular people or subject matter or to access information via time, plane type, or engines or other common themes.

With each you can stop the prearranged playback order and call up further information on particular elements under that topic revealing more detailed information, pictures and video.

Easy interaction

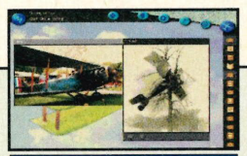
All of these access methods allow easy interaction with the information and make Daring to Fly enjoyable to use. But for children, Arnowitz has gone even further. Under a heading of Kids Corner is a section where kids can learn more about the mechanics of flight (appropriately simply worded), and are also shown how to build models of planes, so adding to the enjoyment and educational value. The model building exercises are carried in true Blue Peter fashion with common household objects (paper, straws, etc) and show how flight is achieved with real examples.



Merit marks

For both education and general reference this disc has merit. For history and engineering studies it has obvious value, whilst it is also fun to just sit down with in the evenings and work though for no other reason than simple enjoyment. Unfortunately, the time period covered by the disc stops after 1918. Still, there's nothing to stop Arnowitz, the developer, producing a second volume that covers more recent history of flight. Until then...

❍ Andy Leaning



Comprehensive, fun flight package.

TECHSPEC RATING **8**

Publisher:	Maxis
Price:	£39.99
Contact:	(0171) 490 2333

CD ONLY

Minimum PC:	386, CD-ROM drive Windows
Minimum memory:	4Mb
Minimum graphics:	VGA
Sound:	Sound Blaster

CD & EDUCATION SHORTS

Sources of Faith

Kim Tek, (01202) 888873
£57.57
33 Mhz 486 SX SVGA, CD-ROM
4Mb RAM
First reviewed
This issue



5

This CD-ROM database about the world's major religions covers Animism, Buddhism, Christianity, Hinduism, Islam, Judaism and Taoism. Probably useful for theology students, or the spiritually inclined, but it's hardly an inspirationally produced CD.

Lottery for Windows

Software Partners (01480)497622
£29.99
386DX, 4Mb RAM, VGA,
3Mb on hard drive
First reviewed
This issue



4

This CD-ROM provides you with a detailed datafile and statistical analysis of Canadian and US state lotteries, and subsequently claims to give you the edge in our very own National Lottery — provided you build up the database. Mind you, it's still odds on that the only winner in this area will be Expert Software.

Educational Gold Series

Lander Multi-Media,
(0141) 357 1659, £64.99
286, CD ROM, VGA
530K free RAM
First reviewed
this issue

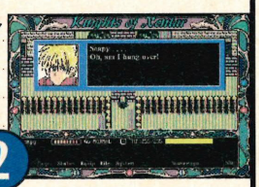


7

This is a comprehensive educational pack that is suitable for young children. It comprises four modules; Henrietta's Book of Spells, Spellbound, Count and Add and Hooray for Henrietta. The educational aspect is combined with cartoon graphics in a simple game environment.

Knights of Xentar

MegaTech, (0101) 310 539 9177
£TBA
386, 640K RAM,
VGA, CD-ROM
Disk version reviewed
This issue



2

Something of a cross between an RPG adventure and a Manga-style comic. Sadly, in between the rather interesting cartoon sequences the game graphics are small, crude and generally dismal, and the continuous dialogue gets extremely tiresome. Knights of Xentar is definitely one to steer clear of.

WACKY WHEELS











Copyright 1994 Beavis-Soft
Published by Apogee Software

A high speed action-packed 3D racing game you can play alone or against friends. Can be played against challenging computer opponents or other human racers, in split screen mode, via modem or by serial link. Bump and shoot the other racers to help win on the 30 racetracks, race against time, or play duck shoot on one of 12 battle zones. Take shortcuts and use the jumps whilst avoiding tyres, water traps and lava to win. Pick up bombs, oil slicks, ice blocks and flame balls to use against your opponents. Features 16 heart-racing songs and digital sound effects for Soundblaster Pro/16, GUS, PAS-16, Sound Canvas, WaveBlaster and MIDI cards. Requires a minimum 386 with 4mb RAM and VGA graphics.

Shareware version also available at £ 5.50 inclusive

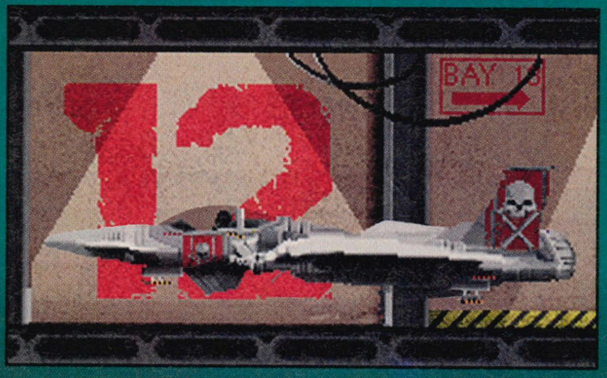
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C.D. Versions include 22 top Apogee shareware games

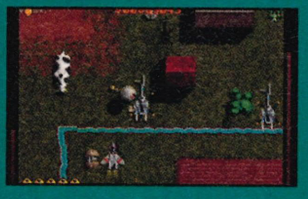
RAPTOR

• CALL OF THE SHADOWS •











Copyright 1994 Cygnus Inc
Published by Apogee Software

The best IBM shoot em up yet! A fast paced slugfest, with a pulse-pounding soundtrack, and jaw-dropping VGA animations and cinematics. In the future, as a mercenary flying the super-tech Raptor, you'll be sent on interplanetary missions to knock off top competitors of Magacorp. Battle against hordes of relentless enemies. Spend the bounty you receive from their demise to expand your devastating arsenal, which can be upgraded with 14 hard-core weapons! Features ultra-detailed, smooth scrolling VGA graphics, 27 killer levels each with at least one killer boss ship to destroy andfour skill levels.
Supports all major sound cards. Requires a 386 minimum with 4mb RAM and VGA graphics.

Shareware version also available at £ 5.50 inclusive

PD SELECTIONS LTD

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Gravesend, Kent DA11 0DY
Phone: 0474 325802 Fax: 0474 320442

APOGEE MEANS ACTION

Reviewed this month

THE BEST OF THE LAST THREE MONTHS

Wing Commander 3
Origin/Electronic Arts, £54.99
The rip-roaring finale to the Wing Commander series features not only exciting space fighting action, but an incredibly involving story as well. Mark Hamill plays your alter-ego, Blair, and other famous actors also appear. Absolutely fantastic, but you really need a Pentium.





Panzer General
Mindscape, £44.99
Second World War strategy has never been more exciting, addictive or user-friendly than in SSI's Panzer General. Well presented with good graphics and sound, plus 35 different scenarios to conquer. One of the best war games on PC and certainly the most playable.

Little Big Adventure
Electronic Arts, £44.99
Hopelessly cute, horribly addictive isometric adventure from Adeline Software, the company founded from programmers and artists who worked on Alone in the Dark 1. Gorgeous SVGA graphics, arcade action, puzzles and atmosphere — Little Big Adventure's got the lot.



REVIEWED THIS ISSUE

Disk-based games		Rating
Aladdin	Virgin	8
Metal Marines	Mindscape	8
Premier Manager 3	Gremlin	8
Ultima Underworld (budget)	Hit Squad	8
Legend of Kyrandia (budget)	Hit Squad	8
Cannon Fodder 2	Virgin	7
Hokum KA-50	Virgin	7
Pizza Tycoon	MicroProse	=6

CD-based games		Rating
Hell	Gametek	8
Wings of Glory	Origin	8
Elder Scrolls: Arena	US Gold	8
Earth Siege	Sierra	7
Combat Classics 3	Empire	7
System Shock	Electronic Arts	7
Hammer of the Gods	US Gold	6
Woodruff	Sierra	6
Quest for Glory 4	Sierra	6
CD ROM Interactive Coll.	Kixx XL	6
Twin Calibre (budget)	Hit Squad	6
Alien Logic	Mindscape	5
Iron Assault	Virgin	5
Lampoon's Blind Date	Domark	5
Star Trail	US Gold	5
Superski Pro	Mindscape	5
World Cup Golf	US Gold	5

Multimedia software		Rating
Cinemania '95	Microsoft	9
Daring to Fly	Maxis	8
Coral Reef	Maxis	7
StarGate	Compton's	6
Global Languages	Mindscape	5

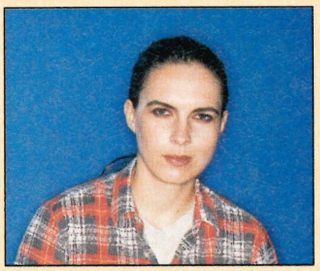
PC REVIEW PLAYLIST



Christina Erskine
Christina's been swanning off to the States again, this time to see the Consumer Electronics Show in Las Vegas. There were a huge number of multimedia products on show, as well as several cheap CD-ROM drives. Read about the future of multimedia in the Essential Multimedia Guide to 1995 (starts page 22).

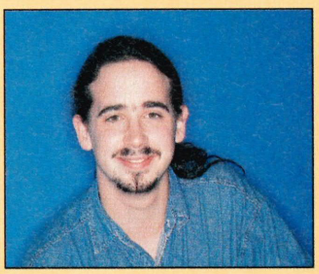


John Bennett
John was pleasantly surprised by Origin's Wings of Glory (page 50), got frustrated with World Cup Golf (page 70), got the Bobbitt treatment in Blind Date (page 73) and had fun making rude-shaped pizzas in Pizza Tycoon (page 61). He also claims that the Internet is overrated — you can read his controversial comments on page 146.



Cal Jones
The demonic Ms Jones joined Dennis Hopper for tea and scones in Hell (page 32) before cooling off with a trip down the piste in Superski Pro (page 78).

She also checked out the multimedia Secrets of StarGate (page 84), but claims her favourite game of the month this month is Metal Marines (page 65).



Tony Dillon
Our gravel-voiced disk editor has been even more gravel-voiced than usual, thanks to 'flu.

However, he battled bravely against the foul microbes to bring us a disk packed with goodies: Premier Manager 3, Secrets of StarGate and the amazing Doom-style Heretic are just a few of the demos on offer.

Death Gate

Don't let Death Gate be the death of you. Cal Jones steers you to success with the first part of a two part solution.

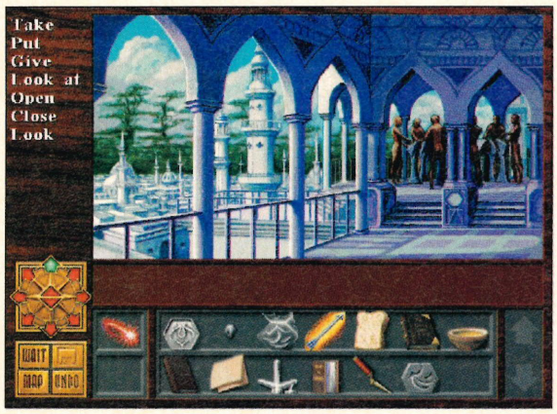
Death Gate (rated 8, Issue 40) is arguably Legend's best game yet. It begins with the hero, Haplo, escaping from the Labyrinth where his race, the Patryn, has been imprisoned for 1000 years.

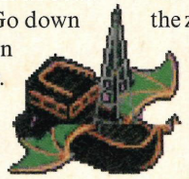
Nexus

Talk to Xar and ask as much as possible. Take the glowlamp and go left (twice) to the boat. Use the glowlamp in the boat. Cast 'rune transfer' on to the marker Xar gave you, then transfer the marker on to the steering stone. Use the steering stone.

Arianus

Enter the cave and talk to Jarre about every topic. Take the white shirt, the elbow pipe, marmalade and bread slice. Go east and talk to Limbeck, then take the cork from the ink bottle. Go north, then north west. Talk to the old dwarf about everything, including the pipe repair box and the pipe he is holding to his ear. Exit south east, then go north. Cast 'heat' on the sensor on the panel. When the alarm sounds and the guard is distracted, go north to the elf boat. Go up and take the wine jug. Go down (twice) and talk to the duke. When you talk, ask as much as possible. Return immediately to your own boat and use the steering wheel to fly to King Stephen's castle.





Go north to the castle, talk to the guards and give them the duke's ring. Talk to King Stephen, ask about everything and make sure you select the option: "Your cousin gave it to me to substantiate my story". When back outside the castle, go west, take the shear and use it on the bar (left of shutter) to open the window. Go north. Take the book and the candle holder, then cast 'reality pocket' on the tapestry. Go through (west). Talk to the wizard and get him to teach you 'shroud of darkness'. You will be trapped but someone will free you. Return to your boat and click on the steering wheel to fly back to Drevlin.

Go to Limbeck's room and use the marmalade on the bread slice (three times) until it's overflowing. Give the bread to Limbeck and then take the parchment when he drops marmalade on it. Then give him the candle holder to get another piece of pipe. Put the white shirt in the ink bottle to dye it black.

Return to the elf boat (cast 'heat' on the sensor as before) and go up to the wizard's room. Cast 'shroud of darkness' on the black shirt and use it on the glowing figurines. Go to the slaves' galley and then go west. Open the box and take the zinger. Use the zinger to attract King Stephen's men. Talk to King Stephen and make sure he fulfils his side of the bargain.



Skurvash

Go north and wait if necessary. Offer to help the street rat. Go west. When the street rat traps you, cast 'swap' on him. Talk to him and agree to release him if he helps you. Pull the net. Look at the doll. Go north west and take the prybar. Then go back to the elf boat, down, west and use the pry bar to break the lock on the strongbox. Take the T pipe and the jewel sack. Leave the boat and go to the inn (east of the main street). Talk to the bar keeper and give him the jewel sack. Then talk to Hugh. Tell him you're interested in becoming an assassin and agree to do the job he offers you. Return to the street rat's lair and give him the money you got from the bar keep. Wait until he returns and select the response beginning "Good work." Return to the main street and go south east. Use the pick on the lock. The correct sequence is 'push', 'jiggle' and 'turn'. Take the poetry book

and read it. Look at the clock. The poem should give the correct sequence of times but if you can't figure it out it runs 'wine time', 'toil time' and 'dark time'. Take the journal from the secret compartment and read it. Cast 'reality pocket' on the portrait and go north. Talk to the merchant, claiming you're a messenger from his wife to be and that her father requires the amulet. The merchant will ask three questions, the answers of which are contained in the manual. These are "The bouncing beans", "Er, five?" and "How much?"

Return to the inn and give the amulet to Hugh. He will take you into the assassin's guild to be initiated. While you're waiting for him in the initiation room, push the table. Open the shutter and look at the continent. Note its name. Close the shutter and return the table to its original position. Go south east. Put the lockpick in the door. The correct sequence of moves is 'shake', 'pull' and 'tilt'. Go north east. Cast 'motion' on the statue. Take the necklace. Go south west.

Look at the piece of paper the street rat gave you. Find the name of the continent you saw through the window and note the word above it. Look at the door with the hands on it. Each hand is made from a jewel or metal which being with a certain letter (eg, ruby is 'R'). Save your game now and spell out the word by pressing the relevant hands in the correct order. This should open the door. Go through. Put the necklace on the pedestal. Take some treasure, the Book of Pryan, handbook, crystal globe and finally, necklace. Escape to the boat and then make a return to Drevlin.

Use the pieces of pipe to fix the broken pipe, use the cork to block the hole and then turn the valve. Show Limbeck's parchment to the old dwarf. Go south east, then east, and open the compartment in the Kicksey-Winsey machine. Put the ore in the compartment. Go east. Use the crystal globe on the statue and take the air seal piece. Return to the Nexus and give the seal piece to Xar. Ask him as much as possible. Go back to your boat and cast 'rune transfer' on the Book of Pryan. Transfer it to the steering stone. Use the steering stone.

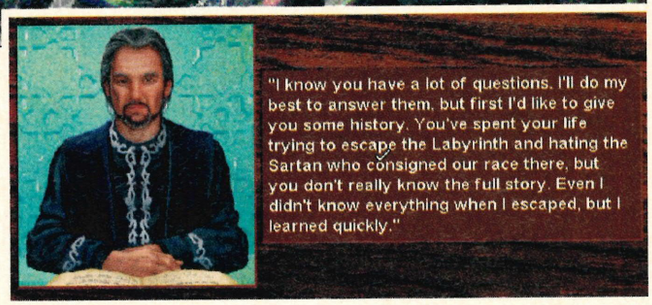
Pryan

Leave the boat and take the pink plant. Go west (twice) and take a nut and a nut shell. Return to the boat and use the steering wheel to go to the tree city.

Leave the boat and go north east. Take the clothes line. Go west. Talk to the cook and offer to help. Give the doll to the child. Leave when the smell gets bad. Go east (twice) and give the clothes line to the elf prince. Talk to him, asking about the wizard and agree to attend the meeting. Go south east and wait until the fire is lit. Take the ember with the nut shell. Wait again until Zifnab appears, talks and leaves. Cast 'transportation' on the white disc. Talk to Zifnab. Take the black disc and use the clothes line on the branch. Go down. Take the yellow flowers and blue flowers. Go south, then east, and throw the black disc into the Maw. Return to the clearing where the meeting was held and cast 'transportation' on the white disc. Push the corpse and take the arrow and toadstools. Throw the marmalade at the spider. Crush the yellow flowers and use the ember on the hive. Cut the pod with the shear and take the staff. Cast 'transportation' on the black disc. Give the staff, blue flowers and poetry book to the elf prince. Talk to the human princess and ask her to accompany you. Give her the Book of Pryan and say you'll tell her when to play the tune. Return to your ship and fly to the Citadel.

> **"Pick up every object you can — you're bound to need it at some stage in the game."**





Top: getting rid of the spider is a tad complicated. Middle: should you really trust your patron, Lord Xar?

Citadel landing

Exit the boat and go north, then west. Put the yellow petals in the nut and give the nut to the animal. Take the nut meat. Go east, north and north again. Talk to the princess and ask her to play the tune. Cut the vines with the shear. Talk to the dwarf girl. Introduce her to your companions and ask her for the herbs needed to cure the princess. Ask her to get the golden hammer. Go south. Give the pink plant, nut meat, herbs and toadstools to the princess. Go north again and talk to the dwarf girl. Try to get her to get the hammer again, saying that if she does you'll meet at the shining city. Ask the princess to play the tune again. Go north until you get to the tall tree and ask the elf prince to get the crystal. Keep going south until you reach the dwarf tree stump and pull the branch. Then put the crystal in the stump. Go south and wait. Talk to Zifnab. Then take the Fire seal piece, return to the boat and use the steering stone.

Return to Xar and give him the Fire seal piece. Talk to him. Return to the boat and cast 'rune transfer' on the crystal fragment. Transfer it on to the steering stone. Use the steering stone to get to Abarrach.



NEXT MONTH

The remaining two realms will be covered in part two of our solution — which you'll find in next month's PC Review.

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RESCUE ROVER. Superb game from the lost collection of ID games.
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SAVE OUR PIZZA's. Skunny goes back to Rome 50 BC.
CATCH SIMONA IN NEW YORK CITY. Great game in which you must play the detective.
DESERT RAID. Exciting adventure game.
CLYDES ADVENTURE. You must seach for lost treasure.
EPIC PINBALL. (2) Excellent pinball games.
LOST OF THE FREE. New Defender type game.
INVASION OF THE MUTANT SPACE BATS OF DOOM.
DOOM 3D. (2) The best game ever to be released by ID.
BODY COUNT. (2) Terrific fist fighting game.
EXECUTIONERS DEMO. Demo of the top commercial fighting game.
XARGON-BEYOND REALITY. Great follow up to Jill of the Jungle.
CYBER CHESS. A space age Chess game that's both interesting and fun to play.
HEARTLIGHT. Epics latest puzzle game (GOOD).
VGA PLANETS. Multiplayer space combat game.
COMBAT ZONE. Exciting and fast moving combat game.
SUPER ANDROID. Up dated Epic Pinball. Improved sound.
GOD OF THUNDER. Super adventure game.
TRAFFIC DEPT. (2) Great racing and shooting game.
MAGIC MAYCABS 1. Avoid the monsters and land your cab on the flag.
WORLD CUP CRICKET. Good cricket simulation game.
SIM SPACE. (2) Good space combat simulation.
DEPTH DWELLERS. Excellent Doom style game.
GRANDAD II. First rate interactive game.
HEROES. Good new Safari game.
SKYROADS. Race across roads in space.
SANGO FIGHTER. (2) Great martial arts combat game.
STAR MINES. Super new shoot em up game.
CORRIDOR 7. Good demo of an updated Wolfenstein.
ELECTRO MAN. New platform game from EPIC
SKUNNY IN THE WILD WEST. Super new platform game.
ARMIES OF STEEL. Fast moving war game.
SLINKS N SLIDE. Exciting new oar racing game.
BILLY THE KID. Good wild west arcade game.
BLAKE STONE & DUKEM II EXTRAS. Cheats and maps etc.
ASTRO WARS. Good asteroids game.
RANGER FOX. Good new shoot em up from Korea.
DOOM II not available as Shareware reg. version disk £39.00. CD ROM £44.00.
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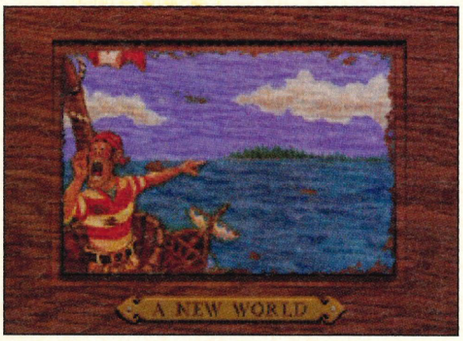


Colonization

star tip

CP Bignell of Littlehampton, West Sussex has a couple of hints for Sid Meier's latest, Colonization. When the British attack your colonies, not only do they attack a port first, but they invariably attack the port that has the highest Tory sympathy. With this in mind, it becomes possible to defeat the British fairly easily.

For instance, immediately before declaring independence, found a one person port colony and make sure the colonist isn't making Liberty Bells. This colony should have 100% Tory sympathy and will attract the whole British force with only a few troops. Put the colony on a headland with at least five adjacent sea squares. The British now have a maximum of three squares to land on, so you can position your troops to attack any possible landing site. Your troops should ideally be in good ambush territory (mountains, hills or forest) and have another colony with a good supply of horses within one turn's march for a foot soldier. Wagon trains in this second colony can store up to 200 horses each. The British will land troops from men of war and about a dozen continental cavalry attacking from ambush can easily destroy the whole force before they can attack the new colony. With four or five artillery in nearby ports to fire on British ships, most of your other colonies can forget the war and concentrate on expanding, trading and making Liberty Bells.



Colonization

DANGER!

Regular correspondent Dennis Kwek of Colchester has found an even more devious way of beating the game. In the Colonize directory there is a file called MENU.TXT which contains menu options for the game. Ignore the commentary about altering the file. The file is broken into different sections, each beginning @SOMETHING, eg, @GAME, @VIEW and so on. Somewhere near the end of the file is a section headed @CUP with the line below it being ~CHEAT. Using a text editor, move the entire block called @CUP to below the @PEDIA section but before the @END section (ie , swap @CUP for @PEDIA).

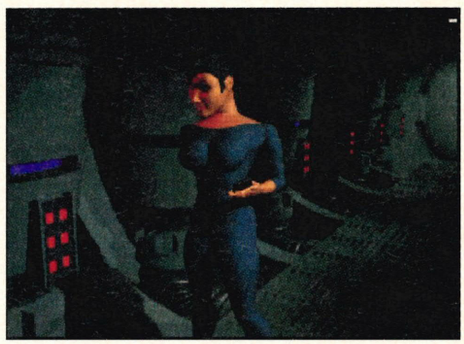
Next time you run Colonization, you'll see the cheat menu instead of the usual Colonizopedia menu. Using the menu you can do all sorts of useful things such as creating units, revealing the entire map, showing colony sites, killing all the Indians and so on.



The Secret of Monkey Island

Frances James has been playing the wonderful Monkey Island on budget and has sorted out the responses you need to beat the swordmaster. These are:

Insult: Everything you say is stupid.
Answer: I wanted to make sure you felt comfortable with me.
Insult: There are no clever moves that can help you now.
Answer: Yes there are. You just never learned them.
Insult: If your brother's like you, better to marry a pig.
Answer: You make me think someone already has.
Insult: I've got the courage and skill of a master swordsman.
Answer: I'd be in real trouble if you ever used them.
Insult: I will milk every drop of blood from your body.
Answer: How appropriate — you fight like a cow.
Insult: I usually see people like you passed out on tavern floors.
Answer: Even before they smell your breath?
Insult: You are a pain in the backside, sir.
Answer: Your haemorrhoids are flaring up again, eh?
Insult: I've got a long sharp lesson for you to learn today.
Answer: And I've got a little tip for you, get the point?
Insult: My last fight ended with my hands covered in blood.
Answer: I hope you have learned to stop picking your nose.
Insult: Now I know what filth and stupidity really are.
Answer: I'm glad that you attended your family reunion.
Insult: My tongue is sharper than any sword.
Answer: First you'd better stop waving it like a feather duster.
Insult: My wisest enemies run away at the first sight of me.
Answer: Even before they smell your breath?
Insult: My name is feared in every dirty corner of the island.
Answer: So you got that job as a janitor after all.



Creature Shock

DANGER!

The following hack was thoughtfully provided by David Burley of Hampshire and will allow you to access any level of Creature Shock without having to complete earlier sections. When you first install Creature Shock, it will create some files on your hard disk. One of the files is called CREATURE.SET. Open this file using a file editor (eg PC Tools or XTree Gold) and change the following values on the first line from:

0 1 2 3 4 5 6 7 8 9 a b c d e f
0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1 0f 00 00 00 0f 00 00 00
to:
0 1 2 3 4 5 6 7 8 9 a b c d e f
0 00 00 00 00 00 00 00 00 04 00 00 00 00 00 00 00
1 0f 00 00 00 0f 00 00 00
and so on.

DANGER!

Do not attempt the cheats marked with the Danger icon unless you have access to a file editor such as PC Tools or XTree Gold and you are confident you know what you are doing. PC Review will not accept responsibility for damage to data caused by trying out these cheats. Remember: always back up your files before editing so that you can restore the originals if you need to.

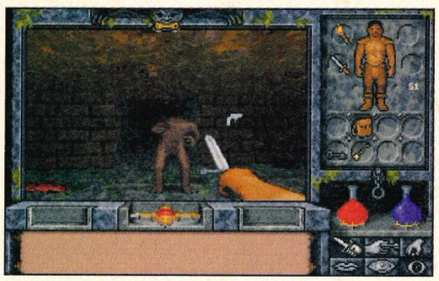
HELP WANTED



Could someone please help me out with a problem which is causing me many sleepless nights. It revolves around a certain fellow called Simon the Sorcerer and the difficulty I am having with trying to pick up the loot from the dragon's cave. Also, what do I do in the goblin mine? I know it must have something to do with beer, but at the moment I really don't seem to be getting anywhere.

Andy Cudworth, Derby

Answer: You sound a bit confused, Andy. Firstly, do you mean the goblin village or the dwarven mine? If you mean the latter, then you need a barrel of beer to bribe one of the dwarves. To get the beer, get some wax from the bee hive and then go to the inn. Ask the barkeeper to get you a cocktail and then when he bends down, use the wax on the beer barrel. He'll then think that the barrel is empty and put it outside where you can get it. If you mean the goblin village, then you need the ring which you get from Gollum by giving him some Swampling stew. As for the gold, you need to climb on top of the dragon's cave, tie the magnet to the rope and dangle it down the hole. Yes, I know gold isn't magnetic but it's a game, right?



I am stuck in Ultima Underworld. I have all the talismans except the Cup of Wonder, and I know it's somewhere on the third level. I have the flute and the Song of Wonder, but where do I play it?

Julie Roth, London

Answer: The place you need to be is in the north western quarter of the third level. Go to the north entrance to the level (which leads to level two) and stand facing south. Swim south to the wall surrounding the middle of the level, and swim anticlockwise until you see a small passage leading up hill just to your left. Swim up it and into a small room where you'll find a gazer. Get on to the land and kill the gazer. Make sure you have a free space in your inventory (drop something and retrieve it later if necessary) and then play the tune. The cup should appear in your inventory.

I'm having trouble with Star Trek: Judgement Rites. I'm stuck on Museum Piece and can't make the mass driver. I have the capacitors, the lance, the interface cable and the superconducting wire.

Andrew Hill, Weymouth

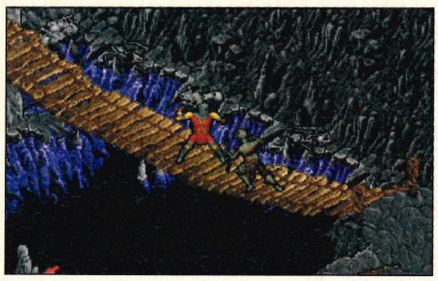
Answer: You have everything you need except the clamps from the docking ring. This is located in the sixth room and to get in you need the code which you'll find on a note in the curator's office. Once you have everything, go to room five and use the items on the table in the following order: capacitors, clamp, red wires, lance and, lastly, the interface cable. You then have to use Scotty on the Klingon machine.



I'm stuck in Sam & Max Hit the Road and can't get Max out of the Dunk the Beast tank at Gator Golf.

Hugh Marche, Leamington Spa

Answer: Have you played the golf game yet? Right, substitute the golf balls for the bucket of fish you found at Fish World and lure the alligators into a nice, straight line. Once you've done that, walk across them and go to the side of the tank and open the door. Oh, and you can always dunk Max if you're feeling vindictive.



I'm a bit puzzled by Ultima VIII. I have just freed Hydros but no matter what I do she betrays me. Am I doing something wrong?

Max Campbell, Edinburgh

Answer: Not at all. Hydros, as you may have gathered, is a nasty piece of work. Return to the palace at Tenebrae and talk to Devon who is now the Tempest. Agree to help with the storms and then go back to the entrance to Daemon's Crag in the upper catacombs.

Pull the lever (the first door should be down and the one behind it up), stand on the first door and cast Aerial Servant. Go through the door. That should be enough to get you started.

Stop it! Some misguided folks are still sending stamped addressed envelopes along with their cries for help. We'd love to reply to you in person — no, really — but unfortunately time is a limited commodity here on PC Review.

If you have a problem we will endeavour to assist you in the Help Wanted section of the tips pages. If you have more stamps than you know what to do with, please donate them to the charitable organisation of your choice.

PUBLISHERS HELPLINES

Hopelessly stuck in a game? Many software publishers run games helplines to help out hapless souls with hints and tips.

Accolade Helpline number:	(0181) 887 0880
Cyberdreams Helpline number:	(0171) 372 4307
Electronic Arts Helpline number:	(01753) 546465
Gametek Helpline number:	(01753) 553445
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Sierra Helpline number: (Games after 1993):	(01336) 417410
(Games before 1993):	(01734) 304004
US Gold Helpline number:	(0121) 326 6418

With automated numbers (0891) get the permission of whoever pays the phone bills first. Calls cost 39p per minute cheap rate, 49p per minute at all other times.

TIPS TO:

Send your tips to QED Tips at PC Review, 30-32 Farringdon Lane, London, EC1R 3AU.
Your cries (or replies) for help should go to Help Wanted or Help Supplied at the same address.

QED SOLUTIONS

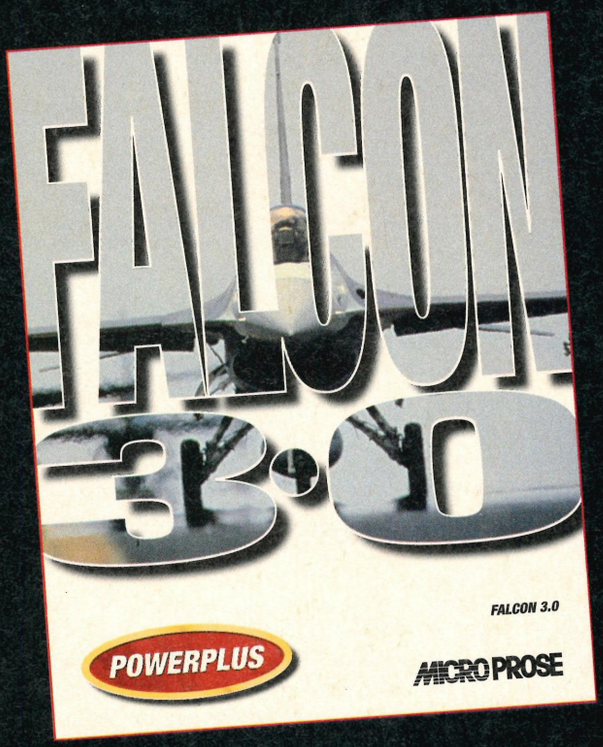
Every issue we print solutions or playing guides to one or two new games. If you have completed a game recently and would like to see your name in print, either in the magazine or on the cover CD, send your solutions to QED at the usual address. You can send them on paper, or even better, on floppy disk 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 to paper the PC Review offices.

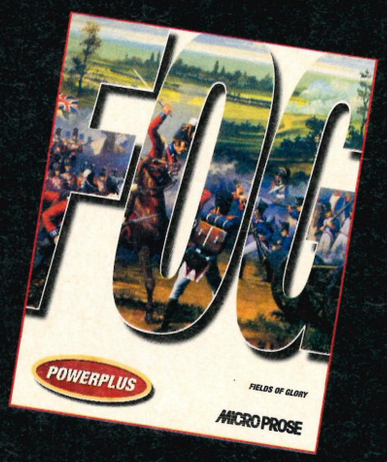
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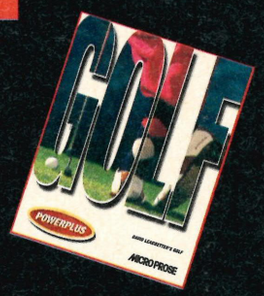
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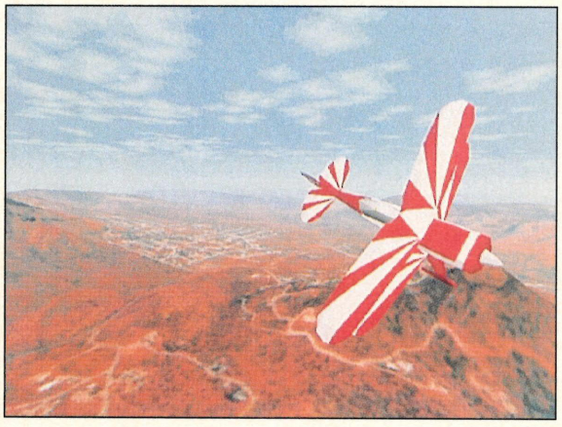
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Looking Glass presents ...

Looking Glass Technologies' Flight Unlimited has already garnered praise from all quarters for its sheer good looks, but Looking Glass already has several games which are household names under its belt. This is the development company responsible for Ultima Underworld I and II and System Shock, for Chuck Yeager's Advanced Flight Trainer, and F-22 Interceptor. (It also developed Car and Driver, but, hey, you can't have everything.)

The company now numbers over 40 staff, including specialist developers, programmers, artists and musicians, having been established in 1992. Although Looking Glass will be publishing Flight Unlimited itself in its native US — the firm is based in Cambridge, Massachusetts — in the UK, it will be published through Virgin Interactive Entertainment.



Flight Unlimited

Few games have that instant 'gosh-wow' factor these days. Graphics and presentation have improved so much that even mediocre games *look* great.

But Flight Unlimited really is exceptionally handsome.





These screens to swoon over have been created by a 3D texture-mapping process based on aerial photographs of the terrain, which have resulted in the truly photorealistic look you see here. However, the presentation doesn't end there: developer Looking Glass claims that Flight Unlimited will give you "the most realistic computer based flying experience", and that you will also be "performing any manoeuvre that can be executed by a pilot in a real aircraft".

This has been achieved, claims Looking Glass, by using computational fluid dynamics to simulate air flowing over a geometric model of the aircraft — like a computer-based wind tunnel. You'll be flying in a realistic atmosphere.

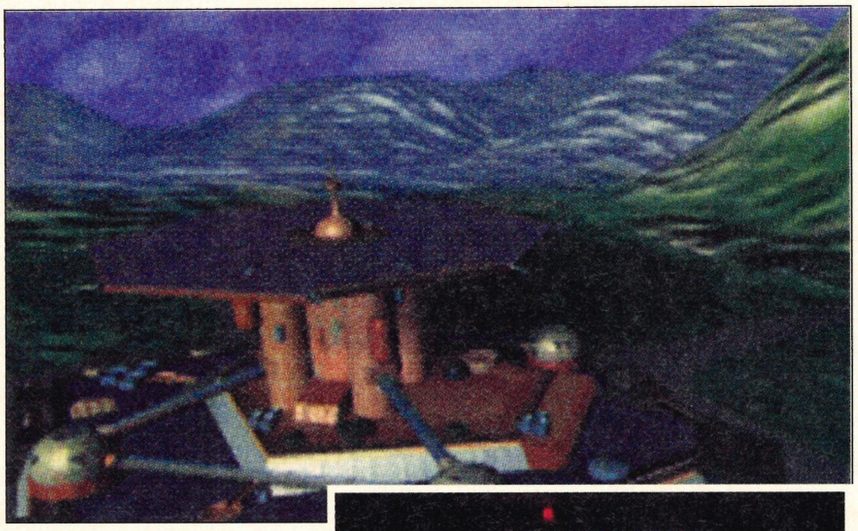
Flight Unlimited's gameplay is centred around aerobatics, not combat. There are 25 flight lessons within the program which have been designed by aerobatics pilot Cecelia Aragon, which will take you through Immerman rolls, loops and half-loops, Cuban Eights, hammerheads, inverted spins, and so on, and all in a variety of different aircraft, including the Sukhoi SU-31, the Bellanca Dacthlon and Pitts Special S-2A.

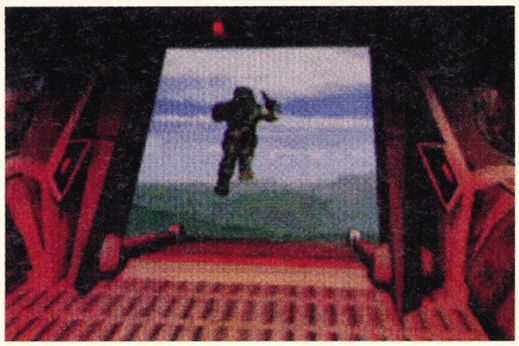
After that, you have the aerial obstacle courses to negotiate, and Looking Glass is also making the game compatible with both the CyberMaxx and Forte VFX1 Virtual Reality headsets to get you even closer to the game. It's also network-compatible for multi-player games, with up to 64 aeroplanes able to share the same air space.

Looking Glass is quoting the minimum PC needed to run Flight Unlimited as a 33MHz 486, but for respectable performance, you'll want something closer to a Pentium. With a 486, you'll probably need to turn down the resolution and thus lose the full beauty of those gorgeous graphics, but we'll be able to report more fully on that when we have a finished copy of the game.

FAXBOX.

Developer:	Looking Glass Technologies
Publisher:	Virgin Interactive
Release Date:	March 1995
Genre:	Flight simulation





Terra Nova: Strike Force Centauri

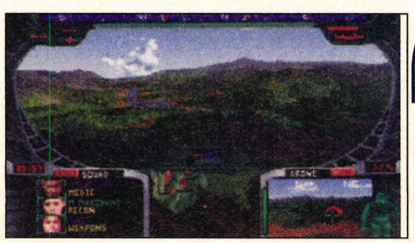
Due for release shortly after Flight Unlimited is Terra Nova, which could be flippantly described as 'System Shock outdoors'. More specifically, it's a first person combat game which combines the texture-mapped graphics with full motion video and a full sound track and effects. You play the leader of an elite fighting force, encased in futuristic armour and engaged in (virtually constant) bloody battle for domination of the four game worlds. As well as simply beating the enemy — the Earth Hegemony — to a pulp, you need to play strategically, deploying your three cohorts to best effect. The characters in the game each have their own individual skills, and some may be more suited to one type of mission than others.

The worlds in which you fight have their own distinct terrain, ranging from snow and ice on the ice planet, to rolling hills and shrubby grassland. Like Flight Unlimited, it looks terrific.

Developer Looking Glass, calls the graphic technique Terrascaping (as opposed to Flight Unlimited's 'Imagescaping'): the texture mapping is degraded gradually into the background to help the game's speed which leads to that misty morning look. You should also note that on anything less than a Pentium, you will again probably need to turn the detail down to keep the game moving smoothly.

❍ **Christina Erskine**





FAXBOX.

Developer:	Looking Glass Technologies
Publisher:	May Interactive
Release Date:	March 1995
Genre:	First person combat /strategy

COMING SOON

Baldies

Gametek

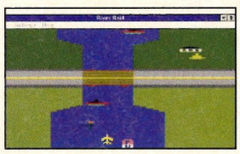
Here's a weird and wacky game which publisher Gametek hopes will have the same quirky appeal as Lemmings. The Baldies are a band of trichologically challenged anti-heroes caught in a battle for survival. It promises to be truly surreal.



Atari 2600 Action Pack

Activision

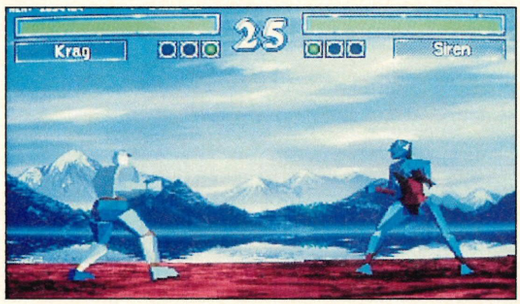
Good grief! This looks a bit long in the tooth. It's a trip down memory lane which has been compiled by Activision. The Atari 2600 Action Pack and includes 15 games from the first golden age of video consoles, including Pitfall, Grand Prix,



FX Fighter

Argonaut

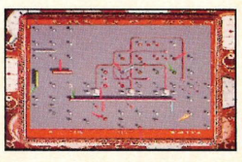
This is a really smart looking one and two player beat 'em up. You can take on the guise of a variety of warriors, some more humanoid than others and fight to the death either against the computer or a friend.



Clockwex

Spectrum Holobyte/MicroProse

Tetris creator Alexey Pajitnov returns with another brain-teaser in Clockwerx. Here the object is to journey into the inner workings of the Master Clock of the Universe to repair it. Turn the clock hands in order to clear a path through.



EPIC

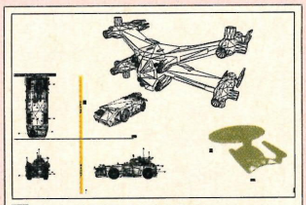
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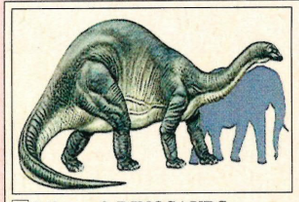
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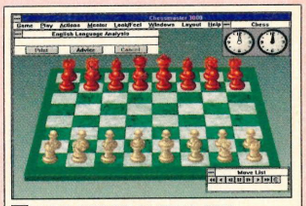
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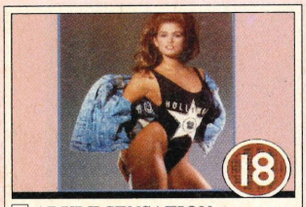
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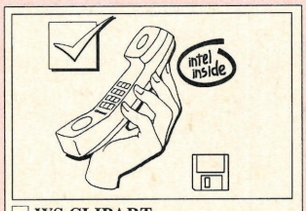
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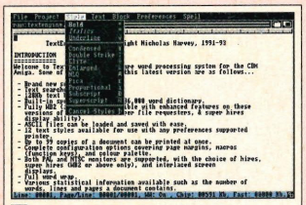
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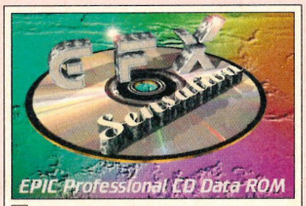
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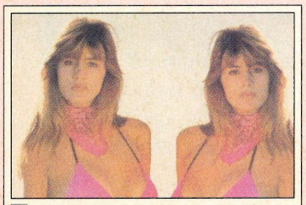
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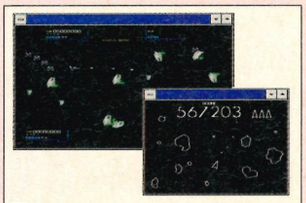
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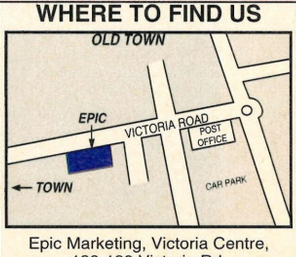
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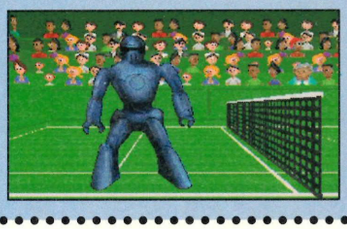
For every monster hit in a software house's portfolio, there's just as likely to b a real turkey hiding in there somewhere. Far be it for us to kick a man when he' down — but for a brief moment let's reminisce about the games the industry would probably rather forget . . .

THE TOP THREE

Where do you start? Within minutes we had a list of iffy games as long as your arm, including such classics as Johnny Quest, Terminator, Double Dragon III and Paperboy 2. And the way things are going, we'll soon be able to inaugurate a category just for Doom clones: Corridor 7, Virtuoso, Dr Radiaki and Isle of the Dead (almost 'so bad they're good'), and now Rise of the Triad. Still, these were our all time favourite howlers:

Wacky Funsters

The Funsters almost deserves a page on its own. It was never actually released in the UK (thank God), but this appalling, fifth rate, festering collection of poorly produced, unfunny arcade games allegedly sold enough copies in the States to merit a sequel. How? Why? It just goes to prove what we've always said about Americans, I guess.



Mantis

Mantis was a helluva turkey: a stunningly tedious space combat/strategy game with a lousy control system. It was followed two years later by Starlord, a stunningly tedious space combat/strategy game with a lousy . . . There was also Darklands, a mediaeval tour de farce — but the '90s turned out to be the wrong decade for text-based adventures.



Plumbers Don't Wear Ties

And the reason they don't? Because they'd use them to hang themselves if they were forced to play this gobsmackingly dreadful game for any length of time. This is multimedia murdered — entirely linear, clunky and brilliantly, breathtakingly dull, Plumbers Don't Wear Ties is like a Viz photostory without the humour. 'Nuff said.

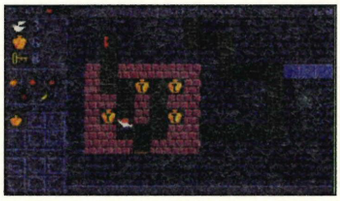


THE 'GOOD CAUSE'

You want a really good reason not to make a game? Charity, that's what. The words 'it's for a good cause' have all too often resulted in 'poorly programmed, ill-conceived, dated rubbish naively produced on a shoestring budget.

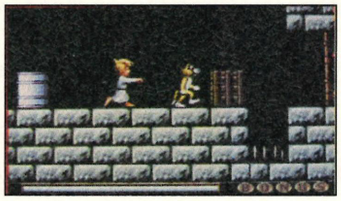
Spiritual Warfare

The Church gets in on this 'games' thing to attract kids to the word of Our Lord. Fair enough. Unfortunately the word for the day must have been 'cobblers', because that's about as good as Spiritual Warfare gets: a manky platform game that does absolutely nothing to further the cause of God or games.



Sleepwalker

Ocean's game for Comic Relief was a blinder. A reasonably polished platform game, what made Sleepwalker so forgettable was the concept: a somersaulting dog kicking a kid in a dressing gown from A to B. Irritating and thoroughly naff, a game that should only be played wearing a red nose.



Wrecked

Wrecked attempts to deal with 'the kids' on their own, game-infested level and teach them the dangers of drugs. Righty-ho (sorry, yo!). The only thing Wrecked is likely to teach you is the danger of parting with your hard-earned cash for the wrong kind of, er, junk. Appallingly put together, Wrecked is just no fun.



SPORTING MOMENTS

Sports sims are always good for a giggle. Take winter sports, for a start. Watching somebody's bum disappearing downhill is just not that much fun. Sorry, but it isn't. Athletics games can be a mammoth non-starter, too, with endless joystick waggling and keyboard thwapping for no apparent gain.

World Class Rugby

Domark's World Class Rugby combined graphics so dated they redefined the concept of a nostalgia trip, with gameplay that consisted almost entirely of waggling the joystick frantically until you got to the try line. Painfully bad, nothing whatsoever like rugby, and bereft of anything even slightly challenging.



World Class Cricket

Audiogenic gets the cheeky chappies award for World Class Cricket, Graham Gooch's WCC, Brian Lara's WCC and The Ashes. They're all perfectly passable — in a dated, 16-colour sort of way. The cunning thing is that they're all the same game, in a different box, and already well past their sell-by date.



International Open Golf Championship

You stand there, you swing, you hit the ball . . and a couple of minutes later the ball finally decides to take to the air. Even when it gets there, it fails to behave in any fashion befitting a small spherical golf-type object. It could have been worse, true, but it was still painful to play.



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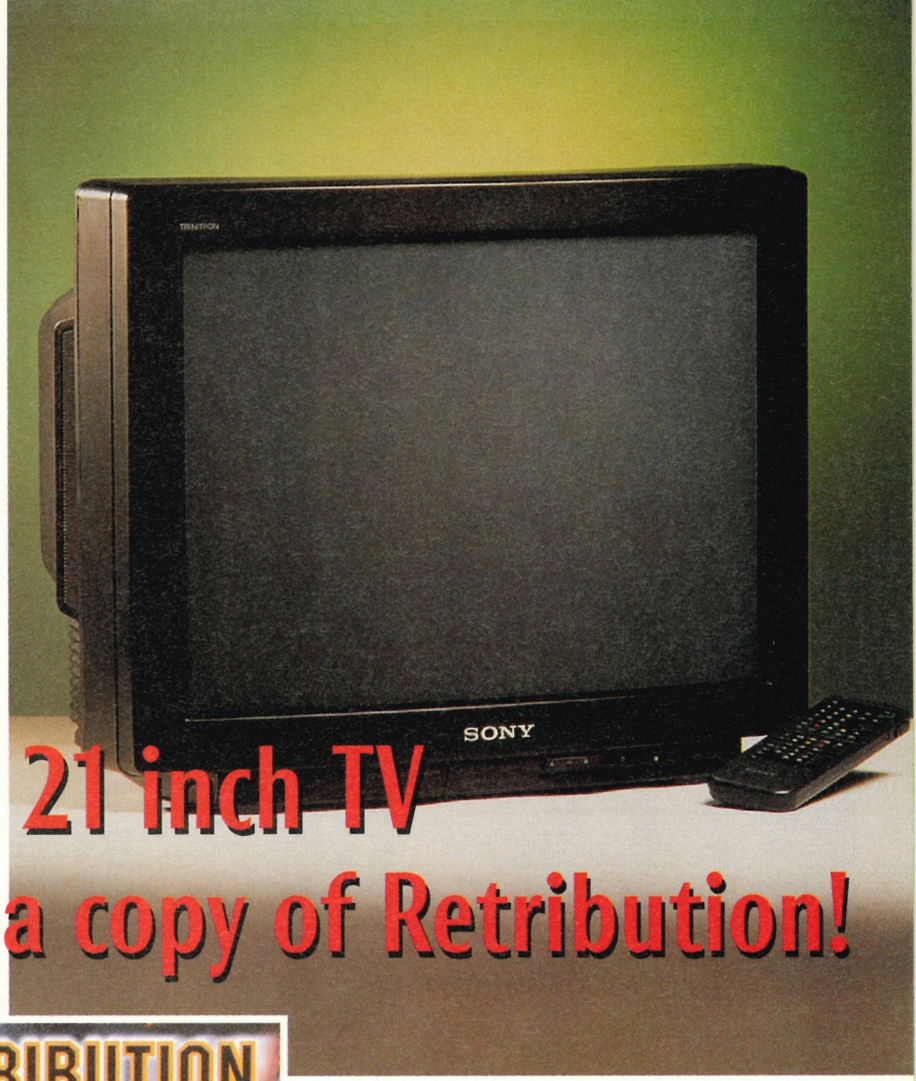


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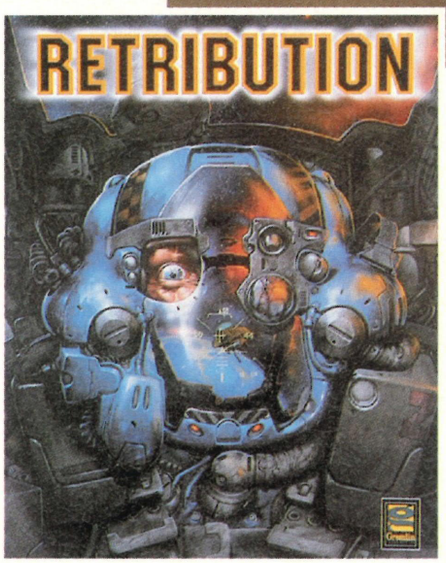
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Windows 95 revisited

Sooner or later, Windows 95 will hit the shops in a big way. John Bennett checks out the progress of Microsoft's latest baby

We first looked at Microsoft's new front-end and operating system, Windows 95, three months ago. It's the software destined to replace both Windows 3.1 and DOS 6, and it has just been officially moved to Beta 2 status — meaning that it is that much closer to completion.

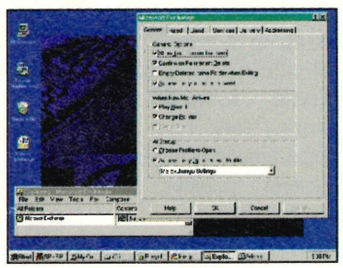
The most obvious new addition in Beta 2 is the Internet function. This provides a single icon approach to e-mail, to getting on to the Internet, and access to the new Microsoft Network and CompuServe. The e-mail function is simplicity itself, being integrated into the entire system.

Logging on to the Microsoft Network at the moment is rather like walking round an empty supermarket with no food on the shelves: lots of potential but a bit bare on substance.

Still, with the number of people expected to buy Windows 95, that shouldn't last long. If the software's free and easy to deal with why go elsewhere? I wouldn't be surprised if this scares many of the major commercial bulletin boards something rotten.

Another feature that makes a lot of sense is that you get to keep your old version of DOS tucked away. Hitting F8 when you boot up, you can chose to start your computer running the previous version of DOS (complete with your old Config.sys and Autoexec.bat files) rather than going straight into Windows 95.

For games players this guarantees you will be able to run all the software you could previously — in other words your library of existing games will not be entirely dependent on Windows 95 compatibility.



Windows '95 now includes a single icon approach to joining the Net.

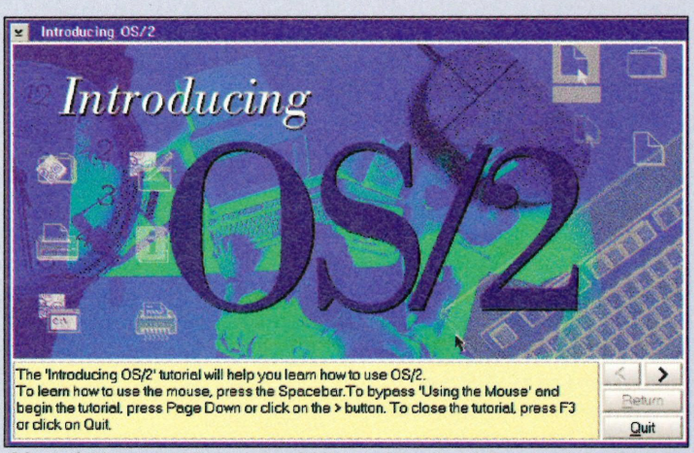
I'm satisfied with the way this version handles games — up to a point. What Microsoft has tried to do is allow for the vastly different

ON THE WARP PATH

IBM has its own ideas about how our future operating system should look. Charles Hathaway looks at OS/2 Version 3 or Warp.

OS/2 was originally intended as a replacement for DOS, but it never really got anywhere until Version 2 came along in 1993 and things started looking up. With Windows 3.1 support and a pretty graphical interface it could have climbed mountains — but performance was poor on anything but a big, fast PC. That's where it inevitably ended up too, on big, fast PCs in big companies. And there, by and large, it has stayed.

Now IBM has launched a new version of OS/2. Version 3, also known as Warp, is aimed straight at home users. It can be installed on any 386 PC with 4Mb of RAM, runs DOS and Windows programs side by side and has built-in support for all kinds of add-ons like sound cards and MPEG video cards.



OS who? Warp might finally bring OS/2 out of the closet. Then again it might not.

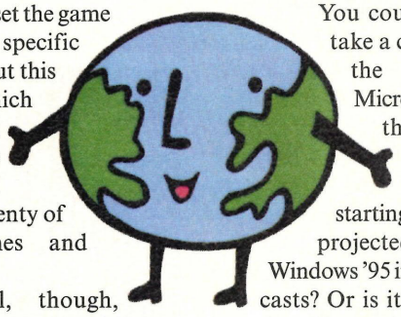
Perhaps more significantly, Warp is capable of true multi-tasking. This means you really can run several programs at once without any significant drop in performance. For example you can play a game, download a large file from a BBS and format a floppy disk all at the same time. I'm not saying I'd recommend it, but you get my drift.

Warp treats memory a bit like the DOS extenders used in games like Magic Carpet and Doom. It uses the Intel processor's protected mode to access the whole of the PC's memory without having to worry about the 640K limit or Windows resources. Unlike Windows, Warp can run as many programs as you like, as long as you've got enough RAM in your PC or hard disk space for spooling.

Installation is either ridiculously simple or an absolute nightmare. If you've got a great big empty hard disk called C: you can use the easy method. This automatically detects your sound card, video card and any other junk you might have knocking around inside your PC's case. It spotted my Sound Blaster AWE32, Panasonic CD—ROM drive and bog-standard S3 graphics card without any problems, installing

configurations needed by each game by allocating each one a Properties folder — and it's an excellent way to tailor the set-up of a game exactly.

But, the catch is the same old one it always was. Games always run better with more memory. Running a game through Windows '95 diverts resources to Windows that the game itself needs. Of course you should always set the game to run in the specific 'DOS mode' but this is an area which obviously still needs some work, since I experienced plenty of system crashes and audio glitches.



All in all, though, working regularly with this Beta 2 version of Windows '95 has been surprisingly pleasant. I can't see myself de-installing it once I'm done with writing this — in fact I'm actually getting to appreciate its approach rather a lot. I still think that it may be a bit complex for the vast numbers of new PC users joining the game, but for experienced PC users it looks like it'll be just the ticket.

Officially, it's scheduled for release in August. On the basis of this version, that seems like a surprisingly long wait. OK, so there's still some fine-tuning to do — particularly with autodetection of new hardware — but all the major features have been implemented and are impressively stable.

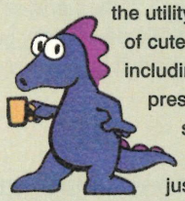
You could, I suppose, take a cynical view of the launch: did Microsoft push back the date to confound analysts who were starting to incorporate projected revenues for Windows '95 in financial forecasts? Or is it because Windows '95 won't even get out of bed for less than 8Mb of RAM and Microsoft is holding the launch until there are sufficient numbers of similarly specified PCs in the home? Pentium PCs may all ship with 8Mb, but your average home PC is still only a 4Mb machine, and there's no way you could hope to run Windows '95 with that.

WHO IS BOB?



Windows 2.0, Windows 3.1, Windows 3.11, Windows NT, Windows '95, and now . . . Bob. With Windows interfaces looking increasingly more and more sophisticated, Microsoft obviously believes there's a need for a different approach for the new breed of casual PC users. Hence the introduction of Bob.

Bob is an interface and a suite of applications that sit on top of either Windows 3.1 or '95. Bob is extremely user-friendly, guiding you throughout your time spent in the utility by a range of cute characters, including the ever present Bob himself. The interface is not just aimed at kids either, as it's also an extremely user friendly version of Windows for the terminally technophobic. Most interestingly, Bob uses a 'house' metaphor, so you move around the computer as it you were moving from room to room in a house. Pick up a book in the library, and that'll be like accessing an archived file. Go into so-and-so's bedroom, and that's where they keep access to their own files and programs. It's the sort of thing that's been suggested many times before, and it could well prove to be very popular.



However the mind boggles at some of the possible scenes. Like what sort of software will you find in the toilet?

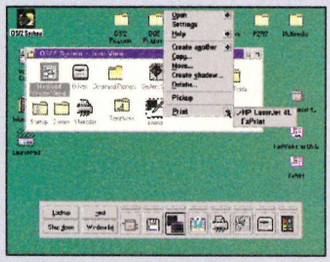
Bob has already been launched in the US, but has yet to be localised for Europe (particularly on the e-mail side of things). In theory, this should only mean a couple of months wait, but then again if Windows '95 is anything to go by, we could find ourselves waiting just that little bit longer.



ON THE WARP PATH

them perfectly without any help or hindrance from me.

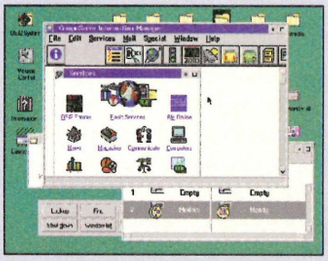
If you want to install Warp somewhere else, well, it serves you right for being awkward. If you're cheeky enough to want to install it in its own partition, preserving an existing Windows set-up, then you'd better get the coffee on the boil and prepare for a long night. Especially if you're installing from floppies . . .



The windows, menus and icons certainly *look* familiar.

At first glance the Warp interface (called Presentation Manager) looks much like the Windows one with icons, pop up menus and windows. Start clicking your mouse on it though and you'll see that Warp has a completely different feel.

This is because the icons on the Warp desktop (or Workplace Shell) can represent devices, programs or data files rather than just programs as in Windows. IBM calls them objects and they can be treated in a fairly logical way, such as dragging them from one folder to another, dropping them in the shredder or onto the printer. There is also a neat little launchbar from which you can access frequently used programs and folders.



Pretty, isn't it? IBM claims 800,000 sales in the first three months so it must be good . . .

IBM also provides plenty of utilities to play with and a special bonus pack. This includes IBM Works and one or two comms programs for faxing and CompuServe and Internet access. If you want to get involved in the Information Superhighway, Warp could be a good move for that reason alone, particularly as it has none of the COM port problems of Windows.

So how does it compare with the present versions of Windows? Warp is undoubtedly sluggish in 4 Mb of RAM, far more so than Windows, and 8Mbs or more is essential in my book. Warp runs Windows programs only slightly slower than Windows itself. Unfortunately, some Windows programs don't run at all, notably those that use virtual device drivers like PC Tools.

If you're a dyed-in-the-wool Windows user, Warp probably has little more to offer you, although it is still an alternative.

If you're into the world of comms or you want to multitask DOS and Windows programs at the same time, though, it might just be the breath of fresh air you need.

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With the PC version of LightWave, the award winning 3D rendering program, you can emulate TV and film graphics. Andy Leaning explains how.

LightWave



Above: a classic LightWave rendered image showing different textures mapped on to the same object.

Below left: this screen shows some of the options available when creating lens flares. Right: define the surface attributes of your objects from the surface control box.

You probably won't have heard of LightWave before, but you'll have seen the results of people using it. This American program has won many fans amongst Hollywood and TV film studios who want to create 3D graphic animations and film sequences, but want neither the cost or the hassle normally associated with their creation.It was originally developed for the Amiga, but it is shortly to become available for the PC.

Special effects

Its users include many of the top home production companies, several leading Hollywood effects studios, masses of small commercial TV stations and thousands of smaller video companies. Some of its more notable successes are in the television science fiction shows, with all the space scenes and special effects in the cult show Babylon 5 created with it. The team behind StarTrek: The Next Generation also put LightWave to good use, as do the creators of SeaQuest DSV and Robocop, the series.

There are many other users, particularly at home, who use the program to create visual effects and then sell their work to small TV stations — creating station logos and special effects for advertisments.

Easy interface

The design of its user interface has been worked out and improved over many years, and allows users with little or no experience of computer 3D modelling to concentrate on getting the look of their finished work correct rather than messing around learning and using the software. But it's not just a good user interface that make it so popular, but also a rich list of features that allow users to recreate a wide range of traditional special effects along with masses of tricks that are only possible in a 3D rending program.

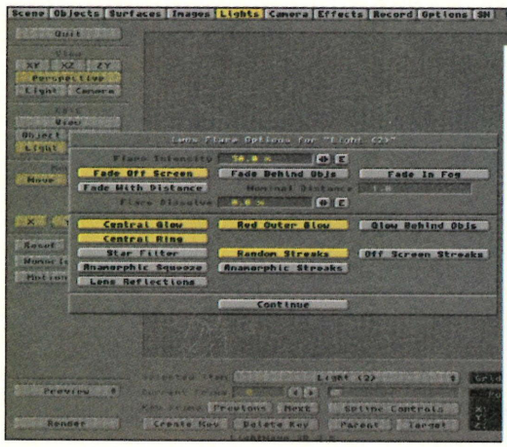
It works in two stages. First you use the modeller, which is the part of the program that enables you to create 3D shapes prior to positioning and rendering them. From here objects are built-up from a series of basic drawing primitives (squares, circles, etc) which are extruded, given depth, joined with other objects or distorted in a variety of ways. The diverse range of distortion tools (bevel, drill, twist, taper, lathe to name just a few) enable you to develop amazingly complex forms fairly easily.

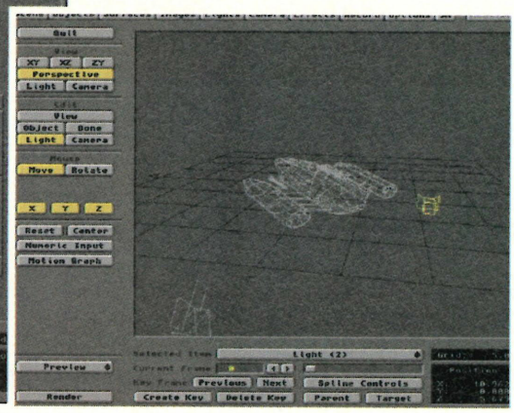
Once you've created some objects they can be taken into the rendering part of the program. Here is where the fun really starts. Imagine having a piece of paper, and imagine looking across this paper from a slightly raised view point, so that you can see not only down and across but also into the distance. This is the world on which you can place your created objects. On the paper you also have a camera (through which the finished picture will be seen), a number of lights and, of course, your 3D shapes. The viewing position can be changed to be from the camera, the lights, above, to the side or from the front and no matter what your viewing position you can still move, scale, rotate, and size the objects in the 'scene'. The camera and lights can also be rotated and moved if you so wish.

This all makes it tremendously easily to plan and view your work and to move around it, but what really makes LightWave special is the control you have over the objects, the different camera angles and the lighting effects possible. To make the scene more realistic, textures can be added to surfaces the image that is reflected off a surface can be set, as can the background image over which objects are produced.

Revolution

LightWave has caused a revolution on the Amiga, shaking up not only existing Amiga 3D creation programs but also those on other platforms — such as expensive workstations. Its arrival on the PC shortly will be a rude wake-up call to 3D Studio and will undoubtedly cause many others to seriously consider their future. We'll have a full review of this program soon.





LightWave
Supplier: Premiere Vision
Contact: (0171) 721 7050
Price: £750 (£150 upgrade)

3D-Ware

With Virtek's new 3D-Ware system it is now possible to create your own 3D games. Dean Evans tries it out.

A utility such as Klik & Play is all very nice, but unless you're happy producing platform games and formulaic shoot 'em ups, it's not going to hold your attention for long. It's simple to use and with its drag-and-drop Windows interface, you don't need to have any programming knowledge. But, if your ambitions soar beyond churning out miscellaneous arcade oldies, with their beeps, crashes and humorous boings, what you really need is a system that can help you create 3D games. Something like 3D-Ware, in fact.

3D-Ware, from Manchester-based company Virtek International, is a suite of powerful editors that enables you to produce fast, real-time 3D graphics using only a standard VGA-based PC. Basically, it's a 3D library of shapes and specialised graphics routines, a game engine if you like, and with a basic working knowledge of a major programming language (ie Basic, Pascal, C, etc), you can use the 3D utilities provided to develop a flight sim, a racing game, or even a 3D space game.

Powerful editors

The 3D-Ware package itself consists of a number of powerful editors; a world editor, a shape editor, a palette editor, as well as a library of programming functions and tools. Essentially, 3D-Ware lets you create a 3D world, build 3D shapes and then drop them into the world. Then you can Gouraud-shade the shapes, texture-map them, move them about, define collisions and program joystick, mouse and keyboard controls, etc. It's a very versatile package and although it's more complicated than Klik & Play, the potential for 3D games development is huge.

> "Essentially, 3D-Ware lets you create a 3D world, build 3D shapes and then drop them into your very own creation."

The point is . . .

"The whole point of 3D-Ware," reveals Phil Allsopp, managing director of Virtek, "is that while the editors are fun to use on their own, you can also create your own little world and then fly around it in 3D to see what it looks like.

It's after you've built your world and constructed your shapes, that you get down to the real meat of 3D-Ware — the 3D graphics library."

Comprehensive system

It's certainly a very comprehensive system and apart from the 3D graphics engine (which is comparable to the 3D routines used by developers such as DID), 3D-Ware features a wealth of useful 3D functions including box drawing, horizon fades, built-in collision detection routines, mouse/joystick inputs, and support for both the Forte VFX1 and the CyberMaxx VR helmets. There are also a wide range of 2D functions (for creating things like control panels or scoreboards) and the sprite function in 3D-Ware is good enough to allow you to create a platform game with relative ease.

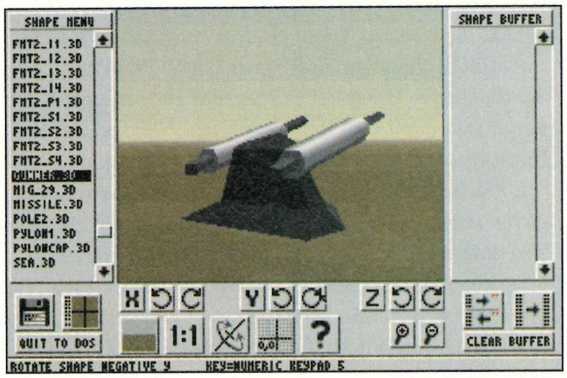
The skies the limit

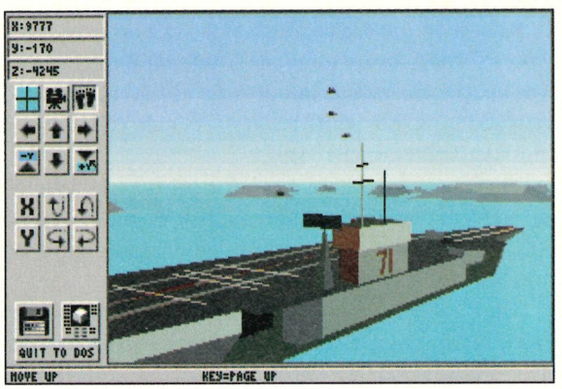
So what can you do with it? Well, if you're comfortable messing about with program code, the sky's the limit. You could create a 3D racing game like Virtua Racing; a deep-space combat epic like Inferno or even a flight simulation. Let's say you want to fly a plane across a landscape. Once you've created your 3D world, with its hills, valleys, bridges, etc, you just call one of the 3D-Ware functions called 'InitAll', load the shape or shapes that you want to use, set your viewers position in 3D space, place a dotgrid on the ground to augment the feeling of movement and you're away.

Impressive package

3D-Ware is an impressive package and if you're a programmer, struggling to create a fast 3D engine for a flight sim or racing game, it promises to be a godsend. The basic version costs a mere £99, and for that you get all the features mentioned here, except for Gouraud shading, texture-mapping and sprite-scaling. The Professional version, which includes all features, is a reasonable £249, and both versions will run happily on a 386 or better, require 4Mb of RAM and come on just two high density disks.

Best of all, Virtek won't charge you a penny if you create a best-selling game using its 3D-Ware engine. . Remember, it's not a game creator and if your programming knowledge is minimal, then 3D-Ware will probably be a bit above your heads. But if you're a C++ junkie and you've got this great idea for a space game, then 3D-Ware could possibly be the answer you've been looking for.

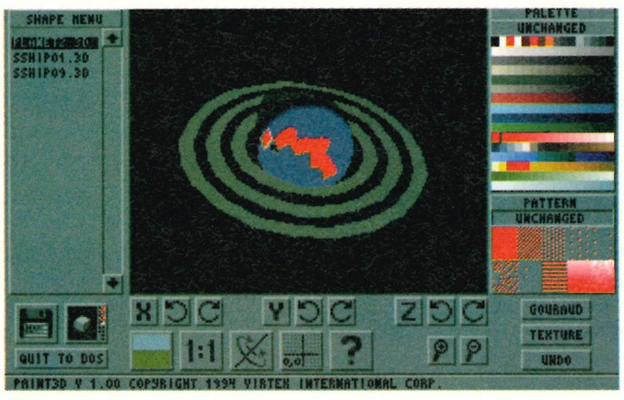




Top: in the object editor you can view a variety of pre-defined objects before you place them in your 3D world.

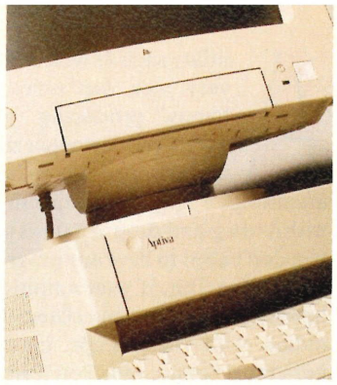
Above: once you've created your world, you can walk around it in 3D.

Left: with the palette editor you can customise your shapes.



3D-Ware
Supplier: Virtek Europe
Contact: (0161) 237 9929
Price: £99 Basic version
£249 Professional version

Hardware & utilities



It may not be on quite the same financial scale as a new car or the family home, but at an average price of between £1,000 and £1,500, the home PC represents a sizeable dent in the wallet department. What's more, you then have to keep up with the endless stream of 'must have' add-ons and enticing software packages that suddenly appear on the scene. It can be a very expensive business indeed.

And with interest in the PC, and CD-ROM in particular, going through the roof, we're going to be deluged with ever more in the way of brand new PC products over the coming year. The result of this interest should be plenty more choice, which for most of us, ought to be a good thing.

Unfortunately computer advertisements are often all people have to go on when considering which PC products to buy, so many new users find them wrapped up in technical gibberish of the most appalling kind. This is the sort of jargon that your local, self-confessed 'PC expert' thrives upon, but which most sane human beings would far rather avoid at all costs. And to cap it all, PC technology has a nasty habit of changing almost daily.

So how do you decide which of the vast array of clever gadgets, high-spec PCs or software solutions is right for the job you have in mind and the budget you have to spend? After all, nobody minds splashing out if something really is worth having — but few people can afford to make a mistake, as they can be costly.

That's how this section is going to help you, by summarising the effectiveness of new PC products as they hit the streets, looking at their strengths, weakness and overall value for money and doing so in a simple, direct and thoroughly jargon-free way.

The PC Review hardware and utilities section covers software in all its guises where it is relevant to home users: be it for practical purposes. On the hardware front, we will bring you the latest in multimedia PCs, sound cards, CD-ROM drives, joysticks, speakers, printers and portables — you name it, we'll test it and bring you the results.

And what those results will tell you is, quite simply, what a product is *supposed* to do and whether it actually it does it, what is out there that might do the same job better or cheaper (both right now or on the horizon), and we'll also tell you whether a product has been well-enough designed or constructed to stand up to the rigours of everyday use.

So don't delay, get reading this month's PC Review round-up of all that is new and useful in the worlds of PC hardware and utilities.

The rating system explained

Whether it's shareware, software, shareware or general interest products, everything in the hardware and utilities section is 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.

Reviewed this issue

Hardware

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Joyswitch

Multi port joystick data switch

Why do computers have to have the cable sockets round the back? When it comes to plugging things in, it can be a real pain.

The prime culprit, in my case, is the joystick. I have two, one for flight sims and one for everything else, and that means I have to change them over. To make things worse, the flight sim stick is a Thrustmaster with full Weapon Control System, and by the time I've meddled around with the leads, my desk looks like spaghetti junction and I've gone off the idea of playing the game I fancied a go at.

Enter my knight in shining armour, the Joyswitch. Actually it's an ominous-looking little black box that sits on your PC and has joystick sockets on the front. Yes, the front. Hurrah. Better than that, though, it has several sockets so you can have up to four joysticks (including the full Thrustmaster get-up) plugged in permanently, as at the flick of a switch you can toggle between joystick, flight yoke, game pad or whatever! There are even spaces for up to two sets of pedals for you real flight sim/driving game afficionados.

The Joyswitch is a beautifully simple idea, really well executed. Till more PCs turn up with all the cabling at the front (and there are a couple on the market now) this is definitely the way forward.

❍ **Martin Klimes**

MICROSOFT HOME MOUSE

- Four joystick ports, two foot pedal ports, fully compatible with any joystick combination

Supplier: Paperlogic
Contact: (0171) 636 7099
Price: £27

PC REVIEW RATING 8

Virtual PA

External fax/modem/answerphone

You can hook into the Information Superhighway with your PC, you can send faxes with your PC, and now you can even use your PC as an answerphone when you aren't around.

The Virtual PA from Andset is a self-contained piece of equipment that hooks into both computer and telephone line to give you the best of all telecommunication worlds. Although you can run it without a computer attached to it if you want to, the value of the modem and on-screen fax services makes that link well worth while.

As far as each part is concerned, the Virtual PA is quite basic, however. Considering the cost, you would imagine that all the latest high-tech bits and bobs would be inside the flying saucer exterior, but that's not actually the case, unfortunately.

For example, it is an answerphone, but quite a basic no-frills model. As a fax machine it is no different to most fax/modem cards. And as a modem it functions quite happily with most on-line tasks, but lack of compression facilities make an otherwise very acceptable 14,400bps modem eat up telephone time a bit too much for my liking.

There are nice touches, however, including remote operation. If you leave your house/office and want to check up on messages, or indeed faxes, just call your own number and the Virtual PA will squirt them down the line at you, which is a great bonus for people with laptop computers who spend at least part of their time on the road. You can program its settings remotely too.

However, this sort of thing isn't really enough to make the whole box worth the money. Better fax/modem cards are available, with answerphone facilities on their way, and very soon you should be able to do better than £500 for the same services. A slower modem version is available for £100 less, but I certainly can't recommend that as an investment for 1995.

❍ **Martin Klimes**

VIRTUAL PA

- A 14,400bps modem (without special compression features) and a class 2 fax. Works with most commercial software.

Supplier: Andset
Contact: (01628) 75577
Price: £399

PC REVIEW RATING 6



Diamond Stealth 64 DRAM

Graphics card

So you want to play SVGA games at the speed they were meant, but don't have the latest Pentium 90Mhz PC? Fear not, because there are other ways to get your Wing Commander up to Warp Factor 9. Lots of RAM helps, and would speed up Windows no end too, but RAM's expensive these days, and getting 16Mb can be a strain on anyone's finances.

Far cheaper, then, to look at a faster graphics card. Diamond Stealth is pretty much accepted as a great value for money option, with a shockingly quick card that has 4Mb of VRAM memory on board. It's also reasonably priced at £369. Still quite a bit of cash, eh?

Well, there is now an alternative. For £250 less you can get a 1Mb card using the cheaper DRAM chips. The difference in performance is about 15%, so not too terrible, and it still knocks the socks off any non-64-bit card. Being only a 1Mb card means that it can also only handle 65,000 colours in SVGA, but unless you need photo-realistic results (if for instance, you do professional design work) in all honesty you really won't push that anywhere near the limit.

The other bonus is that compared to your old graphics card, the refresh rates supported with the Stealth are excellent. Assuming you have a half decent monitor, you'll never need to worry about eye-strain or flickering images again. This is especially important in Windows, where not only will you notice the environment moves like a greased leopard on an ice rink, but also you won't be as tired after spending some time at the PC.

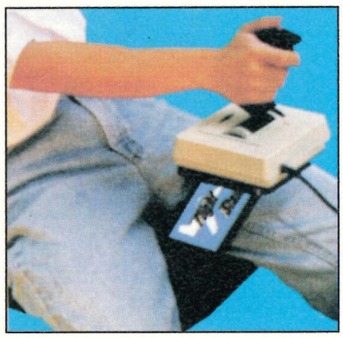
❍ **John Bennett**

DIAMOND STEALTH 64 DRAM

- Available in 1Mb or 2Mb options, both in VL and PCI bus formats. Both DOS and Windows drivers included.

Supplier: Watford Electronics
Contact: (01582) 7455555
Price: £108 (1Mb card)

PC REVIEW RATING 9



Flight Stand

Joystick support

Are your flight sims not simulating the feel of flying enough? Do you fancy that real, in-cockpit flying experience? You could make your own cockpit, with chicken wire and cardboard boxes from Sainsbury's, spend a bit of cash on paint and a bucket seat, and mount your monitor where the canopy would be.

Alternatively, for all you types who, like me, never got the Blue Peter glue and rubber bands thing quite right, there's help at hand from the Flight Stand.

The idea's very simple. You sit on the base of the stand so that it can't move and attach your joystick to the top of a column that comes up between your legs.

Sounds silly? It is silly, but you do end up with the joystick just where a pilot would have his controls in real life.

This is hardly a high tech solution, and you can feel a bit daft if a non-flight sim player walks into the room, but if you can handle that then it's a cheap way around having your joystick slide all over the table

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while you try to shake off that pesky enemy fighter.

The one place it all falls flat on its face a bit is that the stand is likely to move underneath you, no matter how much you weigh.

Probably not entirely useful for serious flight sims, but an interesting idea.

❍ Martin Klimes

FLIGHT STAND

- No special equipment needed, other than a love of flight sims. Easy to assembled.

Supplier: Paperlogic
Contact: (0171) 636 7099
Price: £24.95

PC REVIEW RATING 5

Pilot Control Stand
Joystick support

As an alternative to the Flight Stand, The Pilot Control Stand is a positively sophisticated solution to the problem of fight sim realism on a budget. It consists of two moulded pieces of plastic, joined by a central pivot. One side bolts onto the edge of your desk and houses the keyboard at a tilted angle, so that it resembles a cockpit instrument panel. The other half dangles off the edge of the table and is effectively a flat tray for your joystick.

Design-wise this is a clever little gadget. The clamp is arranged in such a way that it can handle tables with up to a two inch drop, and the joystick tray has a raised lip to stop the stick sliding off. The high-friction plastic used also helps if you don't have suckers on your joystick, and is of a high quality. Once you've bolted the stand to your desk, it shouldn't shift unexpectedly, even under the strains of a high-G turn.

To me, using a vertical keyboard took a bit of getting used to, but after a while it felt pretty good. Of course, if you have a keyboard overlay you'll have to Blu-tac it to the keyboard or it keeps flopping down at the most inopportune moments.

Other than that, I found nothing to complain about with the Pilot Control Stand. It's quick to set up and move out of the way once you've finished, and really does add feel to you average flying experience. Some joysticks with very large bases won't fit the mould of the tray, so be aware that the likes of Suncom's FlightMax aren't compatible with it, but most of the quality flight sim joysticks are fine.

❍ Martin Klimes

PILOT CONTROL STAND

- Pre-assembled pivoting tray unit. No special equipment needed and easily assembled.

Supplier: Paperlogic
Contact: (0171) 636 7099
Price: £24.95

PC REVIEW RATING 5

Star WinType 4000
Laser printer

Of course, its all relative really; it all depends on how rich you are in the first place as to whether you consider paying six or seven hundred quid for a laser printer to be a lot of money.

It certainly doesn't look such a bright idea when you consider the that for most home users the advantages of a laser (speed for volume printing, sharper text output and better greyscale printing) over the much cheaper inkjet equivalent are marginal relative to the difference in price.

But if you have a laser like the Star WinType 4000 — coming in at £468.83 (including VAT) — then the idea of buying a laser printer for the home starts to look like a more realistic proposition.

So what's the catch? Well except for the fact that everything has to be printed from within Windows, including any DOS printing, nothing really. What you have is a 300dpi, four page per minute print engine within a neat cubic case, two paper trays; one in the other out, and two LEDs; ready and error.

You see, the WinType 4000 is one of those GDI printers; that is, it relies on the processing capabilities of your computer for generating the pages, so its printout is quicker than conventional printers. And as you upgrade your processor the printer becomes more efficient.

Apart from the basic spec there's not really much to the WinType 4000, hence the price. Nevertheless it's a fine printer for the money, producing clean, sharp documents and graphics. If laser printer quality is what you're after, buy the WinType 4000 from Star.

❍ Alan Clark

WIN TYPE 4000 LASER PRINTER

- Budget GDI Windows laser printer offering 300 dots per inch resolution and four pages per minute print speed.

Supplier: Star Micronics
Contact: (01494) 471111
Price: £468.83

PC REVIEW RATING 7



DAN NextGen-based 586 rated PC
Desktop PC

As much as Intel would like you to believe it, the Pentium is not the only way forward for anybody who's serious about computing in 1995. Another option includes upgrading to a Intel's own DX4 PC or the forthcoming P24T. There's also the choice between Intel and other chip manufacturers. Why stick to Intel when AMD and Cyrix aren't very far from their own versions?

Or then you can always go totally out on a limb. No, I don't mean buying an Apple, although they're fine machines in their own way too. However, you can escape the whole concept of x86-based PCs altogether by going for the newest thing from the computer boffins around the world: enter RISC-based PCs. RISC-based architecture was originally conceived to get away from the limitations of the x86 chipset, which is beginning to reach the end of its possibilities. There aren't that many generations left in it after the Pentium. RISC, though, is a whole different ball-game, which may eventually take over completely. For now we have the first wave of *affordable* RISC chips, including the one installed in the DAN.

Booting up you couldn't tell the difference. DOS and Windows are in place as normal and performance is up to par, if slightly slower than the comparatively tooled-up 60Mhz Pentium we tested it against. Where it does come off worst is in maths-intensive applications — such as spreadsheets or CAD, where the lack of a built in maths co-processor is a weak point.

It makes for an interesting alternative, either way, and is 100% compatible with all x86 applications as far as we could tell. Remember, even Intel's own Pentium chips have had their fair share of scares when it comes to reliability, so if you want to move away from the main-stream this could be a good option.

Certainly the machine DAN has put together is well thought out. Inside the architecture is clean, and all the peripherals (the keyboard, mouse, disk drives, and monitor) are of high quality.

Essentially this is the same PC as Dan's existing desktop Vantage range, which in terms of build quality puts it very high on the construction rankings. Because it's hardly a mainstream alternative, it's something of a risky option (no pun intended!) and you might feel safer sticking to the tried and tested x86 formula. But for all that we're more than happy with it's performance so far — a good compromise between price, speed and build quality.

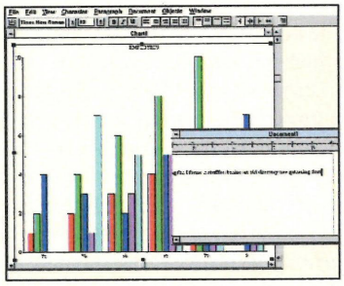
❍ Martin Klimes

DAN NEXTGEN RISC-BASED 586 PC

- A 586 class PC with a RISC-processor. There is no maths coprocessor on-board, but a 256Kb cache is installed, together with a 4Mb hard disk cache.

Supplier: DAN
Contact: (0181) 830 1100
Price: £1,399

PC REVIEW RATING 7



CompuWorks Office

Integrated Windows suite

CompuWorks Office purports to be a complete integrated office application package, which means that you get a word processor, database, and spreadsheet all in one.

It's compatible with WordPerfect Main Street in that it's a modular based system that's produced by the same people, and so it's easy to shift data from one application to another .

Office application packages are one of the big software growth areas of the moment, but such packages tend to be rather expensive for us mere mortals with home PCs. Not so with CompuWorks Office. Not that you get the same set of features with it. The big boys have been working on the ultimate word processor, the ultimate spreadsheet and the ultimate database for long enough now to invent some pretty amazing features. CompuWorks Office simply can't compete on that front, but a smaller, simpler package does have advantages.

For starters it all fits on three 3.5" disks and only takes 6.5Mb of your hard disk up.

The manual is a Steinbeck short story compared to the War and Peace epic of Main Street's documentation. And with less features, there's less time wasted while you learn them all.

If you can't afford a top notch office software suite, or don't need anything too intensive, then CompuWorks' offering is probably a better bet for you, despite the cut-down feel. After all, it still lets you write, file and chart to your heart's content. Only the whistles and bells are missing.

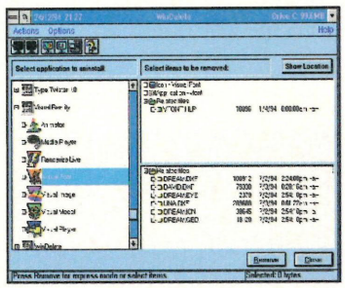
❍ **Martin Klimes**

COMPU WORKS OFFICE

- 386 PC with 4Mb of RAM, 6.5 Mb of hard disk space. VGA display, Windows 3.1 required. 486 highly recommended.

Supplier: One Stop Software
Contact: (0181) 780 1001
Price: £49

PC REVIEW RATING 7



WinDelete

Windows utility

If you're running short of disk space the simplest solution is to go to Windows File Manager and delete the directories of any programs you no longer use. However, this is not necessarily the best option, as many programs will leave obscure files in directories all over the place, and these will be left to clog up your hard disk for ever more.

WinDelete is a utility that lets you get round this problem by searching for all components of a redundant program and removing them for you.

When you first install it, WinDelete can scan your whole hard disk and tell you how many files it is already safe to remove, and exactly how many more you should only delete with caution — and colours them green and yellow respectively. Unfortunately there is no easy way to delete all of the green files, which means you then have to search for them all individually.

Deleting files is obviously dangerous, because once they're gone there is no easy way of getting them back. WinDelete doesn't help you in this respect — and in fact it can actually make the situation worse than it was before.

For instance, if you have more than one icon for a program in Windows Program Manager, WinDelete will let you delete the spare ones to tidy things up.

Unfortunately, the first one you remove will take the program with it, unless you're extremely careful.

All applications installed after you first run WinDelete can be tracked to make their removal even easier and more comprehensive. Treated with respect, WinDelete is a useful utility, but it is a long way short of perfect.

❍ **David Bradwell**

WIN DELETE

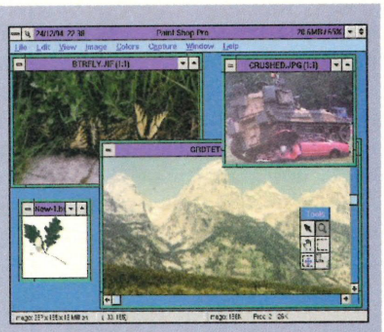
- Requires a 386 PC, running Windows 3.1, with 2Mb of hard disk space and 4Mb of RAM.

Supplier: IMSI
Contact: (0181) 758 1447
Price: £49.95

PC REVIEW RATING 6

Paint Shop Pro

Graphics package



The excellent Paint Shop Pro has been available as shareware for a long time now. But at last a distributor has had the good sense to unleash it on the retail market — and it has been well worth waiting for.

Even if you have more expensive graphics editing software, Paint Shop Pro is useful enough to be an essential purchase. It can convert files between almost any formats, and is the best program of its type for screen capturing. You can use it to resize pictures, adjust the brightness and contrast of any image, or capture a new picture using almost any type of scanner.

It also has some quite advanced colour processing capabilities, for example the ability to save the palette used by one image and apply it to another, so you get fewer colour clashes when working with more than one picture in a document.

Talking of pictures, as this is the retail version, you also get a number of pictures included too. There are over 100 in total, including a selection of clip art and over 300 photographic images.

Although it lacks sophisticated image editing features, Paint Shop Pro lets you add borders, crop sections and play around with some simple effects. You can use it to create Windows wallpaper or even customise the logo that appears when your PC starts up.

If you already work with images, the chances are that you will have come across (and are already using) the shareware version of this program. If you have registered your copy already then there's not much to be gained by buying the retail version, except for the extra pictures. But if you've never used the package before, Paint Shop Pro should definitely be on your shopping list.

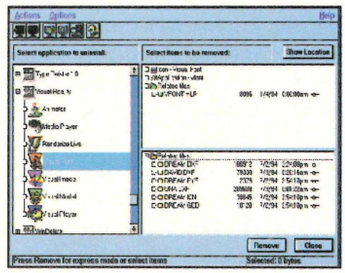
❍ **David Bradwell**

PAINT SHOP PRO

- System requirements: a 386 PC, running Windows 3.1, 4Mb of RAM, and 1Mb of hard disk space.

Supplier: Digital Workshop
Contact: (0295) 258335
Price: £49.94

PC REVIEW RATING 8



Font Consultant

Type manager

If you've got more fonts than you know what to do with, it makes sense to keep them organised. Every font installed on your system will slow your computer down, but there are many reasons why you may not want to just delete them.

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A new utility program can help solve this problem. Font Consultant is a rather nifty piece of software which can help you keep track of all your typefaces. It lets you install and remove fonts more intuitively than Windows itself. You can print samples, group them into catalogues, and view samples of all the fonts installed on your system.

The first time you run the program, it looks for all the fonts installed on your system and organises them into a list. You can adapt this list to include only serif, sans serif, decorative, or symbol fonts, or you can group fonts together into catalogues.

Catalogues are as easy to install and uninstall as individual fonts. If you want to speed up your PC it would make sense to have one catalogue for each of your applications and then temporarily uninstall all the others to free up system resources. Other fonts can then be easily restored, although itís a bit of a pain as you have to keep switching to Font Consultant to do it.

Font Consultant is a good idea and a vast improvement on the font management facilities in Windows itself. If you've got a lot of fonts and you donít mind spending time organising them, itís well worth the investment.

❍ David Bradwell

FONT CONSULTANT
- Requires a 386 PC , Windows 3.1, 4Mb of RAM, 1Mb hard disk space, VGA or better monitor.

Supplier: Max Software
Contact: (0902) 374858
Price: £83.03

PC REVIEW SCORE 6

Publisher's Paradise Lite
Font and clipart library

Although we usually associate fancy fonts and clipart extravaganzas with Windows, there's no reason not to get into the act under DOS.

Publisher's Paradise Lite is aimed at both markets by offering a quality product that has the flexibility to be used in a multitude of programs.



In fact, this collection of 100 fonts and 500 hi-res clipart images may not be huge, but is compiled in the most widely accepted formats to allow for maximum compatibility, whether you're using CorelDraw! in Windows or WordPerfect under DOS. The fonts are Truetype, which means that they're fully scaleable from 1 to 999 points, and appear in print exactly as they appear on the page. The clipart is in PCX format at 300 dpi so that, once again, it will appear in print as it was drawn (most household printers print at 300 dpi maximum resolution).

As for the images themselves, there is a variety of themes from animals to food and people — all the usual bits. They're designed to look like they were hand-drawn with a pencil and sketch-pad, and look very nice in a rustic old-world kind of way. Perhaps not suitable for some applications, but certainly high quality. The fonts are mostly the more flowery and pretty examples, with a couple of standard Helvetica and Times Roman impersonators.

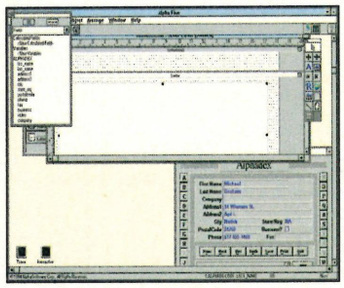
All in all, then, not a bad batch if you need access to a little spice in your DTP or your Windows desktop — especially at this price. If you have something like CorelDraw!, though, you'll have plenty of fonts and clipart files at your disposal, and Publisher's Paradise Lite is totally unnecessary for you.

❍ Martin Klimes

PUBLISHERS PARADISE LITE
- Any PC with a CD-ROM drive running Windows 3.1 that can import PCX files can make the most of PP Lite.

Supplier: One Stop Software
Contact: (0181) 780 1001
Price: £29

PC REVIEW SCORE 7



Alpha Five
Database

Alpha Five is a heavy-weight database. From the shelf-breakingly heavy packaging, to the thousand or so manual pages, this package was always meant for people who want every database feature under the sun. Extraordinarily, though, it's also a package designed to teach the end user how to use those features with the minimum of fuss, and actually be of use — even to complete beginners.

Whether you want to catalogue your old LPs or keep track of your business contacts, a database is only as good as the bits you understand how to use. All the sort and mail merge functions in the world are worth nothing if you have to pour over a seemingly endless manual to figure them out.

For example, there is a series of tuition programs called 'Genies' that pop-up when you first try to do something like create a report, and take you through it while you're in your database. Then there's the drag-and-drop data entry form. Where traditional databases require you to spend lots of time setting up your data entry page, Alpha Five uses a system involving copying elements from other forms and shifting them round to suit your needs. *How* Alpha Five achieves this behind the scenes isn't your problem, you just get the quick and easy interface to work with.

Alpha Five's success is achieving so much without a complex macro system or programming language. However, the complexity does exist if you wish to experiment with and personalise your environment even further.

Being a big program, the initial challenge is to sit down and not be overwhelmed by the scale of what you're about to undertake, because once you sit down, things are much easier than with certain other top-grade databases I could mention. My main gripe was nothing to do with the workings of the program really, but the price. At £345 it's hardly a steal, but to be honest there isn't a solid workhorse database at budget prices around so, in the database market at least, you get what you pay for.

❍ Martin Klimes

ALPHA FIVE
- Runs on a 386DX with 8Mb of RAM, a VGA display, in Windows 3.1

Supplier: Guildsoft
Contact: (01752) 895100
Price: £345

PC REVIEW SCORE 7

Hot Stuff I & II
Computer animation demos

Hot Stuff I & II is a double disc compilation of demos drawn together by computer freaks — either amateurs who dedicate themselves to hours of late night work for a little recognition in computer circles, or professionals working in their own time. Various individuals and teams are represented from all corners of Europe, each with their own style. The only linking feature is their desire to impress us with their ingenuity and creativity.

Some samples are graphics routines,others are Sound Blaster demos, showing just what your humble sound card can get up to. It's a mixed bag, as you'd expect, but pleasantly high quality all-round. Everybody will find something to enjoy, but you'll have to trawl through lots of bits to find it.

❍ Martin Klimes

HOT STUFF
- Requires a 386 PC running Windows 3.1 with 2Mb of RAM, a CD-ROM drive, and a Sound Blaster compatible sound card.

Supplier: Unica
Contact: (0161) 429 0241
Price: £12

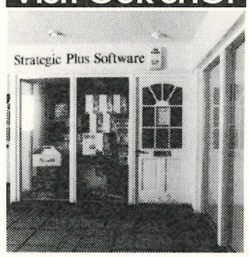
PC REVIEW SCORE 6

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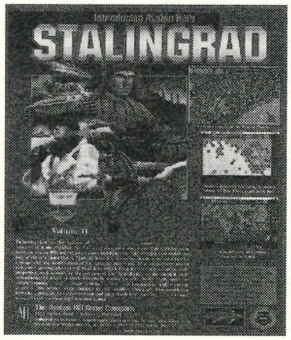
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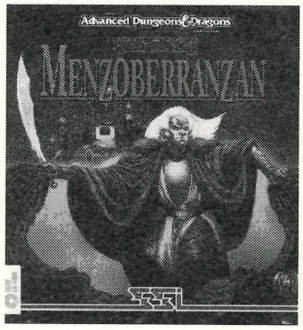
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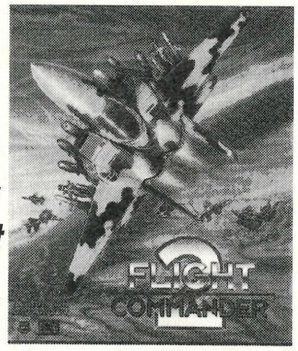
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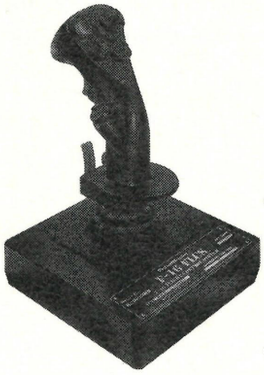
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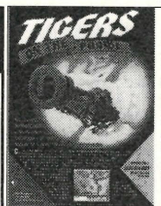
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Shareware reviews

It's that shareware time of the month again and this time, whether you're out-Dooming Doom or cooking up a storm, Martin Klimes serves up some corking good stuff.



Heretic

Id Software, the creator of Doom, has gone and done it again. Heretic, its latest offering, has the Doom game engine, is set in an amazing fantasy universe and is absolutely brilliant.

It's fast paced, has multi-player modes, secrets to discover and gore to spill. There's also a funky set of wizards and monster graphics. You can look up and down. You can fly. You have an inventory to store a few valuable items in. You can turn people into chickens. It's superb. Best of all, though, none of the additions spoil the feel of its predecessor in any way.

The shareware version contains the first of three episodes(you get the other two episodes when you register with ID), four weapons and plenty of nasties. If they're as well thought out and full of surprises as the first, I definitely recommend registering as fast as your chicken's legs will carry you.

Available from DOOMania! BBS
Telephone: (0101) 317 662 884

Registration £27.00 — PC REVIEW RATING 9

Rise of the Triad

It's been touted as the ultimate Doom-beater since rumours of its first person perspective violence got out, but now it's here it actually turns out to be a slightly different kettle of fish.

Rise of the Triad *looks* like Doom, but is far more about jumping around in a 3D platform game kind of way, solving elementary puzzles between bouts of gymnastics and naturally shooting lots of people.

It's not as dark and brooding and atmospheric as something like Doom or Heretic, but it does have some nice touches.

For example, you can play any one of several characters, each with individual characteristics.

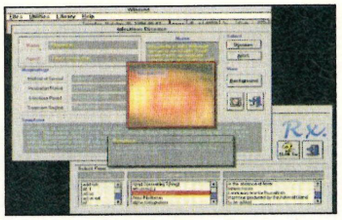
Up to eleven players can play at one time. You can choose different goals to play for, whether it be a giant game of tag, hunt the Triad, or simply good old deathmatch. Enemies sometimes beg for you to spare their lives when they're wounded, and even fake death and shoot you from behind. The list goes on.

Unfortunately you'll have to register to get all those features, since the shareware version is only a taster of what's to come, with many of the options disabled. Still, looks good for the full game.

Available from Doomania BBS
Telephone: (0101) 317 662 884



Registration $34.95 — PC REVIEW RATING 7



WinMed

I've seen home medicine multimedia packages before and frankly I haven't been all that impressed. Now along comes a piece of shareware that's got me rivetted. WinMed is apparently aimed at home users interested knowing more about how their body works — and how it doesn't.

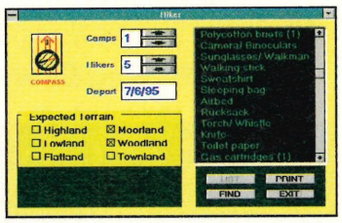
I'm convinced, however, that it's designed for professionals and simply ends up being a fascinating insight into their world. Little things like the outpatients' filing systems are the clue here.

It's amazing the morbid fascination that such products bring. Not that you're likely to carry out a lot of the treatments yourself.

The program is packaged with a lovely interface, including colour pictures that would more commonly be seen in top-end, full-price CD-ROMs instead of three disks of shareware. The registered copy more than doubles the amount of data included, so hypochondriacs will have twice as much to worry about when they explore the illness/symptom database. With a full round up of all the major diseases on offer, who could refuse?

Available from Goodmans
Telephone: (01782) 335 650

Registration £21.95 — PC REVIEW RATING 8



Hiker

Britain has an established community of walkers and hikers. With a variety of countryside, that's hardly surprising. If you want togive the great outdoors a try though, where do you start?

Hiker is the kind of program that you imagine could be areal help, butactually has less to offer than you would like. There's definitely an opportunity here for a good programoffering basic advice and emergency proceedures for new hikers. Unfortunately, Hiker fails tothis. You do get advice on what to pack, but that's all. You tell the PC how many days you plan to travel, what type of countryside you'll be hiking in, how many ofyou there'll be, and what time of year you're going. Hiker then suggests what you need to take, individually and as a group.

Picking a mid-summer's weekend hike for a small group I wassurprised by some of the 'essentials' that made it onto the list(a Walkman), and some that didn't (a Swiss army knife).

Hiker looks pleasing enough, but you need a program behind it.

Available from Mike Richmond
Write to 14 Farm Crescent,
Slough, Berkshire, SL2 5TH

Regristration £5.00 — PC REVIEW RATING 3

Some software gets deleted from the hard disk the minute the review is written, some 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 short list.

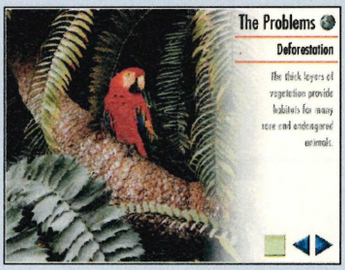
Art de la Table

'Cookery guides for the proudest of chefs' is how we described this superb CD collection in our last issue. Shows how developers can make the best of CDs for hobby and reference interest.



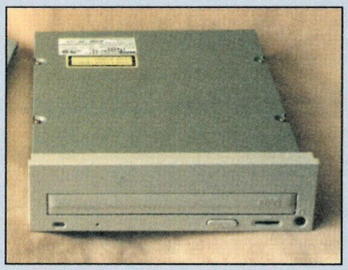
Big Green Disc

A CD that examines mankind's finest eco-disasters in detail: thoroughly researched and with participation from organisations like GreenPeace to lend it some authority.



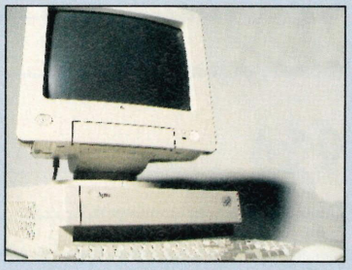
Teac Super Quad

A super performer — particularly when you compare it with double speed drives. The Teac Super Quad is still one of the cheapest (£190) quad speeds on the street. This month, anyway ...



IBM Aptiva PC

The PC that sets the standard in helpful ness and home-oriented features for the first-time user. Excellent build quality is slightly offset by the overall price for the higher spec versions.



Diamond Stealth 64 DRAM

The Diamond Stealth is a blisteringly fast graphics accelerator that isn't just limited to speeding up lumbering Microsoft Windows displays. Both Local Bus and PCI versions are available.



Paint Shop Pro

The venerable shareware graphics utility has finally got itself a full commercial upgrade — and it was definitely worth the wait. This is still one of the most useful graphics conversion and editing programs ever made.



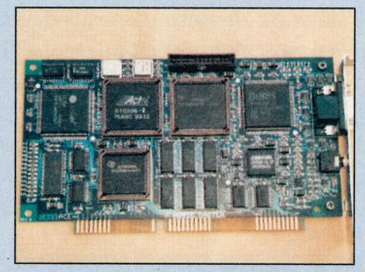
Joyswitch

It may not be the most glamorous bit of hardware ever invented, but it's an essential purchase for any joystick jock looking to connect up the likes of flight yokes, foot pedals and so on.



Ace Coin MovieMaster 24

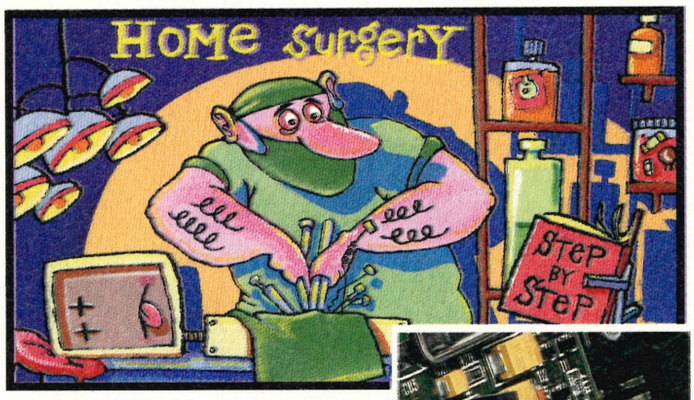
MPEG cards are big news at the moment, and the ultra-sharp, 24-bit, screen-capturable MovieMaster 24 is arguably head and shoulders above the rest of the FMV pack.

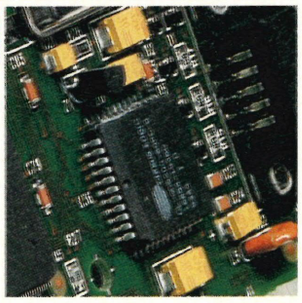


Recommended so far

❍ Gateway 2000 486SX/33 (PC) ❍ Fauve Matisse (art software) ❍ Art Gallery (art CD) ❍ Fine Artist (kids' drawing software) ❍ Gamewave 32 (sound card) ❍ Sound FX Classic 3000 (sound card) ❍ Micrograph Tabby (tablet) ❍ Dan Vantage MM (486PC) ❍ KidDesk (PC front-end) ❍ NEC3Xi (CD-ROM drive) ❍ InfoCentral (PIM) ❍ Mitsumi FX001D (CD-ROM drive) ❍ QY8 (sequencer) ❍ Vivid 3D (surround sound) ❍ MJM 486/66 (486PC) ❍ Stowaway! (edutainment CD) ❍ IBM Aptiva (PC) ❍ Prehistoria (edutainment CD) ❍ DR-U104x (CD-ROM drive) ❍ Diamond Stealth 64 DRAM (Video accelerator) ❍ Paint Shop Pro (graphics and conversion software) ❍ Joyswitch (controller switching box) ❍ Ace Coin MovieMaster 24 (MPEG video playback card)

Technical Help





PCs are great — most of the time. But when they're not being great, they can be the most irritating, frustrating, downright incomprehensible machines you ever tried to use. So where can you go for help, when the manuals are full of jargon, your techie friends won't return your calls and there's smoke coming out of the back of your PC?

Try us. Whether it's your hardware that's hung up on you, or software which just won't do what you ask it to, PC Review's Technical Help section will try to explain what's going wrong without getting too deeply into PC jargon and obscure acronyms. Here you'll find workshops on popular PC pursuits — including this month, the first in a new series on making music with your PC as well as another article about the Internet — a regular help section which explains common and basic procedures, a jargon-busting glossary of terms, and if you're still stuck after all that, our agony uncle Mike James is on hand to solve your specific problems on our Q&A pages.

We aim to cover the areas which most often cause confusion with the PC, but if there's anything you think is missing from this section and which you would like to see covered, let us know. Drop us a line at PC Review, 30-32 Farringdon Lane, London EC1R 3AU, or e-mail us on pcreview@cix.compulink.co.uk and we'll do our best to help!

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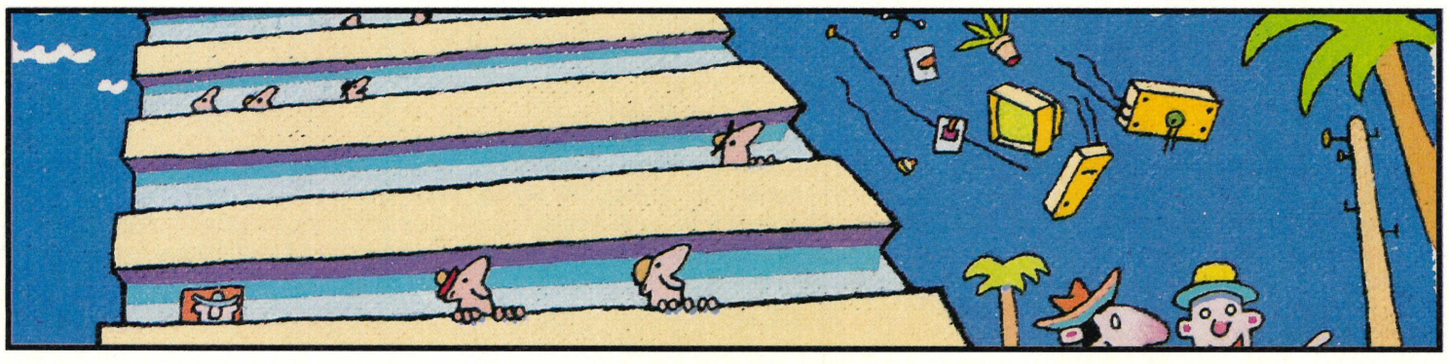
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Making the connection



Surfing is one way of making contact on the Internet. But if you know exactly what you're looking for, there are quicker, more cost effective ways of communication. David Bradwell reveals all.

So far in this series we've covered Usenet newsgroups and the World Wide Web. Those are the most glamorous parts of the Internet — and the bits which attract the most attention. But away from hot discussion of obscure topics and the home pages of the rich and famous, there is another side to the Net. And although at first it may appear dull, it is every bit as powerful and flexible as those mentioned above.

If you know exactly what you're looking for and you already know where to find it, you can use FTP or Telnet to retrieve the information much more quickly.

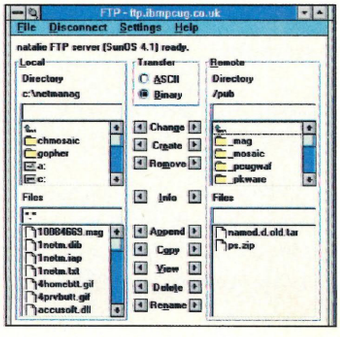
FTP

FTP is one of those jargony TLAs (three letter acronyms) much beloved of computer geeks. It stands for File Transfer Protocol and it is a simple way for you to examine information stored on other computers and then copy files to your own PC.

To gain entrance into this wacky world you'll need an Internet account with an FTP connection. Then you need to know exactly where to look, but that is not as hard as it seems.

Lists of FTP sites (computers owned by generous types who don't mind you copying their files) are widely available. You may be able to download one from your service provider, but if not, you'll find pages devoted to them in many of the thicker Internet books. Sometimes FTP sites are advertised elsewhere on the Internet, in Usenet newsgroups or on Web pages. Alternatively you can use one of the many Internet searching tools, such as Archie, to find them for yourself.

Even if you don't have access to FTP directly, you may be able to retrieve files from a remote computer through FTPmail — offered with many e-mail-based accounts. However, this isn't as powerful as FTP proper and can be quite slow, as it involves sending a message to a remote computer, requesting a file and then waiting for a reply.



Left: It looks dull, but FTP is an efficient way of copying files

Right: logging on to Cix via Telnet

Unlimited free porn

One of the great Internet myths is that there are dozens of easily available FTP sites stashed with an endless supply of hard core pornography. While undoubtedly some exist, their locations are very well-kept secrets, as otherwise the huge rush of global traffic would inevitably close them down. If you're a concerned parent, it is worth supervising all of your children's Internet activities — but don't worry too much about FTP sites. The chances of them uncovering a dodgy one are remote.

Anonymous entry

When you try to connect to a remote computer you will be asked for a user name and a password. Many sites allow unlimited public access, so all you have to do is type 'anonymous' as your user name and then your e-mail address as the password. For security reasons, anonymous users will normally have a more restricted access than somebody with a personal account on that computer. Even so, most of the files you're looking for will be in publicly accessible areas.

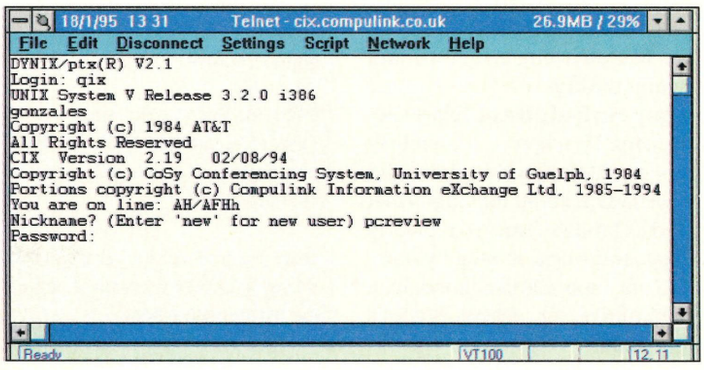
You can find and retrieve almost any type of file via FTP. There are hundreds of programs — both public domain and shareware — documents on any subject under the sun and even pictures, video clips and sound files.

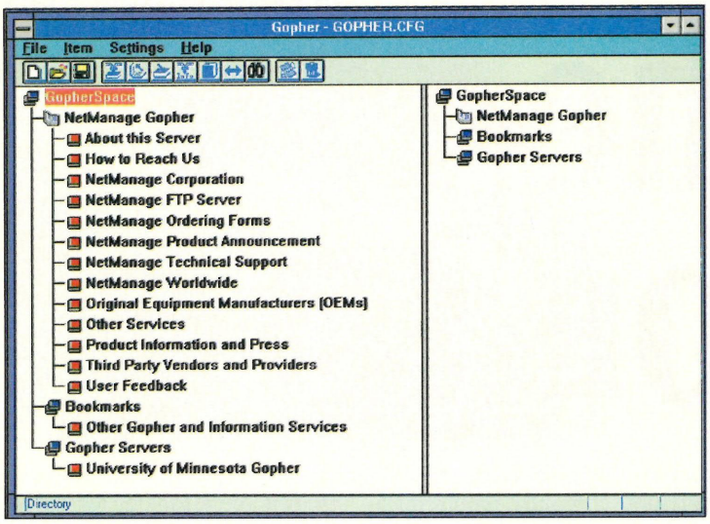
Bear in mind that if you're downloading files from another computer there is always a chance you may pick up a virus. These little nasties can do immeasurable damage to your hard disk, so remember to run virus-checking software regularly, particularly if your computer starts to behave erratically.

Once you've logged on to a remote PC you 'll be able to move from one directory to another. You won't be able to launch programs from that computer — unless you use a thing called Telnet.

Telnet?

Telnet is even more hi-tech than FTP. The essence of Telnet is that you can execute commands on a remote computer as though you were sitting in front of it — a sort





of legal version of computer hacking. Again, you need to know the name of the computer you want to access and ideally have a valid user name and password. Anonymous guest log-ins are far less common than anonymous FTP accounts. Even so, Telnet (also known as remote log-in) lets you connect to hundreds of sites and discover a mountain of useful information.

If all that sounds too easy, take a step backwards. Unfortunately each Telnet site is primarily a computer system that has been set up for a much smaller group of local users than the Internet community at large. Each system will have its own, perhaps unique, way of doing things, and each will take a while to learn and get to grips with.

That is why Telnet can be much harder to grasp than e-mail or newsgroups, but if you persevere you'll get there eventually. Thankfully many sites now use a broadly similar menu system — but be prepared for a struggle. You can, if necessary, use terminal emulation software to make your PC mimic the hardware on the host computer, but like anything else, trial and error is the key.

You can find a list of Telnet sites by using Hytelnet — a directory service which also provides useful information about making Telnet work. Through Telnet you can play chess and other strategy games, find out about the likelihood of an earthquake, or access NASA's space data.

Gopher

If until now you thought a Gopher was an annoying puppet on Children's BBC, you're in good company. However, an Internet Gopher is a far more useful animal, and, like the World Wide Web, it can be used to surf the Net's resources.

Gopher was developed by the University of Minnesota to help make it easier for Internet users to find the information and retrieve the files they need. It provides a set of easy to use menus which allow you to download files without the hassle of finding a resource, logging onto it and working out the peculiarities of the host system,

It works because its activities are spread across dozens of Internet sites, but all the work of logging onto other machines and choosing Telnet or FTP is done automatically behind the scenes.

There are millions of documents in so-called Gopherspace, and luckily there is help available to find the one you want. Gopher has a companion tool, called Veronica. This lets you type a search string to locate Gopher menus on a particular subject, and is a much faster way of working than just browsing on your own. Gopher also allows you to preview files before downloading them — potentially saving you hours on the phone.

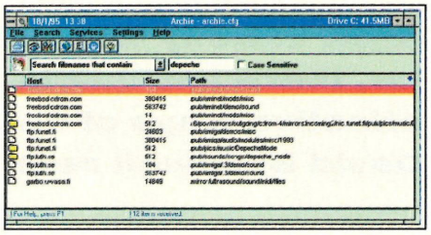
Gopher is available to anyone with an Internet account, but it works best if you have dedicated software. Commercial packages are available, but you may also be able to download a program from your service provider. There are lots of different Gopher servers you can use to start looking for information, but sometimes the public ones are very busy and you may not be able to access them. It is often best to use the service provided by your Internet host, as this should give you a faster service.

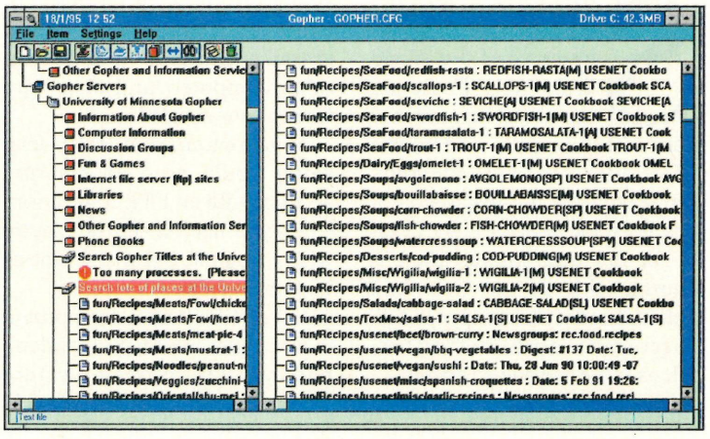
What's next?

So, that's FTP, Telnet and Gopher. By now you should have an idea about the types of resources available on the Internet and what you need to do to access them. Until next month, when we look at e-mail, happy surfing.

For an alternative view on the Internet, turn to page 146.

Left: a Gopher screen. Below: searching for Depeche Mode info via Archie





Above: feeling peckish? Recipes are just one of the many thousands of resources available via Gopher.

GLOSSARY

Archie: A database you can search through to find interesting files at various anonymous FTP sites.

E-mail: An abbreviation of electronic mail.

FTP: File Transfer Protocol — the standard protocol for transferring files between Internet-linked computers.

Gopher: A friendly program which burrows for files and makes retrieving them much easier.

Gopherspace: The subset of the Internet accessible via Gopher.

Remote log-in: Another name for Telnet.

Service provider: A company or organisation which offers access to the Internet.

Surfing: The art of wandering around the Internet, searching for useful and/or wacky information

Telnet: A program which lets you log on to a remote computer as though you were sitting in front of it.

Usenet newsgroups: A collection of around 6,000 discussion forums, some of which are highly controversial.

Veronica: A program which lets you search Gopher sites by keywords.

World Wide Web: Often the public face of the Internet — this is a collection of thousands of documents linked via hypertext.

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Music maestro

new series Part 1

Have you ever heard a record on the radio and thought "I can do better than that"? Well, now you can, simply by using your own PC. David Bradwell shows you how.

Ever wanted to make your own record, but always thought it was too hard? Then think again. If you own a PC with a sound card *and* PC Review's indispensable guide to making music the electronic way, then you're already halfway there.

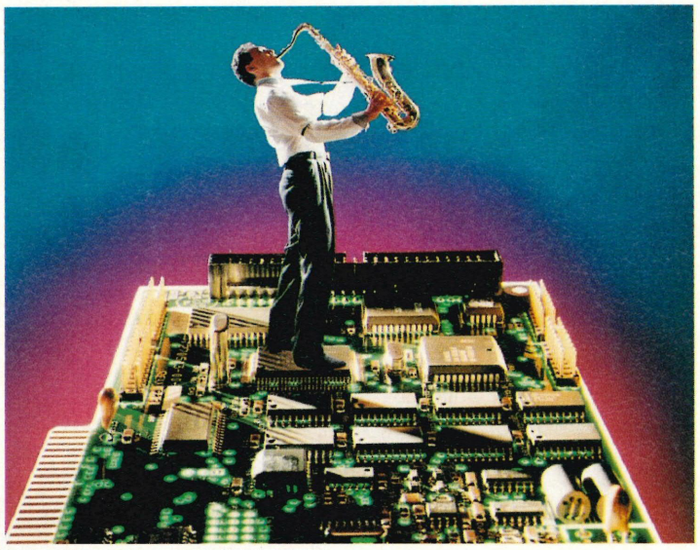
As the popularity of multimedia PCs rises, many machines now come with a sound card already installed. And for any budding musicians, a multimedia PC offers all sorts of possibilities.

Of course, making music on computers is nothing new. A few years ago a record was released that was made entirely on an Amiga — which is hardly the most powerful computer known to man. And, although it was an appalling record, it still sold a lot of copies.

So with today's highly specified PCs there should be nothing to stop you making your own music.

The way forward

Over the next few months we'll be looking in detail at many of the different aspects of creating music on your PC.



The esential piece of music hardware is the humble sound card (above right). But there's all sorts of specialist equipment available, like the Yamaha below.



But first things first. Rule number one is to check that the equipment that you have is suitable for the job you wish to do.

If you're looking to buy a sound card for instance, make sure it offers all of the sound creation features you are likely to need in the future. You'll need to consider carefully, as some may be more suitable than others.

For instance some may offer a built-in FM synthesiser, others wavetable synthesis., and a few will even let you sample your own sounds and play them back as part of a song. Depeche Mode were one of the pioneers of sampling and the technique has been a staple part of the music industry ever since. Sampling lets you record a voice, a dog barking, or any other sound effect and play it back over a keyboard. You can also capture the tone of a favourite instrument that your sound card can't otherwise create.

A brief history lesson

But before going forward we need to look back. Bear with me — many of the names that appear in the next few paragraphs keep re-occurring throughout this story.

FM (frequency modulation) synthesis was pioneered by Yamaha in the early 1980s and first appeared on the legendary DX7 synthesiser. Up until then, all synthesisers had been analogue, and bands like the Human League and Yazoo appeared on Top of the Pops, playing bouncy music on Roland keyboards. These old analogue synths produced very warm, electronic sounds, but struggled to recreate the tone of acoustic instruments, such as pianos or violins. The launch of the DX7 changed all this — musicians were wooed by the stunning realism offered by FM, and turned to the DX7 en masse. Suddenly every band on Top of the Pops was playing a Yamaha — but because FM synths were notoriously hard to program, a lot of records started to sound the same. Analogue made a comeback in the wake of acid house, but by then all of the keyboard manufacturers were producing kit based on FM or one of its derivatives.

One advantage of FM was that the technology could be contained in ever smaller boxes. Now, in the mid-1990s, you can get an FM synthesiser on a PC expansion card — it won't sound as good as a professional keyboard, but it's more than adequate for adding a new dimension of sound to computer games.

Getting serious

Having said all that, if you're serious about creating music you'll need more than just a basic FM sound card. What you really need is a Wavetable sound card.

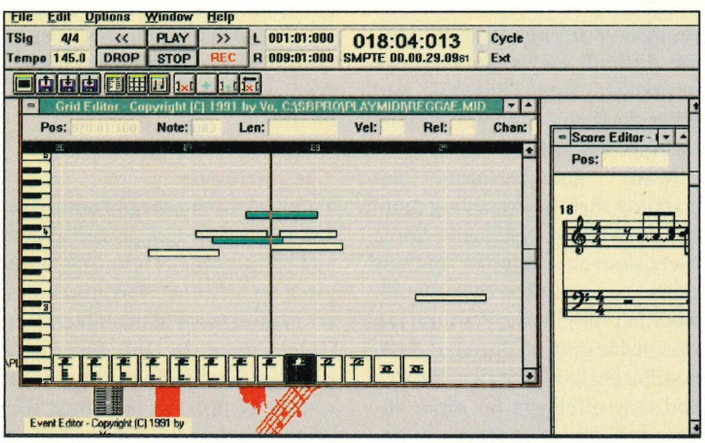
Wavetable synthesis came along shortly after FM. While Yamaha was making a fortune at the expense of budding Pet Shop Boys, competing companies such as Roland, Korg, Ensoniq and the like set about developing something even better.

In the same way that every person has a unique finger print, every sound has a unique waveform. The basic principle of all types of synthesis is that if you can recreate that waveform, you can recreate that sound.

So while FM synthesis was far more realistic than analogue, other manufacturers started experimenting with pre-recorded or sampled waveforms.

Instead of modulating a sine wave to create new sounds, the new keyboards came pre-programmed with dozens of complex waveforms. In other words, if you wanted to create a piano sound, it was much easier if you could tweak an existing piano waveform than having to start from scratch. The same went for all other sounds — and all of a sudden, wavetable synthesisers were hailed as the most sophisticated and realistic machines yet developed.

Wavetable synthesis is now also available on PC sound cards, and it offers by far the best quality of sound. FM cards can be accused of sounding weak or tinny, but wavetable cards generally fare much better. They may cost more initially, but the difference in quality will be more than adequate compensation. Roland and Ensoniq — two of the pioneers of wavetable synthesis — now sell PC sound cards, but more about those next month.



Grid systems like this are one of the common ways to edit music on the PC.

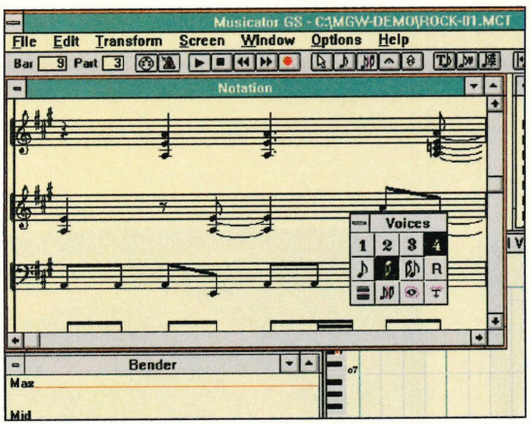
Sequence of events

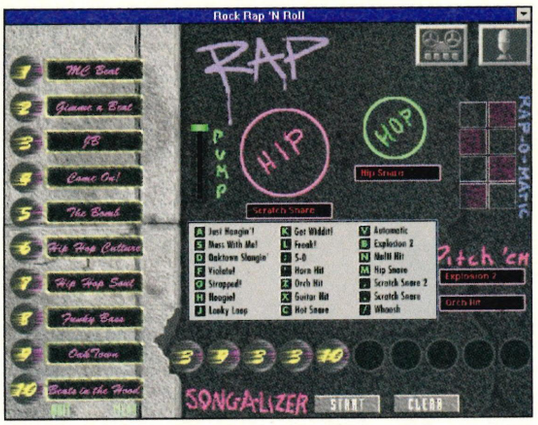
Once you've got a sound card you'll probably want to try recording. There are two ways to do this. The first is the traditional method of pressing the red record button on your tape machine and giving a virtuoso performance. The second, is to try your hand at sequencing.

Sequencing is the art of recording the notes you play, rather than the sounds. These are then played back through your synthesiser, so there's no loss of sound quality. Sequencing also lets you change the sound of your piece once you've recorded it, simply by substituting one instrument for another. You can also edit the sequence of notes, to correct mistakes and add in pieces that are too complex to play by hand — guaranteeing a perfect performance every time. And best of the lot, while the sequencer plays back the music you've recorded, you can add extra synthesised instruments over the top until you've got a fully orchestrated song.

Sequencers have been used in the production of pop music for the last 15 years, and in the early days they were responsible for the rather cold, robotic feel of most electronic music. Since then they have been developed to better emulate human playing techniques, and a good sequencer programmer can now create, for example, a cool synthesised saxophone break that is indistinguishable from the real thing.

I'll look more closely at sequencing later and explain how record producers are using PCs to get singers to the top of the charts.





Creating and editing music on your PC can be as complex as a fully fledged sequencer and notator (above left), or a simple push button affair like Rock, Rap 'n' Roll (above right).

Making the right connection

In this series I'll also look at the musical instrument digital interface (MIDI), and how it works to link electronic instruments together. You may well have a MIDI port on the back of your sound card and have wondered what to do with it. We will reveal all — but be warned, that's where the whole thing starts getting addictive, and you may find your bank manager is none too pleased.

Anyone can if Whigfield can

If all this sounds like a good idea, but you couldn't play a note to save your life, fret no more. One of the joys of creating electronic music is that you don't need to know the difference between a crotchet and a minim. And if the only quaver you've come across tastes of cheese and comes in a plastic packet you'll be in good company here.

Of course a basic knowledge of music helps, but don't assume it's a necessity. You'll soon start picking up on what sounds good — and if you don't there's plenty of software available to help you.

Some will help you fill out a basic composition. Other programs will actually write whole pieces of music for you, and I'll be looking at these in detail later in the series.

Finally, when you know all the basics you may want to go one stage further. The world of hard disk recording is seriously hi-tech, but if you want to explore the ultimate in PC music making it , this is where you'll want to be.

Thanks to Turnkey, Charing Cross Road, London and Rose Morris, Denmark Street, London, for their help with this article.

Help!



This month in our regular troubleshooting section we show you how to go about buying a PC, explain about Config.sys and Autoexec.bat, and guide you through the mysteries of PC terminology..

BUYING A PC

There are now so many different PCs advertised as suitable for home and family use, and so many different models available in the shops, that you could be forgiven for finding the choice overwhelming. If you're planning to upgrade to a new PC, or perhaps buy your first home PC, check this set of guidelines from PC Review.

PC Review regularly publishes 'how to buy a PC' articles, which, given the rapid rate of change in this market, need updating every three months or so! This article is an updated version of the current 'buying a PC' guide.

The following guide assumes that you will be buying the PC to use at home rather than at work, and that you won't therefore have easy access to all the support, software, system managers that you might expect in the workplace — in other words, the machine should be easy to set up and start using straightaway. We also assume that you'll want to use the PC for a variety of applications, which will inevitably include some games playing — indeed, it may well be mostly games playing.

Two golden rules

Before you do anything about buying a PC, you should ask yourself two questions:

- What will I use a PC for? Business, games or a combination of both?
- How much can I afford to spend?

Set an upper limit as an optimum price (say, £1,000, but of course it depends on your budget) and a top limit, above which you cannot, *will not* go, no matter what's on offer (say, £1,200). This gives you a bit of flexibility, but also ensures you don't feel pressured to go over your absolute budget limit.

Next, you need to work out some details of the type of PC you want. If you do want to use the PC for anything processor-heavy, such as games, or graphics packages, you'll need to make sure that the PC you buy is up to the job and won't slide into obsolescence within months.

The new breed of PCs can be split rather neatly into two camps. First off, there are the all-singing, all-dancing 'family' PCs, such as the Packard Bell Spectria or the IBM Aptiva. These concentrate on ease of use and hand-holding features for the novice user, plus compact design.

The other approach is the multifunction PC, such as Compaq's Presario. These PCs add fax, answerphone, TV, Teletext and even Internet access as a way of providing extra functionality (or gimmicks, depending on your point of view). The best news is that they are actually starting to integrate these extras properly — so it all works together somewhat better than if you just lob in the necessary cards and add-ons yourself.

Good buys, bad buys

When you consider all that these machines have to offer, they are very impressive, and they are indeed excellent first-time PCs.

But they don't necessarily make the best games PCs. If you're on to your second machine, then this sort of all-in-one, or handholding PC is probably not what you need because you're either past that stage or you already have half the extra gizmos anyway. You may also find that the restrictions placed by the size of what you initially thought was a rather snazzy design actually place all sorts of limitations on what you can do with the machine in the future.

So that brings us back to the standard desktop PC (plus multimedia bits and pieces). Boring as it may seem, it is the obvious choice.

Unfortunately, life is never as simple as it should be. For about a year we had a fairly easy decision to make: essentially which speed of 486 to go for (386s being effectively dead and buried). Now, life is complicated by heavy price cutting on the next-generation Pentium chip, the difficult to get hold of, but impressive, Intel 486DX/4, and other chip manufacturers catching up in the 486 game.

Many manufacturers are claiming that they're selling more Pentium-based systems to home users than any other PC in their range . . . but then they would, wouldn't they? Sure, Pentium is a reasonable option. But a good 486 is still a perfectly serviceable PC, and may offer you far more all-round that the sort of bare bones Pentium-equivalent ever could. A 486 is still undeniably the 'entry-level' PC, whatever they tell you.

There is one particular thing to bear in mind, though: A 'Pentium Ready' sticker on a 486 PC doesn't mean what you think. You can't upgrade a 486 to a Pentium, chip-wise (see the article, Pentium Ready?, in Issue 38). It's a whole new motherboard job. This is definitely something to think about if you want your PC to stay competitive in a year or two's time.

What this 'Pentium Ready' actually refers to is a chip called the P24T, or Pentium Overdrive, that is due to be released around the time that you read this. It is, in fact, not a true Pentium at all, but a halfway house between a 486 and a Pentium.

Essential components

The following list of specifications comprises PC Review's minimum recommendations for an all-round PC which will cope with entertainment software, and other leisure utilities such as graphics, or music. And remember — we said minimum.

The processor

The safe(ish) choice right now is the 486 processor; less powerful 286 and 386 processors have long since given up the ghost. 486 processors are made by several manufacturers (Intel being by far the most common) and come in a variety of speeds. Within the 486 range, the chip is relatively easy to upgrade.

A recommended minimum now

would be a 33MHz 486DX, but shop around and it's easy to find a 66MHz 486DX for a little extra.

DX4 and other clock-tripled variants are impressive top of the range 486 chips, but can be expensive, relative to the gain in performance.

Pentiums are now coming into the affordable price bracket. They offer a largish step up on the 486 chip, and a better chance of future upgrades. They can cost an arm and a leg if you're not careful, and the cheaper no-name Pentium PCs are sometimes far less stable than they should be since the whole architecture of the PC is more complicated to work with.

You might also be concerned about the recent press reports of a bug found in the Pentium chip — specifically, a problem which crops up during floating point calculations. We reckon there's no need to worry. Firstly, the Pentium chips being installed in new PCs from reputable brand names are all new Pentiums with the bug fixed. Secondly, it is in truth a problem which should only affect those using a Pentium machine for high end scientific or engineering applications. The quoted risk of the bug affecting your work is that it might happen "once in every 27,000 years", according to the manufacturer, Intel. At those odds, you might well win the National Lottery first.

The memory

Random Access Memory, or RAM for short, is used by the computer to recall what you've just been working on without having to go searching all over the system for it. The more room the computer has in this ongoing memory store, the more it helps overall performance.

4Mb of RAM is considered the bare minimum for running the latest games software and Windows. But 8Mb will be considered the minimum by April next year, so go for 8Mb if you can.

The hard disk

Although CD has taken the pressure off somewhat, the storage capacity of your PC is always going to be tested by newer and bigger games. A 240Mb hard disk drive would be an OK starting point, but we would actually recommend a 310Mb hard disk.

The bus type

ISA, Local Bus (VL) or PCI? Oh dear . . .

The bus system dictates the speed at which data can be shunted around the motherboard. ISA is the old standard. It's safe and cheap, but essentially something of a bottleneck.

Local Bus is now common and Local Bus graphics are an essential. You can go the whole hog and have an entire Local Bus motherboard, but we prefer to play safe and stick with it on the graphics side alone for stability reasons.

PCI is Intel's Local Bus standard, and it's only worth looking at on a Pentium-based system.

Multimedia

If this is your first PC, or you haven't got to grips with this multimedia thing yet, then you should be looking for a machine with a double speed CD-ROM drive and a 16-bit sound card pre-installed, plus a passable pair of speakers.

And the rest

A 14" Super VGA colour monitor is now the standard. Don't accept anything less. Likewise, a mouse and a keyboard should always be included in the price. They're not optional extras, and you won't get very far without them.

Microsoft Windows 3.1, or 3.11, and DOS 6.2 software should be loaded on your PC when you buy it. What's more, if you shop around you can find some very good software bundles with PCs. This will usually set you with a word processor, a spreadsheet, an organiser and so on, or better still, armloads of games.

Where do you buy?

Buying direct from advertisements has been the traditional way to go about getting your hands on a PC. We tend to recommend the slightly more expensive PCs that you can buy direct, essentially PCs coming from a brand name with a good history in the business.

If the jargon of the computer ads frightens you witless, then maybe it's better shopping closer to home. High street chains like Dixons, Curry's, Rumbelows and so on are proving an increasingly popular place to buy a new PC. Although their specialist knowledge may not always be as good as it might be, you know you can ask for what you want, hand over your money and if it doesn't work when you get home, you take it back.

Arguably, the best of both worlds can be found in the growing chains of specialist computer superstores

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.

3DO: a digital CD-based console system developed by The 3DO Company, intended to set a standard for interactive entertainment on CD (as per CD-i). The name is derived from a rather excruciating extension of audio, video.

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.

ASCII: (pron Ass-key) stands for American Standard Code for Information Interchange. An ASCII file is a plain text file which contains no codes specific to the software the file was created with.

Autoexec.bat: a file you create on your PC which is acted upon every time you switch on the machine and which tailors the PC's configuration.

BASIC: stands for Beginners' All-purpose Symbolic Instruction Code. A programming language.

Batch file: a file with the extension .BAT consists of a series of other DOS commands, so that you can implement a series of commands in one go. A very simple batch file might consist of the following:

```
CD\
MOUSE\MOUSE
CD THARG
THARG
```

which would move you into the root directory, load up the mouse driver, move to the Tharg directory and start up the program Tharg. If you named this file GO.BAT, you would only need type GO to load up Tharg.

Baud rate: speed of transfer by a modem as measured in bits per second. See modem.

Bit: the smallest unit of computer data, equal to either of the digits 0 or 1 (bit stands for 'binary digit').

Bitmap: a way of defining a graphics image so that one bit equals one pixel.

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. The buffers command in the Config.sys files specifies how much RAM MS-DOS reserves for storing bits of data that can be called upon more quickly than accessing the hard disk. Printers normally contain a memory buffer into which the file to be printed is transferred, leaving the PC free for work on other applications.

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.

CD-i: stands for Compact Disc Interactive. A digital CD-based machine developed and sold by Philips with limited compatibility with other CD-ROM formats.

CD-ROM: stands for Compact Disc Read Only Memory. Physically the same as the compact discs you play music on, CD-ROMs hold up to 600Mb of computer data, stored digitally.

such as PC World and Byte. These offer a better level of advice and a wider range of products than in the high street. They have a higher turnover of stock, so products are more up to date and more competitively priced. They are also more likely to be able to tailor a system to your requirements — in the Escom stores, for example, they'll do so while you wait.

Furthermore, some of the bigger chain stores, such as Currys, Tempo and PC World, may offer a 'buy now, pay later' scheme for your PC. You pay an initial deposit, take the machine away and then pay the balance in instalments. Depending on the store and the scheme, you may well have to pay interest as well, and your eligibility to pay this way will be subject to your financial status.

Finally, one long-established way of buying a PC is via mail order. You spot the model you want, ring up to place an order and the PC arrives promptly on your doorstep. The advantages are that you should save money on the shop prices and you don't have to lug the thing home. The disadvantages are that you don't get to try the PC out at all — or even *see* it — before you buy, and that, well, goods have been known to go astray and suppliers disappear overnight.

The mail order market is not the minefield that it used to be. Look for well-known names that have been trading for a long time, use recommendations from friends and keep a written copy of all discussions and transactions. And pay by credit card if you can. This doesn't alleviate the fact that you are in effect buying blind, however, and it's probably best for people who know *exactly* what they want to start with.

The advice which appears on these pages is an updated extract from the article "The Perfect PC", in PC Review, Issue 39. The original feature not only contains more details about types of PC and where to buy them, but also includes reviews of some of the latest consumer PCs available.

GLOSSARY

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.

Command.com: This is MS-DOS's command interpreter, a file which contains the bulk of the commands for MS-DOS, and without which your PC will not function.

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.

CPU: stands for central processing unit. Generally means the processor inside your PC, but it's often used loosely to refer to that and the motherboard as well.

Digital: making use of binary digits, eg, a device, such as a computer in which data is stored as binary numbers, as opposed to analogue devices (see above).

Digitisation: the act of turning non-digital data into a form understood by computers (ie, in binary digit form). Most often used at present to describe graphics (taken from film, paper, slides, etc) or sound (taken from tape) which is scanned (see below) into a computer-compatible form.

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.

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.

DX2: A version of the 486 processor which does its internal calculations at twice the speed of the equivalent 486DX.

EGA: Enhanced Graphics Adapter. PC graphics mode which succeeded CGA. Now, like CGA, virtually obsolete.

Electronic mail, e-mail: files sent from one computer user to another, often via a bulletin board, or over a network.

EMS: stands for Expanded Memory System. This system was the first standard enabling MS-DOS to use 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.

Expansion ports, expansion slots: the connectors in the PC into which are inserted add-ons such as sound cards, joystick cards, internal modems, etc.

Extended memory: a form of system memory above 1Mb which can be used by programs written to support it.

Format: to prepare a disk, either a floppy disk or the hard drive, so that it will accept the relevant data (ie, format a disk on the PC and it will accept PC data, format it on an Amiga and will take Amiga files.

Game card: or joystick card. A board which fits into an expansion slot (see above), which a joystick can be plugged into.

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.

Graphics card: the circuitry which drives the type of graphics and resolution (density) at which they appear on-screen.

GUI: stands for graphical user interface. See above.

Hidden file: a DOS file which has been marked as 'hidden' will not be displayed on the directory listing, and cannot normally be opened, read or deleted.

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.

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F1	£18·99
F14 Fleet Defender	£27·99
FA Premier League Football	£18·99
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CONFIG.SYS AND AUTOEXEC.BAT

Config.sys and Autoexec.bat are two files which are processed every time you switch your PC on. Autoexec.bat contains commands which precisely configure your PC. Config.sys contains commands which — mainly — set up your device drivers.

What are device drivers?

Anything that has been added to the basic PC box — like a sound card, a mouse, extra memory chips, or a CD-ROM drive — counts as a device for the purposes of the Config.sys file. Each device needs a driver, ie, a software file needs to be run which loads up the device so that your PC will recognise it.

A line in your Config.sys file which reads something like

Device=c:\dos\himem.sys

loads up the device driver for extended memory. Look out for the words Device= and then the location of the file.

What is an upper memory block?

If you have extra memory (more than 640K RAM) fitted in the PC, you can load some of your device drivers into the upper memory area, which is between 640K and 1Mb. For example,

Dos=high,umb

tells DOS to reserve you some upper memory blocks for device drivers.

What is a country code?

A line stating which 'country code' you want to use helps to configure the way the machine displays the time and date — so that the day appears before the month, for example. This line will look something like this:

Country=044,,c:\dos\country.sys

044 is the country code for the UK.

What about files and buffers?

When you begin dealing with these, you may have the following two lines in Config.sys:

Files=20
Buffers=20

The numbers may be different: files=30, maybe, or buffers=15. Files=x determines the number of files MS-DOS allows to be open at any one time; Buffers=x determines the amount of RAM that MS-DOS reserves to hold information being transferred to and from disk. Don't worry too much about these, their workings will be invisible to you unless a program asks to change the settings in your Config.sys file when it's being installed.

How do I edit my Config.sys file?

Load it into a word processor, or type:

Edit Config.sys

at the C:\ prompt. It's only lines of text, so you can change the words or delete or add lines, then save it (Alt-F, S, if you used EDIT to load it up). Then reboot your machine and the changes will take effect.

Remember: before you make any changes to your start-up files, you should always keep a copy of the original. Either copy it to a floppy disk:

Copy c:\config.sys a:

or copy it under another name:

Copy config.sys config.bak

Now make the changes to the original Config.sys. If it doesn't work, you can always replace the new one with one you copied earlier.

So what is an Autoexec.bat file?

The Autoexec.bat contains a variety of DOS commands which are automatically executed when you switch the PC on.

DOS will look for the presence of an Autoexec.bat file and then carry out the instructions in it. It consists of lines which will tweak things such as the way your C:\ prompt is displayed, the exact layout of your keyboard – so that you get a pound sign when you press Shift-3, for example – and it will define the precise settings for your files.

GLOSSARY

Io.sys: one of MS-DOS's two hidden system files. Needs to be present at start-up.

Kilobyte: 1,024 bytes.

Main board: general term for the motherboard of the PC.

Maths co-processor: a second processor which is used to carry out mathematical functions by programs which support them.

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.

MIDI: stands for Musical Instrument Digital Interface. This is a system by which electronic musical instruments can be connected to each other and to a computer, which then controls all of them.

Modem: stands for Modulator/Demodulator. 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 Motion 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.

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.

Public domain: software designed to be distributed free of charge, with no copyright attached.

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.
ROM: stands for Read Only

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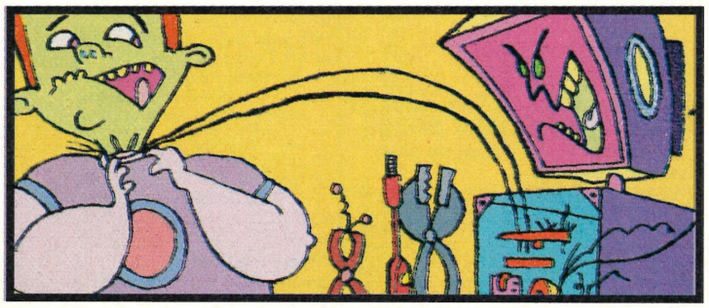
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the device drivers loaded in Config.sys.

For example, try this: at the C:\ prompt, type the following, exactly as it appears below:

Prompt td$_$p$g

What you should have now is, instead of boring old C:\, is the time, the date, then, on a new line, the current drive and directory as your prompt.

$t	*displays the time;*
$d	*displays the date;*
$_	*moves the next text down one line;*
$p	*displays the current drive and directory;*
$g	*displays a > sign to sepa rate your prompt from your commands.*

If you put that line in your Autoexec.bat file, in the same way that you alter Config.sys as explained above, then you will always see that information as part of your C:\ prompt.

If I've already loaded the device drivers, why do I need precise settings for the devices?

The device driver simply tells DOS the device is there. Without Device=x, your x won't be recognised at all.

The Autoexec.bat settings tell DOS more about how to use the devices, and can be tweaked, if you're feeling confident, to suit your exact configuration.

When you fit something like a sound card or CD-ROM, and run the installation software that comes with it, nine times out of ten, the install program will automatically add these lines to Config.sys and Autoexec.bat with the correct numbers. It will probably ask you some questions about your PC set-up, and if you don't know or don't have the manual handy, there should be a default mode you can choose for convenience. If you have bought a machine with devices already fitted, the correct settings should be included already in the Autoexec.bat file.

I've heard that I can choose which Config.sys settings to use at each start-up. But how exactly do I do this?

If you have DOS 6 or later, you can choose which Config commands to activate. When you switch your PC on, the machine goes through its self-tests and after a few seconds, the words, "Starting MS-DOS ..." will appear on-screen. When that message is displayed, press the F8 key. Now you see the message MS-DOS will prompt you to confirm each Config.sys command

You will be given a choice of pressing Y to carry out each command, or N to bypass it – useful if you want to disable temporarily the CD-ROM drive to free up more memory for a disk-based program, for example.

What are multiple configurations?

Again, if you have any version of DOS 6, you can create a Config.sys file with separate configuration blocks. At start-up you can choose which block of commands to process. So you might have a configuration block which loads the sound card and CD-ROM drive, and another which doesn't include these and leaves you with much more free RAM for those really memory-hungry games.

In very, very simple form, a Config.sys set up for multiple configurations looks something like this:

[menu]
menuitem=CD-ROM games
menuitem=Disk games

[CD-ROM games]
device=c:\cdrom\cdriver.sys
device=c:\sndcard\sound.sys
device=c:\mouse\mouse.sys

[Disk games]
device=c:\sndcard\sound.sys
device=c:\mouse\mouse.sys

Now when you switch on your PC, you will see the message
MS-DOS 6 Startup Menu
1. CD-ROM games
2. Disk games
Enter a choice:
Take it from there!

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' is used to mean both permanent file storage space and the memory chips, called RAM, installed inside the machine. Thus ...

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, for example, 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.

Documents that you write with the word processor are held in system memory until you actually save them to disk. System memory is dynamic, ie, when you switch the PC off, the system memory switches off too, and contents are lost, which is why you lose any work not saved if your machine crashes. Files saved to hard or floppy disk remain stored until you physically delete them.

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 exactly which programs are using up 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

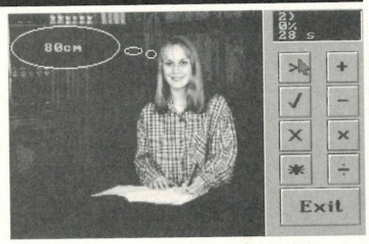
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actual memory chips it requires are the same; it's the way in which the memory is managed that differs.

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 to take advantage of it.

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, or 2048, at the end of this line, then that is the amount, in kilobytes, that DOS will allocate 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?

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 two 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 are 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 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, 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, you only have 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 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.

GLOSSARY

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.

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.

SIMM: stands for Single Inline Memory Module. Board with a set of memory chips for comparatively easy RAM upgrades.

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.

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.

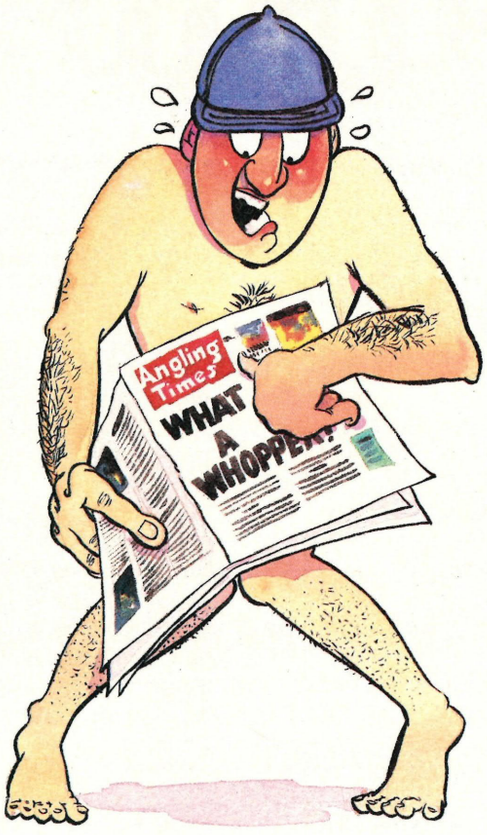
VESA: stands for Video Electronics Standards Association. A group of graphics card manufacturers who have determined standards for high resolution monitors and graphics adapters.

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 program files, with differing effects but usually malicious intent, making 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.



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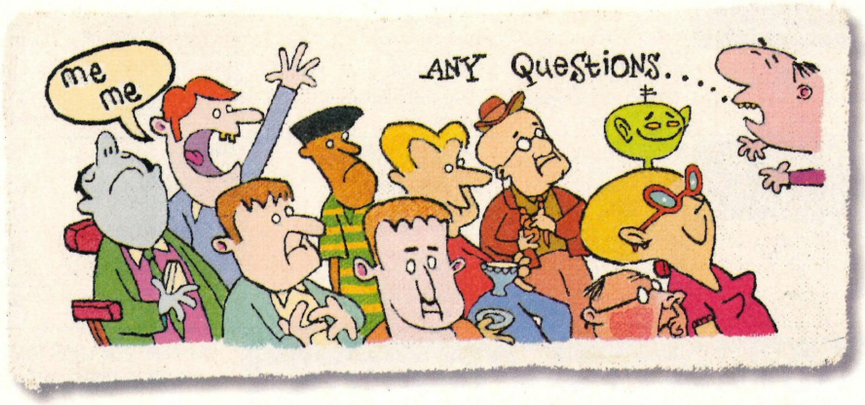
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Q&A



Is your hardware making your head ache? DOS driving you dotty? If you're having problems with your PC, share them with Mike James and he'll do his best to help.

A question of size

Q I have always been told that size isn't important, performance being the thing that matters. But since phoning my PC service department I'm not so sure, and I'm in need of some professional advice. So here goes.

As games are becoming more complex in terms of graphics, I thought that I would upgrade my PC's graphics performance. "Easy," I thought, "I'll get hold of one of these go-faster stealth bomber Viper snake graphics board things", but upon inspection the majority of these performance boards are all VESA or PCI bus boards and guess what, my PC is a 486/33 MHz bus machine!

My current graphics consist of a Paradise SVGA 90C30 chipset, with 1Mb of memory and 32-bit memory access located on the motherboard running on the ISA bus at 10/11 MHz.

But if my machine is an ISA bus PC, is it worth buying an ISA graphics board, or does this slower bus negate the advantages of a fast graphics board?

What is the difference in speed between ISA, VESA and PCI?

The service department have advised me that I should upgrade the video RAM to 4Mb to improve the refresh rate and hence the visible performance.

So, can I just add a DX2 chip and run at 66Mhz to improve the graphics?

Paul Duncan
Hertfordshire

A *How to make graphics work faster is one of the really difficult questions — and it has nothing to do with size. The ISA bus is a limiting factor in how fast the processor can shift data from memory to the display. Once you have hit this limit there is very little that can be done to make things go faster except try to reduce the amount of data being moved, or change to a different expansion bus. The only way of reducing the amount of data on the move is to use a smart video card — usually called an accelerator — which knows how to perform common graphics operations. The only problem with this is that the software that is using the card also has to know that it is smart. What this means in practice is that accelerator cards go faster with some software (Windows applications in particular), and make very little difference to others.*

OK, so it looks as if the only general solution is to change the expansion bus. The VESA and PCI bus are around four time faster than the ISA bus. The difference between the two is that the PCI bus has a higher top speed, but in practice it often doesn't reach this higher speed. Most experts are of the opinion that in the long run the PCI bus is the one everyone will be using — because it is faster and more flexible — and the VESA bus is just a short term but cheaper solution.

Now that you have all this information you will know exactly what to do! If you don't fancy the idea of upgrading to a PCI motherboard though, you will have to look a bit more carefully at your other options.

The first thing to say is that I am surprised that you feel the need to upgrade the video — built-in video hardware with a 32-bit direct connection to the processor should be fast enough. It might be that your machine's poor video performance is down to something else. Perhaps you don't have enough memory? Are you running a single speed CD-ROM? There are lots of factors which slow a program down and a slow program equals slow graphics.

I don't think that upgrading the memory on the video card would help and anyway 4Mb is an unusually large amount of video RAM — most cards can't handle more than 2Mb. Finally, yes, upgrading to a DX2 would increase your machine's speed and graphics performance.

An MS-DOS tip

Q I am writing to inform you of an MS-DOS switch for the command Format which I don't think is general knowledge.

The switch is /BACKUP. When used the 'Insert disk' and 'Format another' prompts will be bypassed. I have tested the switch with DOS versions 5.0 and 6.1 and, who knows, it might work with other versions. Suppressing the prompts is very useful in batch files and using /BACKUP is a lot easier than the other methods I have seen.

Steve Mayve
Chichester

A *I don't usually include tips in Q&A, but this one is too good to miss. It's amazing how standard commands like Format can manage to have hidden features when so many people use them! To understand why you might want to use /Backup you need to have faced the problem of writing a batch file which formats a diskette and then copies files onto it. Without /Backup the Format command stops to ask you questions and so you have to be there to answer them, ie, the batch file isn't fully automatic.*

Frozen games?

Q I have a 486 DX2 66 with 4Mb of RAM. I run Windows with some demanding software like Access 2 and Word 6. All my Windows software works fine, but when I run any games they freeze after five or10 minutes and I can do nothing but reset the computer. Please help me as I have been to the manufacturers and they say the hardware is fine.

Sam Herbert
Oxon

A *It is obvious that I cannot give a complete solution here because the problem is so strange it will need some experimentation to find out what is going on. If Windows software works OK, this means that the configuration of your machine is correct for Windows — and if this is the case it should be correct for DOS. The reason is, that in general, DOS is*

less demanding than Windows ie it is Windows that tends not to work when DOS does and not the other way round.

There are two other things that make this problem very odd. The first is all games lock up and that they do it after five or 10 minutes. This suggests a very general configuration problem, but I find it difficult to think of one that would allow a range of programs to run for five or 10 minutes before causing problems.

The only real possibility is that there is an IRQ conflict. You need to find out what facilities the games use that Windows doesn't: maybe it is sound, a joystick, a particular VGA mode (does your Windows run in SVGA and all the games work in VGA?). It could be that two cards are using the same IRQ number or it could be a hardware fault or incompatibility. Your best bet is to vary one element of the configuration at a time and see if anything makes the problem go away. Also try to find out if non-games DOS software makes the system crash.

The search for enlightenment

Q I am a new PC owner, and find your magazine both interesting and informative. I have been an Amiga owner for some years, using the machine almost entirely for games, and to be honest my first thoughts on using the PC were that I should have stayed loyal to Commodore!

At first I thought that most of my problems were to do with not having enough memory, but now I am not so sure. As a fan of Jimmy White's Whirlwind Snooker on the Amiga, I went for Archer Maclean's Pool, needing only 1Mb. No apparent loading problems, but what's all this about settings for the sound card (Amigas don't need them, you see) Roland, Ad Lib, but not Sound Blaster! And sure enough, I have another game with no sound. Judging by Jimmy White's Whirlwind Snooker, I doubt if I'm missing much, but it's just not the same potting a ball if you can't hear it. Also, why doesn't the game work with Sound Blaster?

I have two other technical questions I hope you may be able to answer or explain.

Firstly, when in File Manager and displaying amounts of total and available hard drive space, why is the difference between the two figures (that's the hard drive space used, presumably) not equal to the total of the size of the individual directories? And why does some hard drive space apparently get used up during a word processing session (even though I only save to floppy disk), but then seems to be restored when I reset?

My second query relates to graphics cards and display modes, which I don't really understand. I have a CL-GD542X accelerator (VL bus, 1Mb) which was an available upgrade on my machine and I was advised that this was recommended for use with Windows. Since this cost extra I assumed that it would give the best graphics performance with games, but I note that some new games specify SVGA as a minimum requirement, and presumably this will become increasingly common. My computer would appear to be equipped only for VGA.

I am further confused in that you say that VGA screens display at 640x480, but I appear to be able to get higher resolutions. Do the terms VGA and SVGA have different meanings when applied to monitors rather than graphics cards? If not, why is just about every monitor called SVGA, but most graphics cards are not? Can I buy an SVGA card (and would there be any point)?

I should be most grateful if you were able to enlighten me.

Mark Hickman
Oxon

A *Yes, the PC world is very different from the Amiga, the Mac or any of the games consoles for that matter. The reason is that the PC isn't controlled by a single company and this means that it isn't precisely defined. That is, there is no such thing as a 100% standard PC.*

The benefit of this uncontrolled chaos is that you get lower prices and a much faster pace of development. For example, take sound cards. The PC was very slow in getting any sort of sound facility, but now you can choose between tens of models at a range of prices. Choice is good — but it is confusing.

The key to it all is understanding the idea of backward compatibility. In this case the Sound Blaster card is backward compatible with the Ad Lib card. Hence while there is no Sound Blaster option in the game you can still have sound as long as you select the Ad Lib option (and have enough memory!)

The same idea of backward compatibility applies to VGA and Super VGA (SVGA). An SVGA card will work as a VGA card and so software can opt to treat an SVGA card as a VGA card. Your machine is most certainly equipped with an SVGA card and any resolution that you get above 640x480 are SVGA modes.

Now we get to the difficult bit! The reason why some software claims that your machine is equipped with only a VGA display is that it doesn't recognise the Cirrus Logic SVGA hardware. The problem is that recently SVGA hardware has been improved and some software just hasn't caught up. When you install a game, look out for Cirrus Logic options and if not, still try any SVGA option you may be offered. Your only other choice is to work at VGA resolutions but this is what backward compatibility is all about!

To answer your question about disk space fully would take too much paper space. The simple answer is that the reported amount of space used on a disk is the space needed to store the data. In practice the space used up is slightly greater because of the need to use a disk up in exact 2K, 4K or whatever, chunks called clusters. Hence there is a discrepancy between the amount of space reported as used and the amount of space reported as free. The reason why your word processor uses up disk space while a document is open, even though the document isn't stored on disk, is that it needs a temporary working file. This working file is deleted, or should be, when you close the document.

CD-ROM in the way

Q I own a 486DX 33Mhz 4Mb RAM and a 250Mb hard drive and have recently purchased a Sony double speed CD-ROM. I was pleased with the performance of most games and started to look out for the cover CDs. But some games wouldn't run or there was not enough memory. I tried a boot disk, but as this only installs the bare minimum, then my CD-ROM is not installed. Is there a way of doing so, and if so, how?

Also, I have recently been trying to get Windows running in 256 colours. But, when I install the driver from the SetUp and load Windows, lots of colours appear on the screen. When I then go to move the mouse, the colours change. How can I stop this? I would be most grateful if you could help me.

Alex Luketa
Essex

A *The problem with the CD-ROM is not uncommon and it is caused by the need to load the CD-ROM driver into conventional memory. Lots of other drivers are loaded into conventional memory and so use it up, but it is often the CD-ROM driver which is the last straw in the sense of actually using up enough memory to stop programs running. The easy solution is to use a boot disk that doesn't load the CD-ROM driver, but as you rightly point out this means that you cannot use the CD-ROM unless you re-boot. Many users however do find this a satisfactory way of working. The only alternative is to use a memory optimiser which will move as many drivers as it can from conventional memory into upper memory. If you have MS-DOS 6 or later, then you can run MemMaker which does a reasonable job. If you want to use something a little better, try QEMM. In most cases, though, MemMaker should clear enough conventional memory for you to run games and keep your CD-ROM installed.*

As to getting Windows running in 256 colour mode, you have to select a video driver that is correct for your video card. The behaviour that you report, such as colours that change as you move the mouse, is typical when you have selected an inappropriate driver. You need to know the exact name of your video card and use a driver designed for it. It is quite possible that the driver that you want didn't come with the Windows system but will be found on a disk of utility programs that came with your PC or video card. Have a look for it or contact your dealer.

A tale of CD-ROM blues

Q Having decided to invest in a CD-ROM drive for our system, we followed your advice to buy a Bluepoint IDE type CD-ROM. You pointed out that there may be compatibility problems with older machines, and so we took many precautions including asking the manufacturers of our computer, the suppliers, and the Bluepoint help line directly. No, they said, it is all nonsense. There will be no problems fitting it at all.

So, we ordered one from a company named TechDirect.

It arrived and we immediately opened up the case of our machine — a Packard Bell 110 Axcel 386 SX but with a Cyrix 486 upgrade chip fitted. We did not have the right

power cable. A few days later a 'widget' arrived to solve this. Then we realised that our IDE cable was wrong. A new IDE cable was bought. We sorted these out and then installed the software.

The next problem was that there was no audio connection on our old Sound Blaster v.2 sound card! Again, no-one had made it clear the card would not do. We phoned the engineers. "A jumper on your hard disk needs changing," we were told. After much delving, we did this. But still the drive did not work consistently. Messages of "abort", "fail", "retry" kept on appearing. It must have been a faulty drive. "We'll send it back . . ." The suppliers initially would not agree to a refund. We eventually persuaded them otherwise by pointing out our legal right to a refund. We were told it would be collected and checked out. We waited two weeks for it to be collected. Eventually it was and we await our refund.

In the meantime, we came to a decision to buy a different type of drive and a new sound card. Evesham Micros very quickly and efficiently dispatched the necessary items. "Great", we thought. We installed the sound card first, but we could not settle the DMA and IRQ problems. We'll do the CD-ROM drive instead. Oh, dear! This would not run successfully either as it needed to have the sound card attached and installed . . .Help!!!

My wife checked out the sound card at work — it was not faulty. A friendly engineer then agreed to help us out. The next day he told us there was nothing wrong with the card or the CD-ROM drive, nor with our computer. The problem was that our computer was incompatible. Fed up with the whole situation we decided to upgrade. We now have a 486 SX, 33Mhz, 4Mb memory, 270Mb hard disk, towercase, as completely future-proof as we can make it.

To those embarking on any upgrades with older machine — especially those with OAK technology hardware — beware! We still see problems ahead!

Barry and Sara
Hampshire

A There really isn't much I can add to this tale of woe, but I wish the friendly engineer had been a bit more specific about what the cause of the incompatibility was.

If you had written a letter to me before embarking on your adventure, I would probably have suggested that upgrading the whole machine was worth thinking about — I am always worried by old motherboards with upgrade processor chips. It is one of the disadvantages of fitting such overdrive processors that you end up with a strange configuration.

The point about IDE is that when it works it really is hassle free!

Unfortunately, what you have experienced is a common problem when dealing with early IDE interfaces in that they were not particularly standardised and hence the difficulty with such machines. As you discovered, fitting a non-IDE drive isn't hassle free because of the need to sort out IRQ and DMA allocations. In other words, when IDE works it is IDEal and when it doesn't — it just doesn't!

QUERIES TO:

Send your PC problems and queries to Mike James at
Q&A,
PC Review,
30-32 Farringdon Lane,
London EC1R 3AU
or via e-mail to
infomax@cix.compulink.co.uk.

We're sorry, but Mike can only answer questions on these pages, so please don't ask for personal replies.

Q&A UPDATE

STAY LUCKY

So do you feel lucky? No, this isn't anything to do with the national lottery. Some users never seem to have any trouble with their machines and others never seem to have any fun at all. After a while you begin to think that it must be a matter of luck. Some users are just born lucky and their machines work and others . . . Of course this is nonsense and there is a reason for this difference in experience and expectation.

As I mentioned in answer to one of the questions in this month's column, there isn't a standard for the PC. It isn't a machine made by one single manufacturer and when you consider the range of designs and variations that we recognise as being PC, then it makes you wonder why it all works together at all. For example, try fitting a VW spare part to a Ford and see how far you get!

So let's be 100% clear — there is no PC standard and hence no standard PC. There is no point in trying to wriggle and say that IBM make the standard PC, because it doesn't and hasn't for years. In fact IBM is responsible for some of the most deviant PCs ever made!

The only sense in which you can talk of a standard PC is as an average of the machines in use. If most PC software works on a given machine then it can be regarded as standard. As time goes by this 'standard' changes as we grow to expect more from our machines. For example, until quite recently a standard PC wouldn't have had any sound facilities other than its internal speaker. Now you can more or less say that a Sound Blaster compatible card is part of the PC standard.

So what has all this got to do with being lucky? The answer is that the users who find that they have no problems in making things work are the ones with the machine that is closest to the prevailing standard. At the moment if you have a 486DX with 4Mb of memory or more, SVGA, an IDE hard disk, a Sound Blaster card and a double speed CD-ROM — you probably have something that has a good chance of being standard.

However it isn't as simple as just having an up-to-date machine. Having bought an off-the-peg multimedia machine from one of the biggest suppliers, I was caught out by it having a state-of-the-art SVGA adapter — which some games refused to work with. You can be non-standard by being too new!

Users can also make their machine non-standard by fiddling with it. I think that this is the most common cause of a perfectly good machine being blamed for everything going wrong. All you have to do to make a reasonably standard machine non-standard, is to add hardware that takes it out of its class. Add an IDE drive to an XT and you have a non-standard machine. Add a processor upgrade to a 386SX and you have a non-standard machine. Fit two IDE drives to any machine and you might run into trouble and so on . . . And it's not just hardware that makes a machine non-standard. You can add memory managers, virus protection, password security, disk caches, special drivers of all types — and make your machine a nightmare for any program that does anything out of the ordinary.

Some users really do seem to have a lot of fun customising their machines. It's a bit like custom cars. They enjoy explaining in great detail how they are using a really fast video card, coupled with a strange new joystick imported directly from the States and a sound card that pumps out virtual reality surround stereo like no other. Usually though they end up by adding, "But of course it doesn't run X, and it crashes occasionally, and I can't understand why it doesn't work properly with Y" This is fine as long as they realise that the reason why they are having trouble is that they are having fun being non-standard. So if you're not a custom PC freak and would really rather not be one, the message is keep it simple and try to stick to what everyone else is using. Only by going with the majority can you keep your machine reasonably standard and stay lucky . . .

❍ Mike James

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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.

Catering for the disabled

It seems there is still very little software available for the blind.

A lot of this is due to Windows. Since Windows is a GUI (graphical user interface) it's rather user unfriendly for blind people who obviously can't use it when Windows loads the screen in graphics mode. The problem is compounded further in that the speech synthesiser used by many blind people can only work in text mode.

You might say that the problem can be solved by sticking to DOS-based software, but it seems to me that more and more software houses are moving over to Windows or GUI-based software, so the choice for blind people is becoming more and more limited.

The reason I am concerned is that my uncle is blind and has been for the last three years.

If there are any software houses reading this, surely it does not take too much to add a new function, so that you can use an icon-based menu system or a text-based system as an option, say, on the basis of MS-DOS Edit's menu system. Another alternative might be to produce such a utility as an add-on disk.

I talked to two software houses which were looking into this area at a recent computer show. Wordperfect's Wordperfect 5.1+ will use both text or GUI-based interfaces and Microsoft were very interested in the needs of the disabled.

Of course, there are other disabled people in the world, not just blind people, and some will need special hardware to use computers. Perhaps software houses could ask themselves what it would take to put a small bit of code into programs to help this hardware use their software?

Mark Schamely
London N19

Just a quick note to say . . .

In your December Issue of your fine magazine, the 'c' option to the tenth question in your Win 10 games competition (page 133) reads:

c) Trapped in the Tardis by the Master

I think it should read 'Trapped in the TARDIS by the Master' — you were careful to capitalise 'TIE' in TIE Fighter, etc. Just because there are no Doctor Who PC games, there is no excuse for such a stupid mistake! (And I hope you have the right to publish these names.) Also, which TARDIS?

Adam Wood
adamwood@cix.compulink.co.uk

Generally speaking, we capitalise acronyms that are pronounced as single letters (eg, IBM) and use upper and lower case if the acronym is pronounced as a word (eg, Wysiwyg) — unless it looks silly. In the case of TIE Fighter, it looks very silly indeed as Tie Fighter — something to do with a struggle against conventional dress codes, perhaps? There are lots of other exceptions as well: RAM, for reasons similar to TIE/Tie, MS-DOS, which is a mixture of word and letters in pronunciation, or SCSI, which is always pronounced 'scuzzy', but to us looks unpronounceable as Scsi.

Anyway, I bet you never thought we'd take your point so seriously.

OS/2 review, please

In Letters, Issue 39, you responded to Lincol Lin by saying that only a small number of readers would be interested in hearing about the new release of OS/2.

This doesn't seem to be the case in my circle: many of the people I know are looking forward to getting a copy of of OS/2 3.0. One of my friends even attended a seminar on OS/2 in Saudi Arabia, and he's only 14! I have found that many people use Windows simply because of the number of applications written for it and not because it is particularly easy to use.

I have used OS/2 versions 2.0 and 2.1 for around two years and have been impressed by its ease of use and its proficiency at multi-tasking.

With these statements in mind, I request you to change your decision and review OS/2.

Asad F Khan
Essex

It may not be a review as such, but we do have an OS/2 article in this very issue, starting on page 103. You see, we do listen — sometimes.

Thanks for Technical Help

I have to admit I would never have bought your magazine had it not been for the cover CD, as it appeared from the cover that it was games-orientated. However, I must congratulate you on a superb Technical Help section. It is written for ordinary people who need to know more about the intricacies of computers and does so extremely successfully. I have learned more from one edition of PC Review than all 'the others' put together and will certainly purchase further editions.

Mr P R Barker
Huddersfield

Confusing to read

First off, I'd like to congratulate you for your new look. The text is now much easier to read and the overall design looks a lot more classy — I'm glad you have gone for games on the cover instead of boring things like Windows and CD-ROM (yawn!).

Now I'm going to have a grumble. I'm finding it increasingly difficult to find my way around the magazine. When I started reading PC Review, the features were at the front of the magazine followed by games. Then you introduced a products section for non-games software and hardware and put it near the back, which was fair enough. But now you've complicated things so much that I never know where to find anything. In Issue 39, there's an article on which PC to buy in the front of the magazine instead of in the product reviews, and the lead game (Kyrandia 3) is also in the front of the magazine instead of with the rest of the games. Then somewhere between the games and the products is a feature on the 3DO card. This is an interesting topic for most games players, so why stick it where it can easily get lost?

Please stop it! Can we go back to having the games in the games section, the features in the features section and the products in the product section? That way us poor, bewildered readers will know exactly where to find everything.

Tony Matthews
Nottingham

Stop whinging!

OK, PC owners, I want you to slap yourself. Go on, give yourself a good hard whack. Why? Well, we PC owners do not give the PC enough credit. All we do is complain. Sure, I know the feeling of drooling over a Sega or maybe a Jaguar console boasting the best graphics and gameplay, but wouldn't you miss the fun of solving a boot error or trying to get a game working when you keep getting the message "insufficient memory"?

OK, so it isn't the best games machine in the world but nobody's perfect. The PC has managed to cope with everything from spreadsheet programs to MPEG cards. I bet Sega doesn't have a jukebox to play MIDI files while you doodle in Windows.

The only difference between about each console is its serial number, whereas each PC is unique. The 3DO has some interesting games and a cool control pad but the 101-key PC keyboard and 3-button mouse allow you to do so much more.

RJ Scott
Pietermaritzburg, South Africa

Ultima anorak speaks out

I read Steve Cooke's column in Issue 39 about Ultima VIII and find that I share some of your concerns. I'm afraid I have to classify myself as a bit of an Ultima anorak, but the first game I played in the series was Ultima VI.

What attracted me to it, after the initial hours spent in wonderment at the way you could interact with almost anything, move anywhere, talk to anyone, travel overseas, meet strange people (and kill them!), was the storyline. I wanted to finish the game: I needed to know how it all ended up.

I though Ultima VII still had this level of interest, as did Serpent Isle, but like you I was very disappointed in the apparent change in Ultima VIII. I found its plot easy to predict and some of the gameplay served little purpose other than to extend the story: the bits where you have to collect ingredients for spells were very repetitive.

I got stuck in Ultima VIII and feel that there was no need had the game design been better. Firstly, the quest for enlightenment given by the necromancer doesn't exist. This is completely idiotic and I spent ages thinking I had missed some vital plot element when in fact the quest was on a much more philosophical level.

The constant attacks from monsters (come on: you'd hardly choose to set up town near hordes of monsters) was also tedious, but the bit that really made me fed up was the bit where you had to jump on to stones to get somewhere and died if you fell in the water. Not only is this repetitive, but it's also unrealistic: what about swimming? The need to be pixel-perfect to achieve something died out in adventure games long ago, so why resurrect it in an Ultima game, of all things?

Ultima VIII looks great and it's a shame that it has so many flaws. I just hope Origin gets back to doing what it does best — story telling, plot and playability.

Another issue: I've finally caved in and bought a CD-ROM drive because they've reached a reasonable price level. However, I've found many of the demos are poor and gameplay non-existent, even though the programs look great. The main exceptions are the talkie versions of adventures where speech enhances things greatly. Which brings me to Kyrandia 3.

After reading Cal Jones' review, I'm sorry I bought the game. I've already been wandering aimlessly, employing the "try everything in the inventory" game plan too many times. If Cal finds it hard how the hell are we mere mortals supposed to cope?

What Cal didn't mention was the over-simplistic control system. You point the mouse around the screen and it shows if you can go off the screen to another location, but it doesn't show you which objects can be interacted with. The result is that you click all over the screen, picking up some objects by mistake and missing others. Sooner rather than later I'm going to give up and throw the damned thing through the window.

Mike Hicks
Theydon Bois, Essex

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Fire and forget?

If your joystick is looking a bit battered and the fire button misses more times than it hits, you could consider a stick that's specifically designed for a particular type of program. Check out these paddles, throttles, and rudders — they could just improve your high score overnight.



Games

The adaptation of Terry Pratchett's Discworld is on its way, as is Descent, Big Red Adventure, BC Racers, Vortex, Battledrome, and Psycho Pinball. Look out too for Star Trek: The Next Generation, Dark Forces and Bioforge just as soon as we get our hands on the finished copies.

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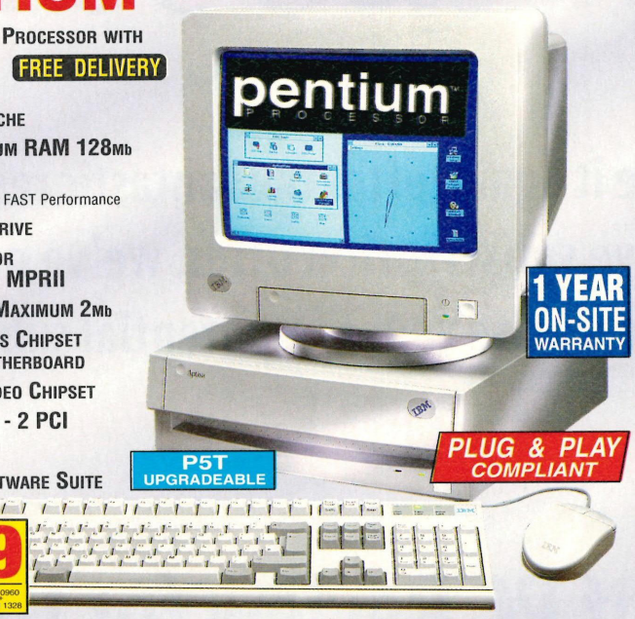
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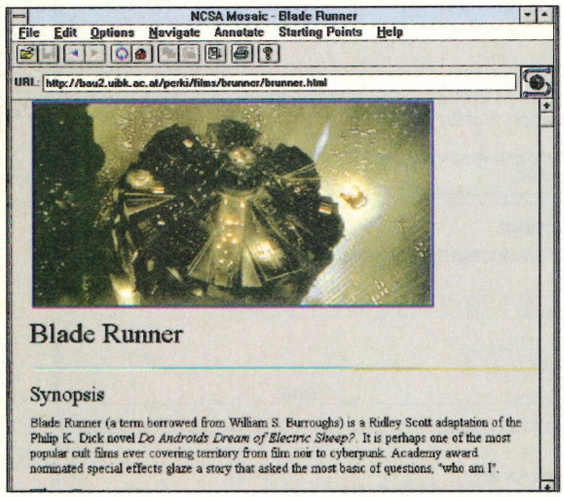
The Internet is the hot topic of the moment. But John Bennett argues that the Net is far from ready for human consumption.

If I have to sit through yet another Internet evangelist wittering on about the (solitary) joys of netsurfing, I think I'm going to commit a random act of truly senseless and epic violence.

OK, it's more than likely that the Internet will eventually turn our world completely on its head. But take a look behind the hype for a minute. Ignore the delirious jabberings of strange people who would rather spend an evening tapping messages into a computer than popping down to the local for a swift pint, and think about what the Internet has actually got to offer.

It's just one big headache from start to finish. Despite the fact that the software is improving all the time, it's still an impossible system to use and a ridiculous one to navigate around.

It's rather like the state of the PC in its pre-Windows and pre-VGA days. Outside office hours, the PC was solely the province of enthusiasts, techies, anoraks and nerds (delete as applicable). These were the people with the time (or the lack of a social life) to spend hours mastering the intricacies of MS-DOS. If you didn't know the magic words you couldn't get any further.



A graphic interface such as Mosaic may disguise some of the inanities and inconsistencies of the Net, but it still doesn't hide all the underlying mess.

Primitive and frustrating

That's the Internet for you — primitive and essentially very frustrating. The mass of conflicting protocols, gateways and commands is crazy, and the whole thing is a mess from top to bottom.

> "The mass of conflicting protocols, gateways and commands is crazy and the whole thing is a mess from top to bottom."

How on earth can an ordinary person, making their first steps with a shiny new multimedia PC, expect to make any sense of the Net right now, when hardened PC users still struggle to find their way around their own untidy, contradictory setup?

Get a life

Once you get some idea of how the damn thing works, the Net does have its attractions. Leaving aside the software and general information, surfing can be quite a buzz, I'll grant you. Newsgroups and forums can be fascinating, and there are interesting people to 'meet'...

But I'm trying to stay as far away from that as I can these days. I find the social aspect of the Net, and the Net culture we all have to fit in with, quite horrific.

Normal people go out, have friends, they meet people and they do things. They don't need a computer and a set of arbitrary symbols to act as a go-between for them and their social life.

And they also don't need the small-minded, snobbish, pedantic, bitchiness (I won't even bother with 'sexist, 'racist' or any other '-ist' that might spring to mind) that pervades large chunks of Net chatter either. Let's leave that to the club members.

Because that's what the Net is — an exclusive club. This insistence on 'Netiquette' only reinforces the fact that the Net is not only primitive but also a closed shop. What sane person really wants to communicate emotions with 'smileys'?

20 million people can't be wrong?

I'm not saying that people should ignore the impact that the Internet is going to have, or that you won't get anything out of joining the Net. Enough people are using it, so it must be doing something right for them.

I just wish people would stop trying to ram the Net down our throats as something we can't live without. It's a lot of hype and very little substance.

The computer industry needs this hype to get new people buying PCs. The industry needs buzzwords like 'Internet', 'infobahn' and 'information superhighway' littered around national newspapers and TV programs. They want to get the home PC ball really rolling (after the kick start it's had from Windows and multimedia).

The Internet is just one of the latest ways to keep PCs in the news. But I'm sorry, you can't sell the Net as a consumer necessity until you make it fit for real people to use.

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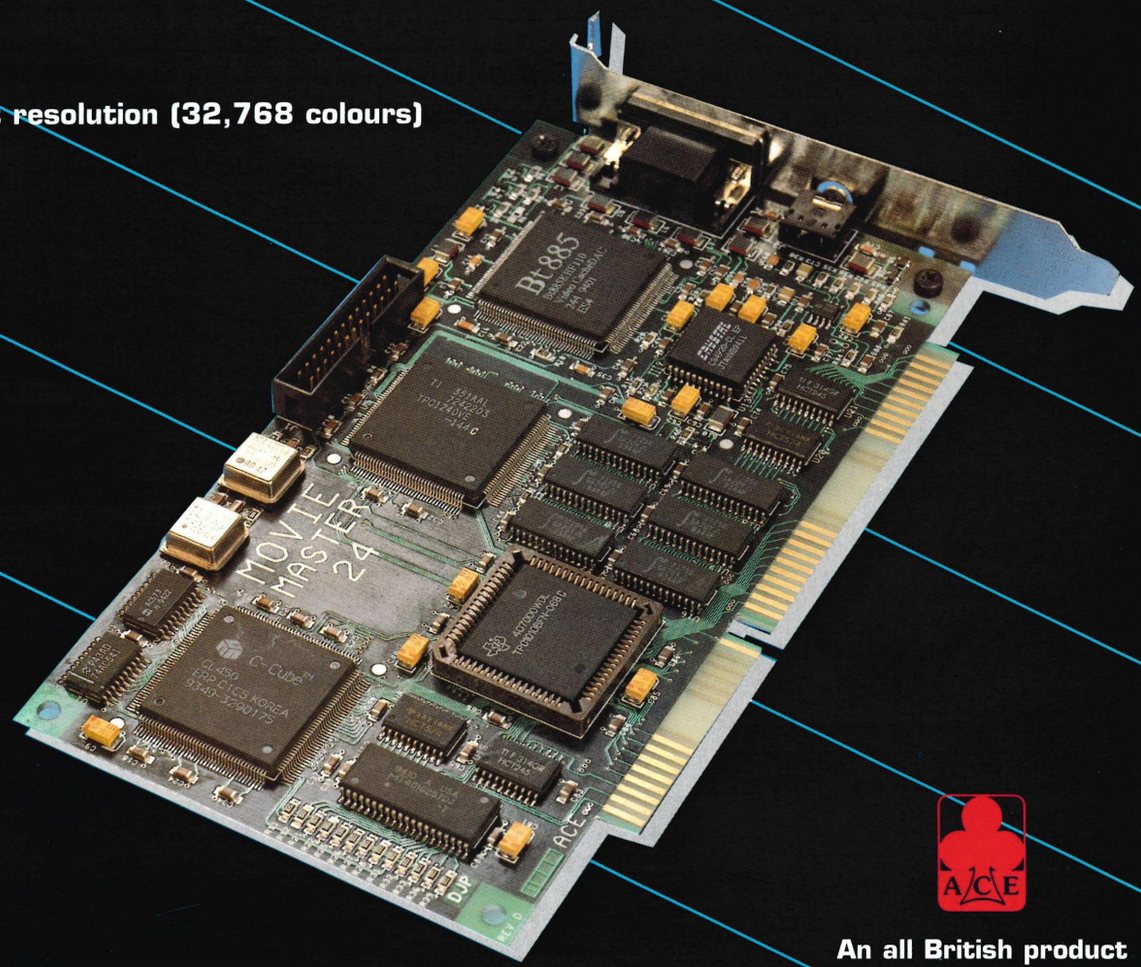
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