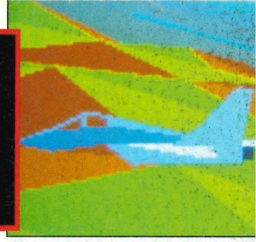


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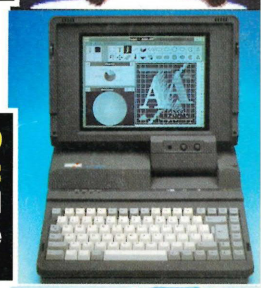
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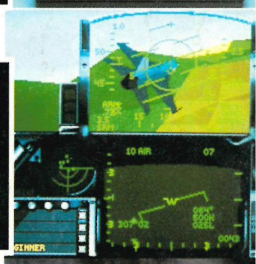
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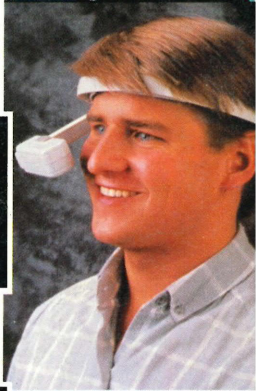
Laptop gaming: a practical guide



Take to the skies with Falcon 3.0



Gadgets: make your PC's life easier



Patton Strikes Back: new from Chris Crawford

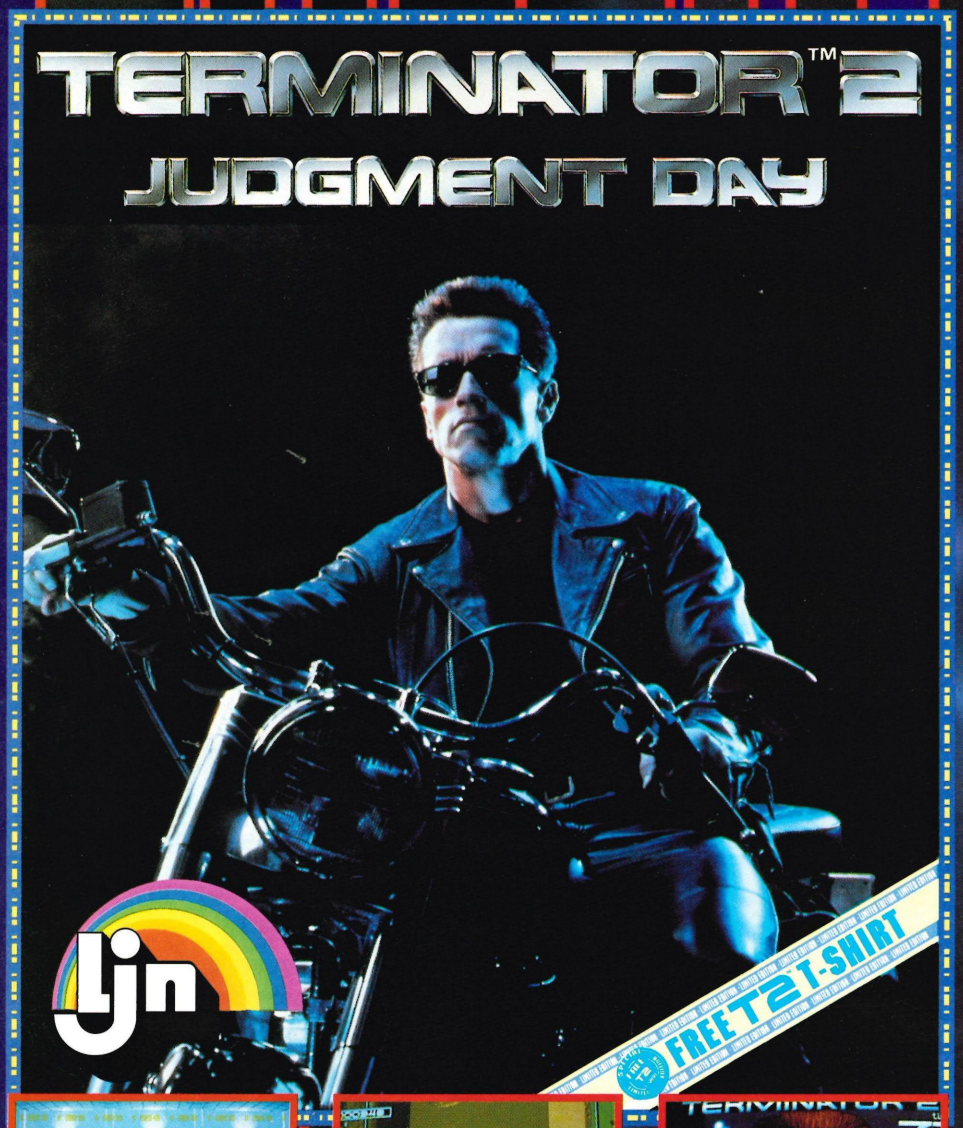


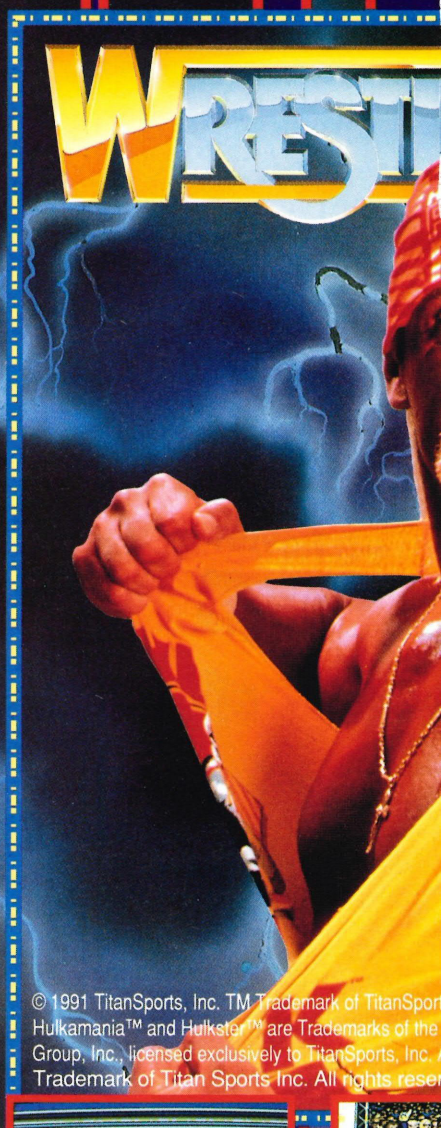
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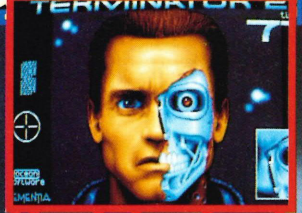
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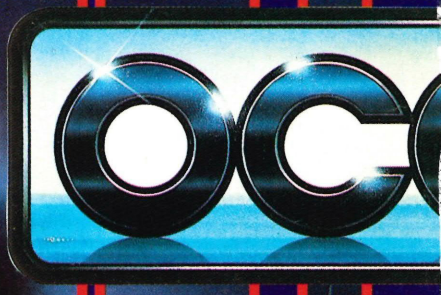


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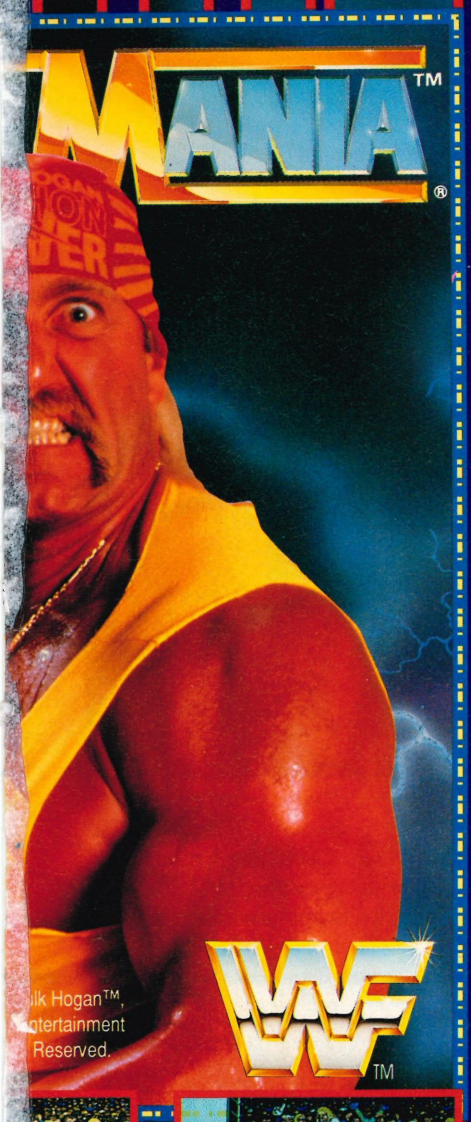
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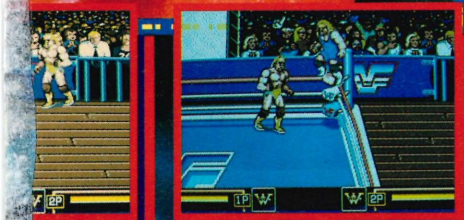
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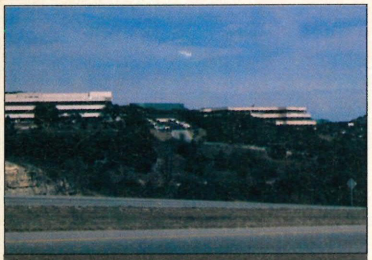
Contents



48 HOURS IN TEXAS

The PC Review team has gone to some lengths to bring you the latest news this month. When Origin invited us over for a sneak preview of Ultima VII, we leapt at the chance, caught the first plane to Austin, Texas, and the fruits of that not exactly leisurely trip can be seen on page 40. I'm sure anyone who's played the previous Ultima games will agree that the full-screen graphics used in VII make a huge difference to the look of the game. Games design wizard Chris 'Balance of Power' Crawford also very kindly sent us exclusive copies of his latest game, Patton Strikes Back – war-gamers and strategists should turn to page 46 for the full low-down.

Two other eagerly-awaited games, Falcon 3.0 from Spectrum Holobyte, and Virgin's Dune, aren't ready for review yet, but we've a report on their progress so far in our Coming Soon section, starting on page 12.



Origin Systems: perched on a hill outside Austin, Texas.

There are a couple of new features in this issue: The Games That Got Away, on page 86, is a quick reference guide to all those titles which we couldn't fit into the main review section. On this page, we'll also keep you posted about games that, for one reason or another, have been delayed. I hope that this service will mean you don't have any more fruitless trips to your local software shop looking for games that should be out but haven't made it on to the shelves yet. Secondly, we'd be grateful if you could take the time to fill in the questionnaire on page 61. We want to make sure we're providing the sort of features and reviews that you really want to read, and this is your chance to have a say in the shaping of the magazine.

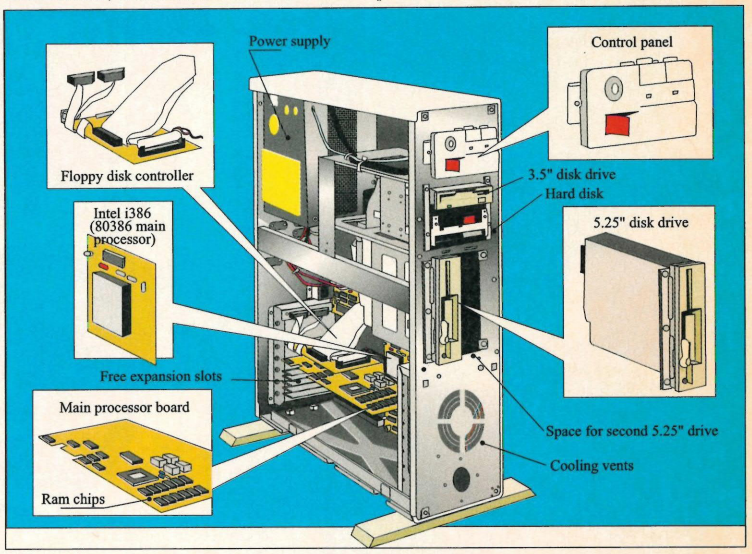
Finally, anyone who wants to take part in one of our company visits will find the On the Spot form on page 143. The first trip, to Electronic Arts, proved to be a great success for all concerned, and we'll run a full report in next month's PC Review.

Christina Erskine

FEATURES

18 Win a VGA monitor We've got a superb top-of-the-range Philips VGA monitor to give away, plus three copies of Deluxe Paint Enhanced just waiting for a winner in this competition.

24 Inspect a gadget Peripherals needn't be dull. Gordon Houghton has a look at some of the more offbeat and curious add-ons for your PC. Since there aren't too many shopping days left until Christmas, there are some excellent present ideas to be picked up here.



27 First Steps with the PC Chris Long explains some of the principles behind the PC's operating system, MS-DOS, and explains how to customise those start-up files to suit your machine.

REGULARS



7 News The latest happenings on the PC front.

12 Coming Soon Reports from the development teams on the progress of Falcon 3.0, Dune, complete with amazing graphics, Core's Heimdall, and for those who prefer all-action stuff, Smash TV.

34 Cover disk Full details on this month's superb cover disk selection. How to get the most out of the Powermonger and Pitfighter demos, how to play Sleuth, the detective game, and atouch-type tutor.

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EDITORIAL
Editor Christina Erskine
Art Editor Gareth Jones
Production Editor Paula Shields
Staff Writer Matt Regan
Trainee Designer Yvette Nichols
Contributors Tim Carrigan, Steve Cooke, Alan Dykes, Kati Hamza, Rik Haynes, Gordon Houghton, Chris Long, Steve Merrett, Paul Presley, Jason Rainbird, Laurence Scotford, Peter Worlock

Special thanks this issue to Paul Boughton

Cover photograph Ed Park
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ADVERTISING
Advertisement manager Kathryn Boucher
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32 Gaming on the move Can you really play games comfortably and conveniently on a laptop PC? Rik Haynes investigates the pros and cons of gaming anytime, any place, anywhere …



95 Readers' Top 50 Way back in the days of PC Leisure, we asked you to nominate your five favourite games so that we could put together an all-time Top 50 based entirely on your votes. And after much shaking of the PC Review abacus, here it is.

COVER STORY

20 Life After Populous

The worldwide success of *that* game made Bullfrog one of the best known programming teams in the business. Now Bullfrog is turning its attention to the PC with three new games in the pipeline. Rik Haynes went down to leafy Guildford to see how Populous II, Bob and Powermonger are shaping up, while you can try out Powermonger for yourself on this month's cover disk.



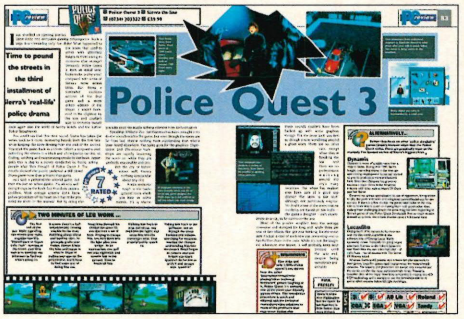
BUYERS' GUIDE 99

We've beefed up the Buyers' Guide this month, to give a comprehensive series of listings for hardware, software and peripherals for your PC.

SHAREWARE 121

If you haven't already taken advantage of PC Review's Shareware bargains, turn to page 121 and see what you're missing. Our Shareware catalogue contains hundreds of programs all designed to make life with your PC easier. Check out this month's specially featured titles.







39 Reviews Ultima VII, Pro Tennis Tour 2, the sinister Floor 13, and Police Quest 3, and many more. Full details on the Reviews section in the index on page 39.

89 Tips Part two of the solutions to Heart of China and Eye of the Beholder, and a host of quick tips.

140 Letters Pithy opinions, cries from the heart, rants and raves… all human life is here.

144 Q & A PC expert Chris Long answers your questions.

146 Quit

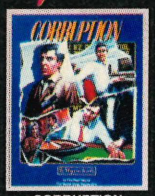
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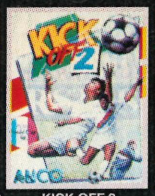
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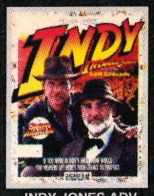
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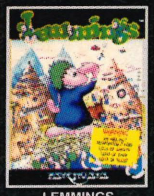

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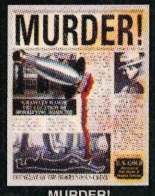

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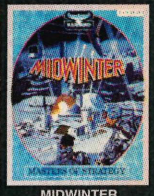

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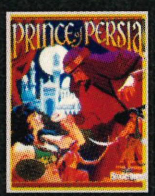

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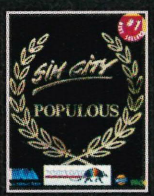

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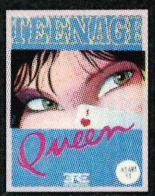

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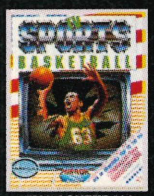

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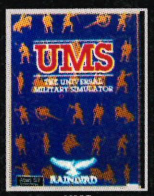

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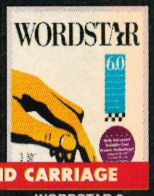

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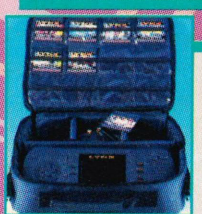
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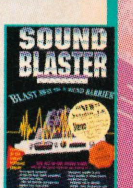

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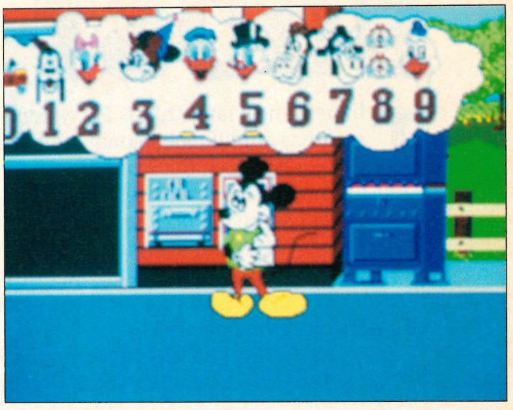
WONDERFUL WORLD OF DISNEY

French firm Infogrames has announced a prestigious new deal with Walt Disney to distribute all sort of Mickey Mouse software in Europe. Previously Disney distributed in Europe through Paris-based Titus.

The first batch of games are based around two of Disney's most recent action movies. Have you ever wondered what it would be like to strap a jet rocket to your back and fight Nazi henchmen? The Rocketeer should fulfil your strange fantasies.



Meanwhile, that crazy cartoon character Roger Rabbit makes a welcome return in Hare Raising Havoc. Roger has lost Baby Herman and you must find him before Mommy returns from her shopping spree at the local mall.



Both games are compatible with Walt's wonder widget for super sounds and sampled speech. Sound Source is a cheap accessory that brings Disney software to life with high-quality speech, fully-orchestrated music and real-life sound effects, according to the sales-blurb. If you have this or the Soundblaster card connected, you'll hear the digitised voices of Roger Rabbit, Baby Herman, Mommy and Jessica in Hare Raising Havoc for instance.

Disney's Animation Studio, an introduction to the intricacies of animation techniques, and a series of "edutainment" titles starring Mickey Mouse complete the range.

JOURNEY INTO THE UNKNOWN

Hyperactive Domark and The Intelligent Games Company, producer of 'Nam, is promising high adventure and exploration in its next joint-venture.

Columbus is a game of strategy set in Europe, the New World and on the high seas during the great age of exploration more than 500 years ago. Not that players are restricted to taking the role of this famous discoverer, they can also choose to be an adventurous Englishman or budding Spanish empire builder.

Further to this, Columbus is mainly played on a national level. As Monarch, you must direct the building of fleets and handle the finance needed to set the sails in motion.

"However, it's perfectly possible to blast enemy ships out of the water in a orgy of cannon fire while directing operations from the Quarterdeck," reassures Domark's Clare Edgeley."The full bloody action will be played out in front of you."

With a dramatised documentary series planned on TV and a movie by Ridley Scott, director of Alien and Blade Runner, on the way, joining in the 500th anniversary of Columbus's arrival in America is going to be pretty hard to miss next year.

FOOD FOR THOUGHT

Billed in the Guinness Book of Records as the world's greatest omnivore, Michel Lotito, is headlining the forthcoming Christmas Computer Shopper Show at Wembley Exhibition Centre from December 5-8th by eating a PC. Known as Monsieur Mangetout, this hungry chap normally dines on a menu of bicycles, super market trolleys, TVs and chandeliers.



SAY 'CHEESE'...

After a guest appearance on the Rolf Harris art show on Children's ITV, demand has reportedly soared for the Canon Ion-PC still video camera.

Introduced earlier this year, this remarkable accessory brings flexibility to a sector mainly dominated by expensive scanners.

With the Ion-PC system you can transfer full colour images from the camera and into your PC. Once their inside the machine, these digitised images can be used in most art, animation and desktop publishing packages and many database programs.

The basic Ion-PC kit costs £995 and requires a minimum system of 286 processor and EGA graphics card. Canon recommends you use a 386 with VGA display.



CD GETS A BOOST



There's a new range of CD PC systems on the streets courtesy of Philips Personal Information Products. Philips has been the main driving force behind CD applications since the mid-eighties.

"The arrival of the CD PC marks the beginning of mass market for CD-ROM applications," confidently states general manager Peter Dixon. "New CD-ROM titles are appearing all the time. We see a big future for these systems in business, education and the home."

The PCD 215 (286/12.5 with 40Mb hard drive for £999) and PCD 315 (386SX/16 with 40Mb for £1199) each have a built-in CD-ROM drive and come bundled with five compact discs holding Wing Commander, Ultima, Manhole, Illustrated Encyclopaedia, World Atlas Version 2 and the European Business Guide with travel, accommodation and leisure information.

At the same time, the far-sighted firm unveiled its first Multimedia PC (MPC) system at the Comdex '91 Exhibition in Las Vegas last month. The Philips 386SX-20 MPC will not be released in th UK until next year, but it currently costs $2,499 in the US.

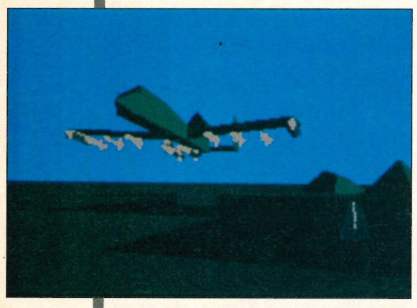
"MPC is the next generation in personal computing," insists a Philips spokesman. "Now, with an industry standard for incorporating data, sound and animation to the PC, we have created a whole new approach to the way we work, learn and play."

An MPC (Level One) machine can handle graphics, animations, music, sound effects and speech. The actual system must consist of a PC (fast 286 minimum) with integrated CD-ROM drive, Windows 3.0 (with Multimedia Extensions), DOS 5.0, hard drive, soundboard and mouse. Future versions will expand on such a configuration, but any software displaying the MPC (Level One) logo will run on this basic system. The Philips 386SX-20 MPC model has a few useful additions to give it an edge over the competition.

The main goal of the MPC Marketing Council, which consists of a number of major hardware and software makers, is to set future standards within the Multimedia PC fraternity and that should benefit everybody concerned.

TRIP THE FLIGHT FANTASTIC

A product of almost four years loving care, great things are expected of the next flight simulation from Electronic Arts. Birds of Prey is the brainchild of Jez San, creator of Starglider II, and his respected development company Argonaut Software. Ignoring the extraordinary time spent on the project, what's special about this release?



"Birds of Prey is the most realistic flight simulator published on personal computers to date," reckons EA spokesman Simon Jeffery. "The player has 40 planes to choose from, including the Soviet MiG-29 and F117/A Stealth Fighter. Every plane has been thoroughly researched to accurately represent flight dynamics, performance and graphic detail."

Unlike many games of the genre, Birds of Prey is not based around a series of set missions. Instead, players can select one of twelve fictional and totally non-political 'scenario types', which range from aerial dogfighting and ground reconnaissance to troop drops and test flying experimental aircraft.

"There are literally millions of different missions," believes Chris Humphries, Argonaut's project manager. "We've tried to combine the best of simulation and action. It's the nicest mix players are likely to see."

DESIRABLE DUNGEONS AND DRAGONS

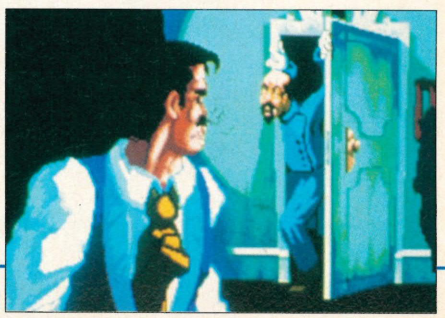
Good news for anybody pining for a sequel to this year's role-playing hit from SSI. Eye of the Beholder 2 is here! Prepare yourself for an expanded storyline with greater character interaction, new locations and creatures, improved graphics with animated sequences, and a superior interface to quicken spell casting. Phew.

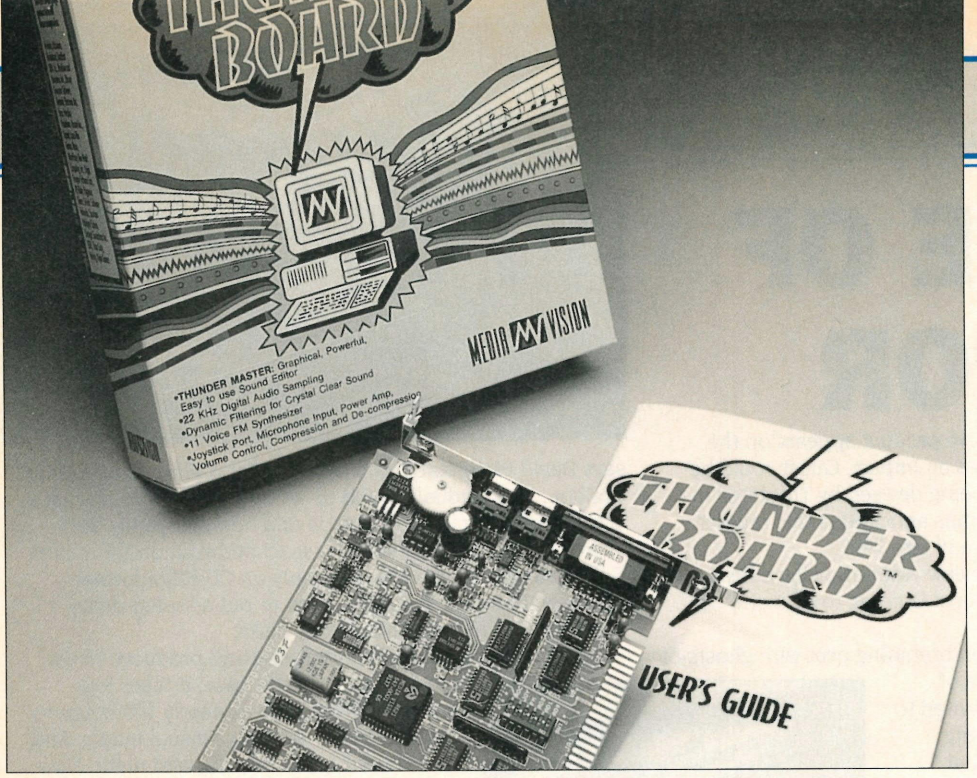
TOUCH OF CLASS

Inspired by Agatha Christie's Death on the Nile, the next Cinematique interactive adventure from Delphine Software and US Gold is in the final stages of development.

Cruise for a Corpse is the French answer to Lucasfilm's Secret of Monkey Island and features an easy-to-use game engine coupled with gameplay of considerable depth and challenge.

It's the 1920s and Inspector Raoul Dusentier is enjoying a dream cruise in the Mediterranean, when (you can probably guess what happens next) the host, Greek shipping magnate Niklos Karaboudjan, is murdered. Can you solve this scandalous crime before you become the next victim?





SOUNDTASTIC, MATE

The Thunderboard is a new low-cost audio card from Mediavision of Fremont, California."The Thunderboard is an ideal solution for the PC games player," swears Paul Jain. "It supports the same extensive library as sound cards costing considerably more. It faithfully reproduces digitised sound and the FM synthesiser can play 11 simultaneous instruments to emulate a dynamic orchestra."

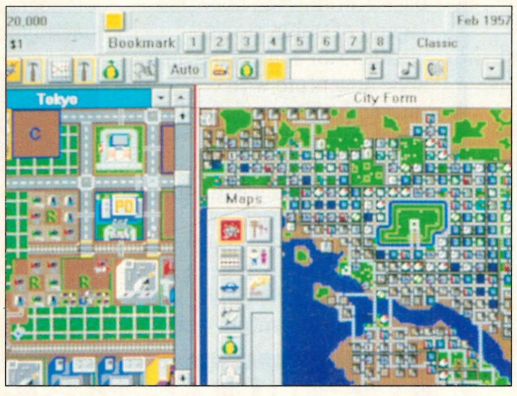
Mediavision's equivalent of the Soundblaster has a suggested retail price of £129.99 and is distributed over here by Dimensional Services (0494 488551) through Centresoft (021 625 3388) and Leisuresoft (0604 68711). Call one of these three firms to find the location of your nearest stockist

WINDOW ON THE WORLD

Californian company Maxis has entered the fledgling Multimedia PC (MPC – see Philips story on page 8) market with a new version of its best-selling urban planning simulation game. The enhanced SimCity was shown during the recent MPC launch in New York .

SimCity is a sophisticated simulation of a city. Players build homes, stores, factories and sports stadiums while fighting crime, unemployment and pollution. With good planning, their city will grow as 'Sims' (Simulated Citizens) move in and build. Bad planning may result in a ghost town or prison sentences!

SimCity for MPC, to be released in March 1992, will retain all the great gameplay of the original while bringing new features like full-motion video news report sequences updating conditions in your city, VGA with 256 colours, new sound effects and background music with a range of styles, on-line help, multitasking play and a 'boss key' to shrink windows to active icons.



EVERYTHING YOU WANT FROM A STORE ...

It may seem unlikely, but Purley Way in Croydon could be the best place to find bargain PC software and hardware. Europe's first Computer Superstore is filled with lots of low-priced goodies. The next PC World could open in the Manchester area next year.



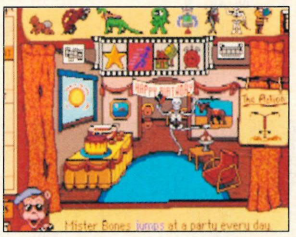
KEEPING THE KIDS QUIET

Another one of those educational games, The Treehouse is supposedly a magical hideaway for activities designed to help children discover the wonders of music, science, math (it's American), language arts, social studies, history and logic.

"The Treehouse is the first kids game to incorporate interactive 'playmates' into a software program," indicates Jessica Switzer at Broderbund Software. "The child can choose to play with either the girl or boy opossum. Interacting with the child, the 'possums may ask to be fed or to take a nap."

Broderbund, of San Rafael, California, has already enjoyed considerable success with the Carmen Sandiego range of titles.

The Treehouse learning games include Musical Keys,



which teaches kids how to read, write and play music; Musical Maze, in which children learn to identify instruments, sounds and rhythms; Treehouse Theatre, which encourages word recognition, reading, sentence structure and grammar presented in an entertaining format. Fun characters and props help the students to write and stage their own shows. Finally, Guess My Animal involves the player in identifying mystery animals hidden around the treehouse and yard.

HOUSE OF HORROR



Every so often, an innovative product appears on the market which really makes an impact. Guest could be such a game. Currently being devised by Trilobites in the States, publisher Virgin Games anticipates this murder mystery will be ready for release in late 1992.

Judging by the impressive preview video showing early scenes, it certainly looks like Guest is going to be worth the wait.

Guest is set in a large mansion brimming over with ghosts of all shapes and sizes. You're one of seven people who have been invited to go ghostbusting and solve the big mystery behind these paranormal pests. The house once belonged to a mad toy maker who created dolls which mysteriously killed all the little boys and girls who ever played with them. These poor children have come back to cause some mischief and mayhem.



"It's like watching a horror movie," says David Bishop at Virgin Games. "Yet it plays like Agatha Christie. You gradually build up an impressive film of what actually went on in the mansion and how everybody died."

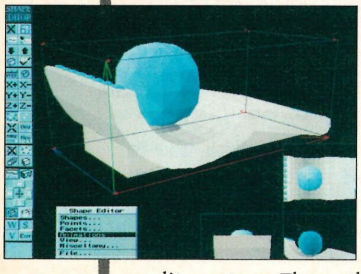
Such quality animation with associated soundtrack means Guest will initially be available only on CD-ROM format. However, there are tentative plans to put a scaled-down version on 12 high-density floppy disks.

The whole project has been scripted and produced like a movie, except in this case, it takes four powerful 486 machines nearly 100 hours to create a single second of visual magic. And that's running flat out, day and night. Now you can probably understand why production is progressing at a steady snail's pace. Digitised speech is being added over the next few months.

PC Review hopes to bring you a full report on this ground-breaking game in the very near future.

ADVENTURES IN THE FORBIDDEN ZONE

With all the media hype surrounding virtual reality, it comes as little surprise this cyberspace craze has now hit your personal computer.



VR, as it's known , is really just another way to display and interact with three-dimensional computer graphics. This has not stopped some pundits predicting everybody will be hooked to 'virtual sex' before the nineties are through. Dismissing the more outlandish concepts, Dimension International has introduced a desktop virtual reality system. The aptly named Desktop VR comprises of a 486/33 PC, Texas Instruments 34020 graphics processor (chip used in military flight simulators), Superscape Visualiser Software and, the Spaceball 2003 controller.

"Desktop VR is the start of a revolution in the art of communications," assures a spokesperson. "Virtual reality has its roots in aeronautics and space research. Today the Army use extensive VR systems for tank simulation exercises. The experience of Desktop Virtual Reality is difficult to describe, it just has to be seen. The brain really can be convinced it's somewhere else."

Dimension International is also maker of the 3D Construction Kit published by Domark. Give this a go if you can't afford the £12,387 asking price for the complete Desktop VR system.

LEAVING SCHOOL

Leisureland is the brand name for the School Software range of new adventure games from Limerick in Ireland. No doubt prompted by the success of the Kevin Costner film and Bryan Adams chart-busting soundtrack, the first release is based around the bankable legend of Robin Hood.

"This is an engrossing, new style adventure with interactive text and graphics which have plenty of intellectual appeal and stimulating challenge," thinks Ciara Feeley of School Software. "This has taken five years to develop. It's not another old style boring and frustrating adventure game."

Scrooge, the other premier Leisureland release, is based around the classic 'A Christmas Carol' story by Charles Dickens. Players help Tiny Tim and the Cratchits or confront the Ghosts of Christmas Past, Present and Future.

This Irish software house appears to be more environmentally aware than its English counterparts, because both titles come in biodegradable cardboard packaging.



IT'S NO YOKING MATTER

For that totally realistic piloting experience in your favourite flight-sim, nothing beats a good yoke. Veteran joystick manufacturer Spectravideo has introduced two new models on the 'chunky and robust' Winner label.

"The flight yoke really does look like the real thing," a spokesperson says, "with their two independent fire buttons and throttle control, the Winner sticks make games that much more user friendly."

The Winner flight yoke costs £59.95 while the more conventional pistol grip version comes in at a little under £30.





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System Requirements: IBM® PC, XT, AT, 386, 486 or compatible with 256K RAM, DOS 2.0 or higher, CGA, EGA, VGA, MGA or IBM PS/2, and headset or external speaker.

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Dune

Frank Herbert's Dune is a titan in the science fiction genre, having sold millions of books and inspired a filmfrom that master of the obscure, David Lynch. Now Cryo Developments is creating a game for Virgin that attempts to remain true to the novel and the film - and be an exciting game in its own right.



Following the adventures of Paul Atreides, the son of an important noble sent to the planet Arrakis to oversee the production of Spice, Dune combines elements of strategy and role-playing. Cryo, whose previous games have included Kult and Purple Saturn Day, were initially not the favourites for development of the game, but impressed Virgin so much with their approach to the game Cryo were given the go-ahead to complete the game.

At first the game has limited interaction, with choices being restricted to moving in certain areas and talking to selected characters. Giving the player an introduction to the plot and the game system was paramount to the developers, and understanding the conflict with the Harkonnen (a rival aristocratic family dedicated to wresting control of Spice production and destroying the Atreides simultaneously) is the crux of the game - believe it or







PC review On a Screen Near YOU

Title: Dune
Publisher: Cryo/ Virgin
Release date: March
Price: About £30

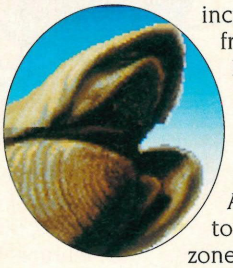
N...



not, there's still more than half a dozen people who haven't read the book!

As Virgin has obtained the film licence, familiar faces crop up in the game, such as Kyle McLaughlin who played Paul - and has since gone on to work with Lynch on the bizarre Blue Velvet and Twin Peaks. Unfortunately,Sting's cameo role - as a Harkonnen assassin - will be missing, as Virgin doesn't have the rights to use his image.

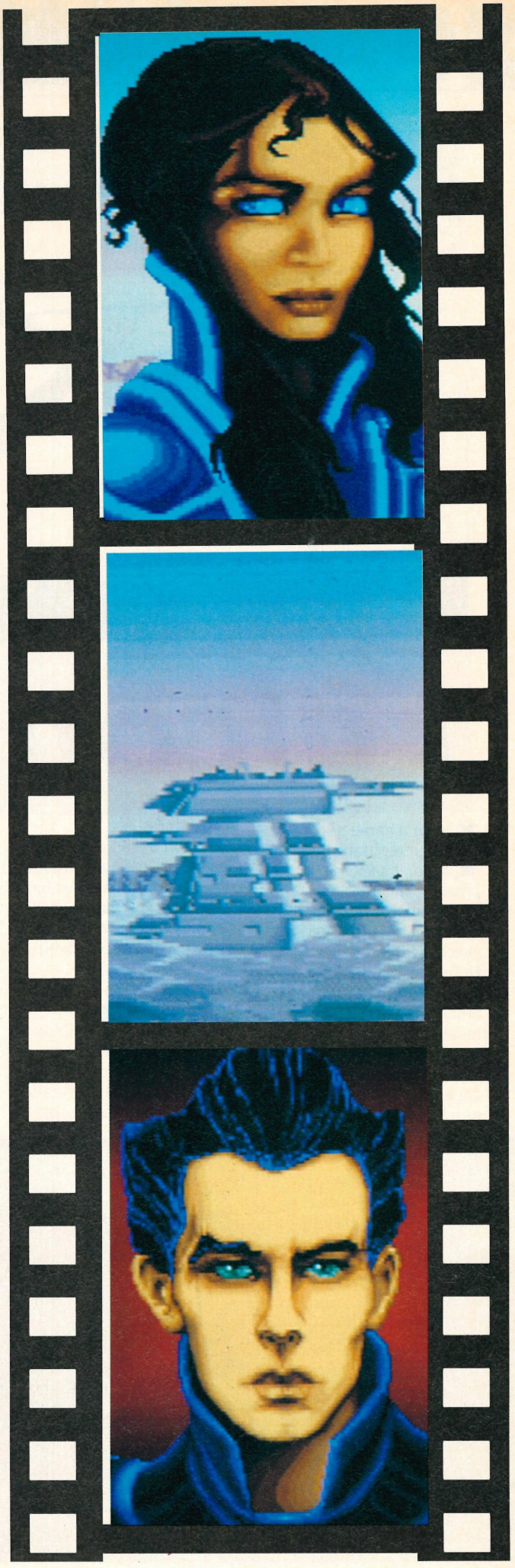
Charisma is the key to success. Unless Paul has the stature to convince his clan and the Fremen (an indigenous group who've adapted to their environment superbly) that he's their best chance, he won't be able to counter the increasing threat from the Harkonnen.



This introduces the strategic leanings of the game, withthe Atreides battling to increase their zone of control by farming as much spice as possible. Cryo are aiming Dune at 18 to 35 year-olds, so combining graphics, gameplay and an intelligent plot line (but not too cerebral) is their major concern. Revealingly, no decision has yet been made as to the inclusion of arcade sections, which would be an exciting way of dealing with Paul's attempts at worm riding, as the programmers are unsure that joystick sections would appeal to their target audience.



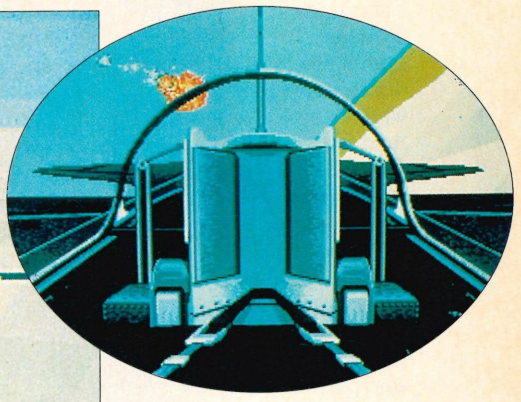
The philosophy behind the game's system, which uses direct interaction with other characters to advance the plot, is certainly unique, but the problem will be melding the numerous elements from the book into a coherent game. Hopefully Cryo can pull it off and turn Lynch's disaster into their success.



FACT BOX:

Dune was first published in 1965, and by 1980 had sold more than 10 million copies worldwide. Its blend of intrigue, tight plotting and wide-ranging action have made it a timeless classic - other giants of the field, such as Heinlein's Stranger in a Strange Land and Tolkien's Lord of the Rings, have aged badly in comparison. The reasons for its continuing success are hard to pin down, but the strength of the writing (it won the Hugo and Nebula awards, and was voted greatest novel ever by Locus magazine) and the breadth of the theme have ensured its popularity. As Paul becomes the Muad'Dib - the long-awaited saviour of the Fremen natives - the book addresses messianic pretentions, the nature of power, and the struggle against one of the most hostile environments imaginable; that of Arrakis, the planet Dune.





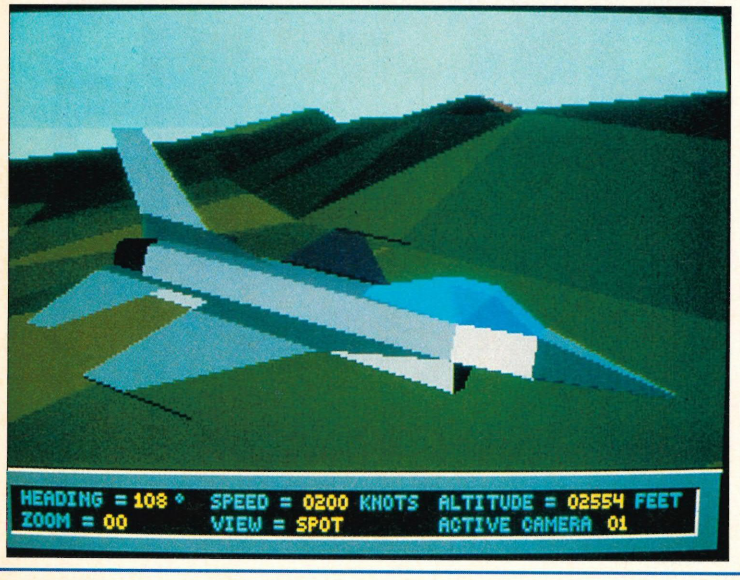
Falcon 3.0

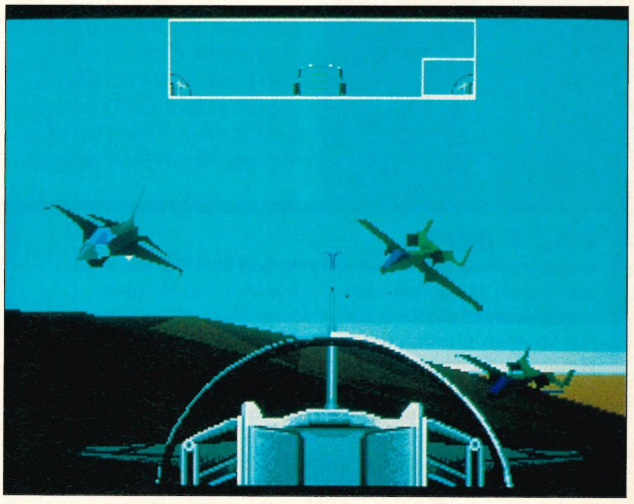
If ever a game had a tough reputation to live up to, it's Falcon 3.0. The previous incarnation of the F16 simulator (Falcon 2.0) has been an unmitigated success for Spectrum Holobyte, selling 200,000 units in Europe alone – making it one of the most successful games ever. Now the long-awaited sequel is on the verge of appearing, with a number of new features and operating procedures.

Falcon 3.0 boasts 'three games in one' (a claim that, when software houses have used it in the past, has usually meant three unsatisfying sub-games); an arcade section that concentrates on action and gives novices a gentle introduction to flying the beast; a set of training missions, which can be edited, in the section called Red Flag; and the works - the full campaign, where victory depends not on simply shooting down a couple of MiGs but on orchestrating the war for total success.

Those familiar with Falcon will recognise many of the features in this version the same, while some are confusingly different. The HUD (Heads Up Display, or electronic symbols superimposed on the cockpit) is basically the same, but incorporates new features too. Make no mistake, though, the full game is quite involved - one glance at the (very) hefty manual will disillusion those who don't believe in reading the things – it's a necessity with this! An enormous number of alternative views can be accessed, such as the obligatory tracking view and the more exotic satellite and wingman's view. Utilising the LANTIRN system enables would-be Tom Cruises to fly and fight at night.

The game loads with a War Room - a la Microprose's operations screens - replete with TV monitors which access configuration screens, communications, and so on. The difficultyf actors are different from those of the original; previously, the rank of the pilot determined the

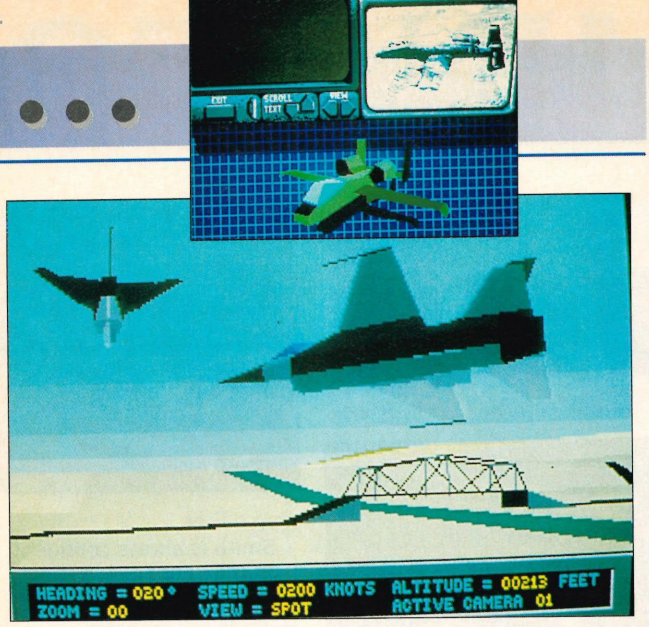




PC review On a Screen Near YOU

Title: Falcon 3.0
Publisher: Mirrorsoft
Release date: TBA
Price: TBA

N...



The F-16 fighter

General Dynamics began work on the F-16 project in the mid-1970s with a brief to design a fast, small fighter, capable of taking on the next generation of Soviet MiGs.

With a top speed over Mach Two and an operational radius of 925km, it has achieved a prominent position in the USAF with its amazing manoeuvrability and powerful Pratt and Whitney turbofan engines. It has been sold to many countries around the world, including Israel and Indonesia, and continues to see active service for the USAF.

complexity of the sim, while now each element is detailed: skill level, enemy logic, and realism.

Spectrum Holobyte - and its UK promoter Mirrorsoft - are naturally expecting great things from Falcon 3.0.

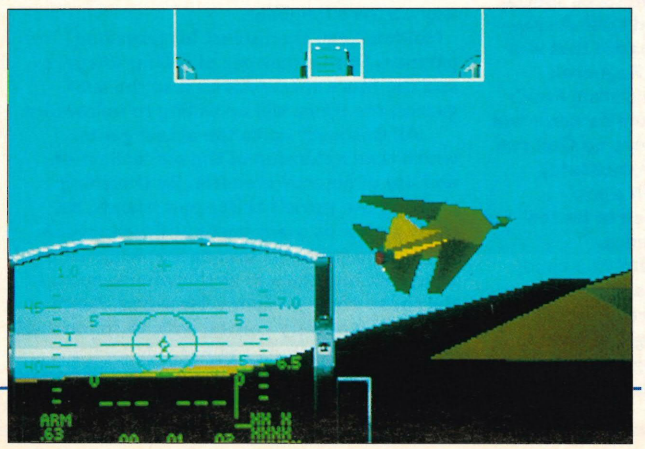
The tie-in system, EBS (Electronic Battlefield System), allows it to be linked with Tank and the forthcoming A10 and an as-yet undisclosed infantry simulation.

Another option is to link two PCs and fly missions together, blasting the heel out of bogeys - an aspect sorely missing from earlier incarnations.

None of this will come cheap, of course, in either system requirements or sterling. A test version, relatively far from completion, came on five high density 5.25" disks, and PCs with less than VGA, 386, and about 20MHz are unlikely to get the maximum performance from Falcon 3.0. Unfortunately this is an ever-more common problem, with the American hardware standard being so much higher. On the bright side, the ground detail level will (hopefully) be adjustable, letting us mere mortals play the game too. Pricewise, it's time to wince; Mirrorsoft is talking about a retail value of around £50. Ouch!

As ever, the emphasis is on dogfighting, and so should please wannabe fighter jocks, and the increased attention to ground attacks make this more fully-rounded than before.

The level of realism detail is astounding, as these early shots will show you, and our hope is the game will prove as impressive in gameplay as in the graphics.



IN 1979 THIS WAS THE PHENOMENEN THAT SHOOK THE WORLD...

SPACE INVADERS

PROBABLY THE MOST FAMOUS COMPUTER GAME OF ALL TIME...

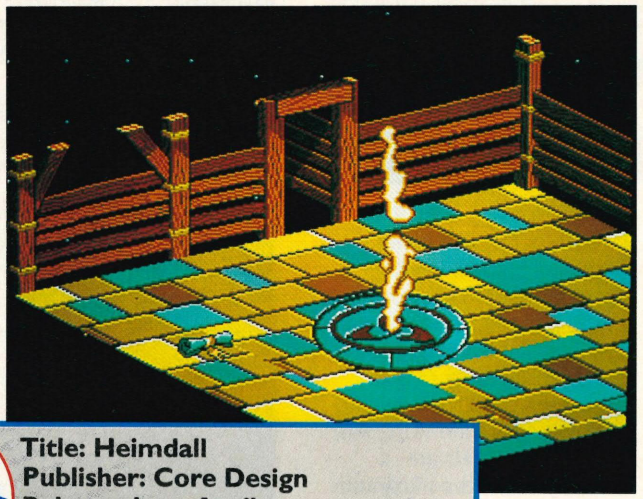
BUT, THAT WAS THEN...

Heimdall



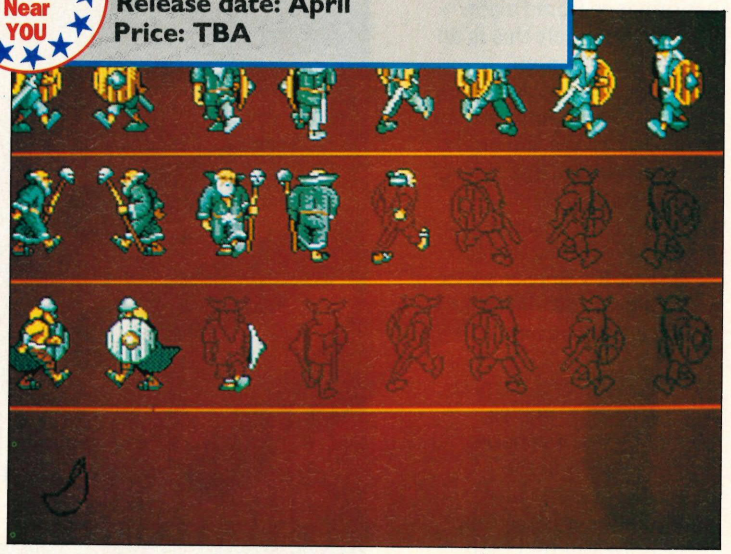
"Our main aim was to bridge the gap between Bluth-style graphics and arcade playability," says Core's Jeremy Smith in summing up of Heimdall.

Already a huge success on the Amiga, Heimdall is Core's largest project to date. The game's genesis lies with Jerr O'Carroll and Ged Keaveney, two ex-Gremlin coders who make up 8th Day Productions. "The whole Nordic thing really interests me," says Jerr, "and I thought it was ripe for inclusion in a omputer game." Thus, having shown their capabilities in Gremlin's ill-fated Lil Divil project, the duo took their idea to Smith who promptly got them to script a detailed storyboard as to what they hoped the game to contain.



PC review On a Screen Near YOU

Title: Heimdall
Publisher: Core Design
Release date: April
Price: TBA



Heimdall is a large arcade adventure played over a series of stunning-looking isometric rooms. Additionally, however, there is an RPG slant to the game with the fighting scenes displayed in third-person perspective, and a series of sub-games preceding the action.

Handling the PC chores are Core newcomers, Dave Pridmore and Alex Davis, and although they are only three months into the mammoth task, the three sub-games are up and running, and the main bulk of the game is being pieced together with a home-grown map editor.

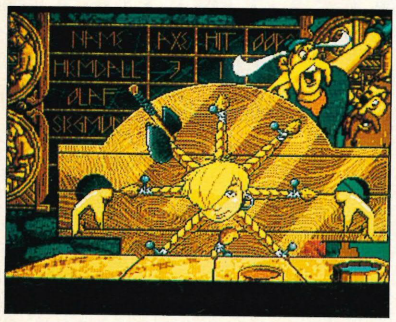
Smith is always confident regarding his product, but he is really hyper regarding Heimdall: "I'm really pleased with what Jerr and Ged achieved," he enthuses, "and the faster processing power of the PC will enable us to tweak the game in a number of areas, and add several smaller ideas that memory restrictions caused the Amiga game to lose."

Above: the graphics are being recreated from the Amiga originals, and the game currently exists as a series of rooms with the Heimdall sprite and his party wandering aimlessly between them. In addition, the sub-games are now up and running in all their glory.

Top left: the room are detailed affairs, with the many puzzles hidden within. For the most part, the puzzles are generally object-related and require the retrieval of set objects or the freeing of an imprisoned wizard.

Left. the Heimdall sprite himself takes up more than 85K of animation itself, while each of the island takes another 73K each. Thus, the need for a multi-load is essential, although they will be limited to a brief access between levels.

Below left: the axe sub-game is probably the most infamous, with the player tossing axes at the poor, secured girl, while attempting to sever her pigtails one by one. However, accidentally throwing one at her, sends her scuttling for cover, revealing the pigtails to be stuck on!



Bare Bones

Heimdall follows the adventures of the titular hero as he attempts to retrieve three special weapons stolen by the evil God Loki. As the Gods were preparing for the battle that was destined to destroy them all - Ragnarok - Loki swept into their palace and stole Frey's spear, Thor's hammer, and Odin's sword, and dropped them on to Earth where no God can tread. However, as a last-ditch measure, Thor impregnated a virgin with a son - Heimdall - who was prophecised to be the mortal who redressed the balance.

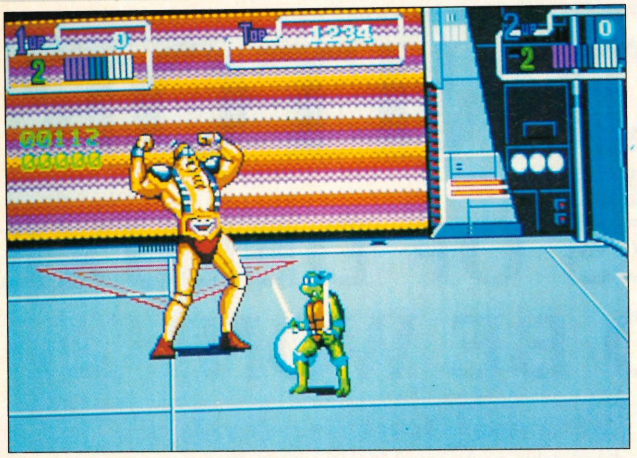
We first encounter Heimdall as a child who must prove his mettle in a trio of sub-games. Starting in a bar, his prowess with an axe must be shown by severing the tied tresses of a poor girl by lobbing the said weapons at her. Following this, his speed is tested as he attempts to catch hold of and keep hold of a greased Boar, and his balance and sword skills are stretched as he fights his way across a longboat.

Heimdall can then select his travelling partners from a number of willing villagers - and the more successful he is at the sub-games, the more will be willing to follow him.

All this leads up to the actual game, which is an extension of the old 'collection and use of objects' scenario. By travelling through the game's thirty-plus islands, he must gather as many spells and weapons as possible to make his task easier, while all the time collating clues as to the whereabouts of the three super-weapons. However, death lurks around every corner, with all manner of strange beasts, traps and hazards awaiting our hero and his party.

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Smash TV



Described as a 'hands-on no-holds-barred do-or-die adventure' by maker Williams Electronics Games, Smash TV is soon to make an appearance on your PC courtesy of Ocean, Acclaim and Probe Software. Perhaps the most aggressive video game ever released, the original arcade machine even included an adjustable violence control depending on the needs of individual locations. After all, one can't have an unsavoury overload of blood 'n' guts in the high school canteen.

The year is 1999. A futuristic game show is riding high in the ratings despite the fact that neither uncle Bob or bubbly Bruce are hosting it. I don't believe the bloke fronting Smash TV does a lot of work for charity.

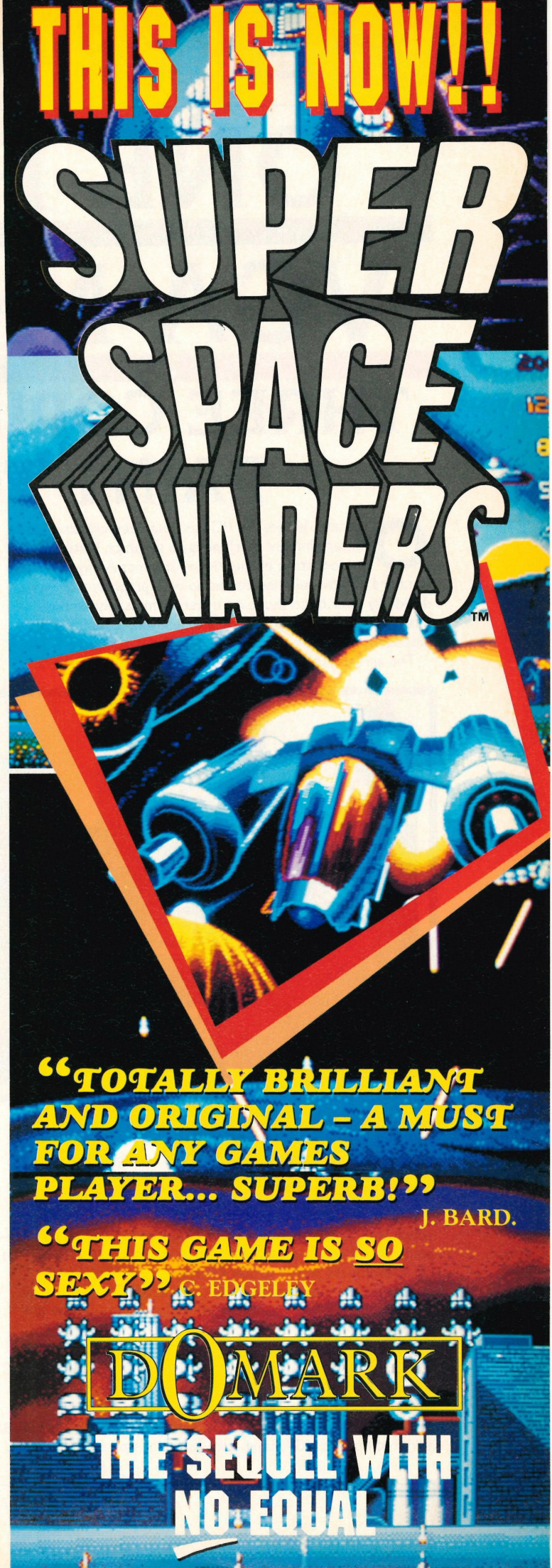
Before a live studio audience contestants compete not just for cash and prizes...but also for their very survival! Each is armed with an arsenal of high-tech weapons and power-ups, ranging from grenades and lasers to smart bombs and force fields. Their challenge is to enter enclosed arenas to do battle with legions of drones, mutants and, ultimately, the most powerful boss monsters seen on the network. Is this really the future of satellite TV? You Bet!

Leading development outfit Probe Software has placed this PC conversion project in the capable hands of Clive Bramwell, the globe-trotting programmer previously responsible for Escape from the Planet of the Robot Monsters (Tengen/Domark) and Back to the Future 3 (Imageworks). He is actually coding the game in the sunny outer suburbs of Athens, Greece. Nice work if you can get it, eh? Nevertheless, this has been a tough assignment for Bramwel due to a severe lack of any sort of detailed information on important issues like the intricacies of the original gameplay or software program. In fact, nobody at Probe Software actually knows the names of the adversaries in the game. More alarmingly, all the little character sprites and arena backdrops had to be painstakingly copied from video tapes by graphic artist Mark Knowells. A selection of floppy disks from Williams Electronics Games, filled to capacity with frames of animation, arrived too late to help him out.

Smashing.!

PC review On a Screen Near YOU

Title: Smash TV
Publisher: Ocean/Acclaim
Release date: March
Price: TBA



WIN! WIN! WIN !WIN! WI

ONE PHILIPS VGA MONITOR

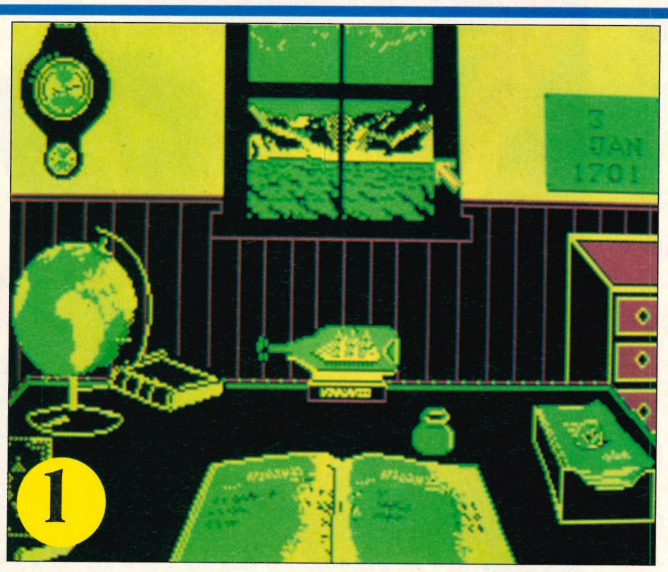
THREE COPIES OF DELUXE PAINT TO BE WON

One area where the PC has long been criticised as an entertainment machine is its graphics. Until the introduction of the Video Graphics Array (VGA) standard, PC owners had to put up with graphics that were decidedly inferior to those on other formats: either the unspeakable CGA, with a choice of just four colours and hideously low resolution, or the just-about-adequate EGA.

The arrival of VGA was a godsend to games publishers.

Attention Amstrad owners!

If you have an Amstrad PC1512 or 1640, these machines cannot be easily upgraded to VGA, and thus our first prize won't be a great deal of use to you. However, that needn't stop you from entering the competition. If you tick the Amstrad box in the corner of the coupon, we'll make sure you're considered for the Deluxe Paint prizes.





With a possible 256 colours and standard resolution of 640x480, detailed screens and superb illustrative effects could be created. Now it is not uncommon to see games on the PC which outdo anything on other computers.

Indeed, publishers have taken to VGA with a vengeance. These days, there are more and more PC titles coming out which simply don't support CGA, and some which play in 256-colour VGA only – particularly those which originate from the US. Developers prefer to use the memory beefing up the speed and the quality of the VGA specification than to cater for a standard which will inevitably make the game look less impressive.

All of which can make anyone who has an older machine without a VGA card or monitor feeling left out in the cold. PC add-ons aren't cheap and while we at PC Review would say that VGA capability is the most important component of a games PC (after a hard disk), this is easier to say than to do on a limited budget. VGA cards can be picked up for under £100, but the monitors are another matter: for a good quality colour VGA monitor you'll end up parting with £400 or more.

PHILIPS PRO MONITOR

Help, however, is at hand. We've just got our hands on a superb Philips Pro Monitor, the top-of-the-range 3CM9809 14" VGA colour model, and we're giving one away in this month's competition.

The Philips 3CM9809 is compatible with most PC and PS/2 computers, has a tilt and swivel display stand and dark glass screen. It displays at a resolution of 640x480 pixels and has a dot pitch of 0.29mm. Dot pitch measures the distance between the individual dots which make up the on-screen colours. Most dot pitches on models currently on the market range from 0.28mm to 0.32mm, and the closer the distance the clearer the image. With a pitch of 0.29mm on a 14" screen, the Philips delivers crisp, sharp images.

For anyone who doesn't have VGA, this excellent monitor



How to enter

Pictured here are four numbered screens. Two are in CGA mode, two in VGA. Simply identify which are which, and tick the boxes on the form accordingly. For example, if you think screens one and three show a game in VGA mode, tick boxes one and three on the form. Apart from adding in your name and address, that's all there is to it.

Send your completed form (or a photocopy) on the back of a postcard or a sealed envelope and send it to:

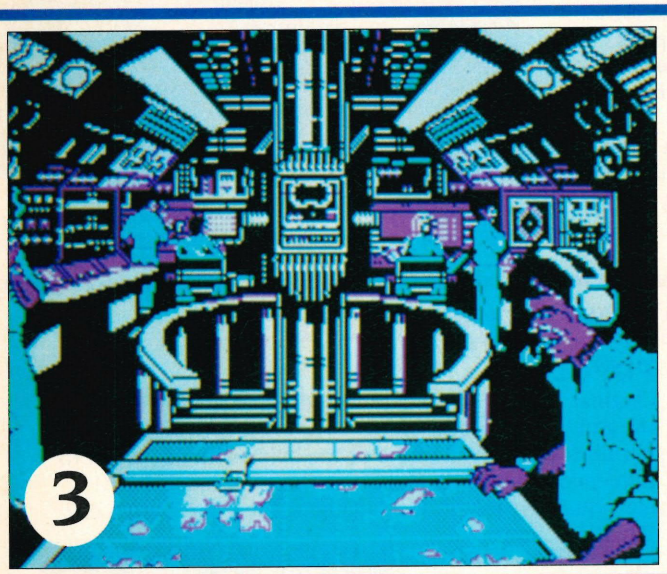
Screen Test, PC Review, EMAP Images, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU

and make sure it reaches us by December 15.

First out of the draw with the correct answers wins the monitor. The next three correct entries get Deluxe Paint Enhanced, and we'll announce the results in our February 1992 issue.

Rules

The winner of the Philips 3CM9809 VGA monitor will be the first correct entry drawn at random after the closing date. The next three correct entries will win a copy of Deluxe Paint Enhanced. No entries received after the closing date will be considered. Only ONE entry per person, please. Anyone found submitting multiple entries will be disqualified. Employees or associates, or their relatives, of EMAP Images, Philips Consumer Electronics or Electronic Arts are not eligible to enter this competition. The editor's decision in these matters is, quite simply, final.





can provide a stepping stone for moving up to full VGA status. If you have a mono VGA monitor, or a cheap colour model, the 3CM9809 makes a ideal replacement.

DELUXE PAINT ENHANCED

Continuing our theme of superb graphics, what program could make you appreciate VGA more than Electronic Arts' acclaimed Deluxe Paint Enhanced? This graphics and paint package is used by many commercial programmers for its flexibility, ease of use and superb graphic manipulation features. Whether you're an artistic dabbler or montrously talented, you'll find Deluxe Paint easy to use and with endless possibilities.

In an outrageous spurt of generosity, Electronic Arts has given us three Deluxe Paint Enhanced packages to give away to runners-up (also see the footnote on the previous page).

SCREEN TEST

I think the following screens are in VGA mode:

1 ❑ 2 ❑ 3 ❑ 4 ❑

Name.....

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Amstrad ❑

COVER STORY

After creating one of the most successful video games of all time, Bullfrog is busy preparing yet more succulent surprises and, inevitably, a sequel to Populous. Rik Haynes took a slow train from Waterloo to see how Populous II, Powermonger and other Bullfrog projects are shaping up



JUMPING

Despite two minor hiccups, namely Fusion and Flood, Bullfrog has produced not one but three classic games in as many years. Populous, Powermonger and now Populous II have been smothered in rave reviews and the sort of anticipation usually reserved for the next Arnie movie.

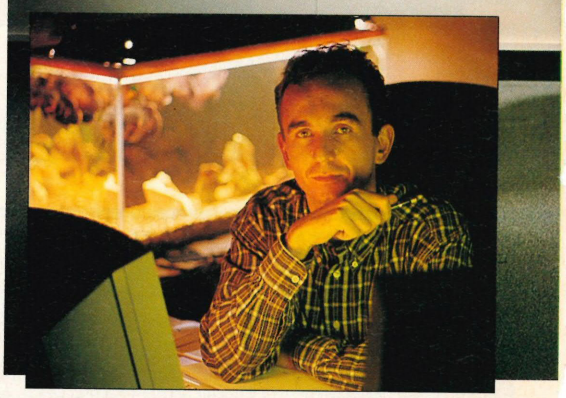
It's hard to believe such a respected games developer was writing boring business software packages four years ago. Even those early databases showed flair and originality, two important ingredients for the games to follow. So, what's the secret? Is Bullfrog simply lucky with games beginning with the letter 'P' or is there something more dynamic lurking here?

"There are two common themes among our games," says co-founder Peter Molyneux, "We like you to play a powerful role and we try to concentrate on originality. In Populous you became a god, Powermonger makes you a general in command of an army and you play the ruthless head of a business empire in our next game. We're keen on the idea that a game should change and play differently every time you load it."

Molyneux plays the part of spokesperson for the art of video games with great passion. Grandson of a famous architect, he's the central driving force behind software development while his partner Les Edgar handles more mundane things like paying the electricity bills.

However, Molyneux likes to point out that games like Populous and Powermonger are very much team efforts. In fact, everybody at Bullfrog gets a slice of the action through a rather complex share-owning scheme. Prospects are certainly looking up, not least in the recent move from extremely cramped premises above a seedy shop in the centre of Guildford to a plush office complex on the grounds of Surrey University.

It's good to know that absolutely none of this success has gone to their heads. Boys just wanna have fun and Bullfrog is no exception. When anybody gets out of line, the rest of the team just pick up their replica Uzi machine guns and fire a painful burst of plastic pellets at the offender. "I'm not a particularly good boss," divulges Molyneux, "I mess around too much. I'd shoot someone with an air pistol rather than sack them."

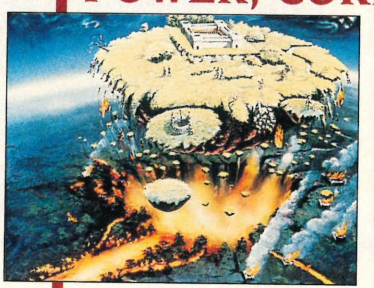


TWIN PEAKS

Another fundamental aspect of Bullfrog games are their ability to be played not only with a computer opponent but also against a friend on two machines linked together by cable or modem.

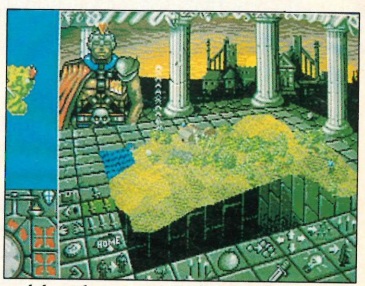
"A human being is a million times more interesting than a computer player can ever be," Molyneux insists, "My three year-old niece is more unpredictable, competitive and cunning than the fastest computer at the National

POWER, CORRUPTION, AND LIES



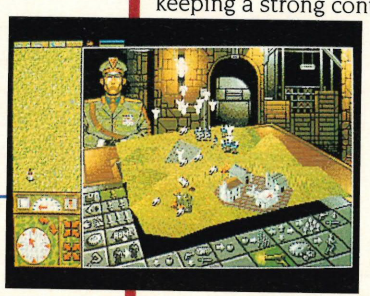
POPULOUS

Original in every sense of the word. Bullfrog even designed the game using blocks of lego! The basic premise of Populous is that you play a divine being with the power to influence your people and cause meaty disasters like earthquakes, flash floods and raging fires. Great stuff, eh? Trouble is, your opponent can perform exactly the same sort of tricks...



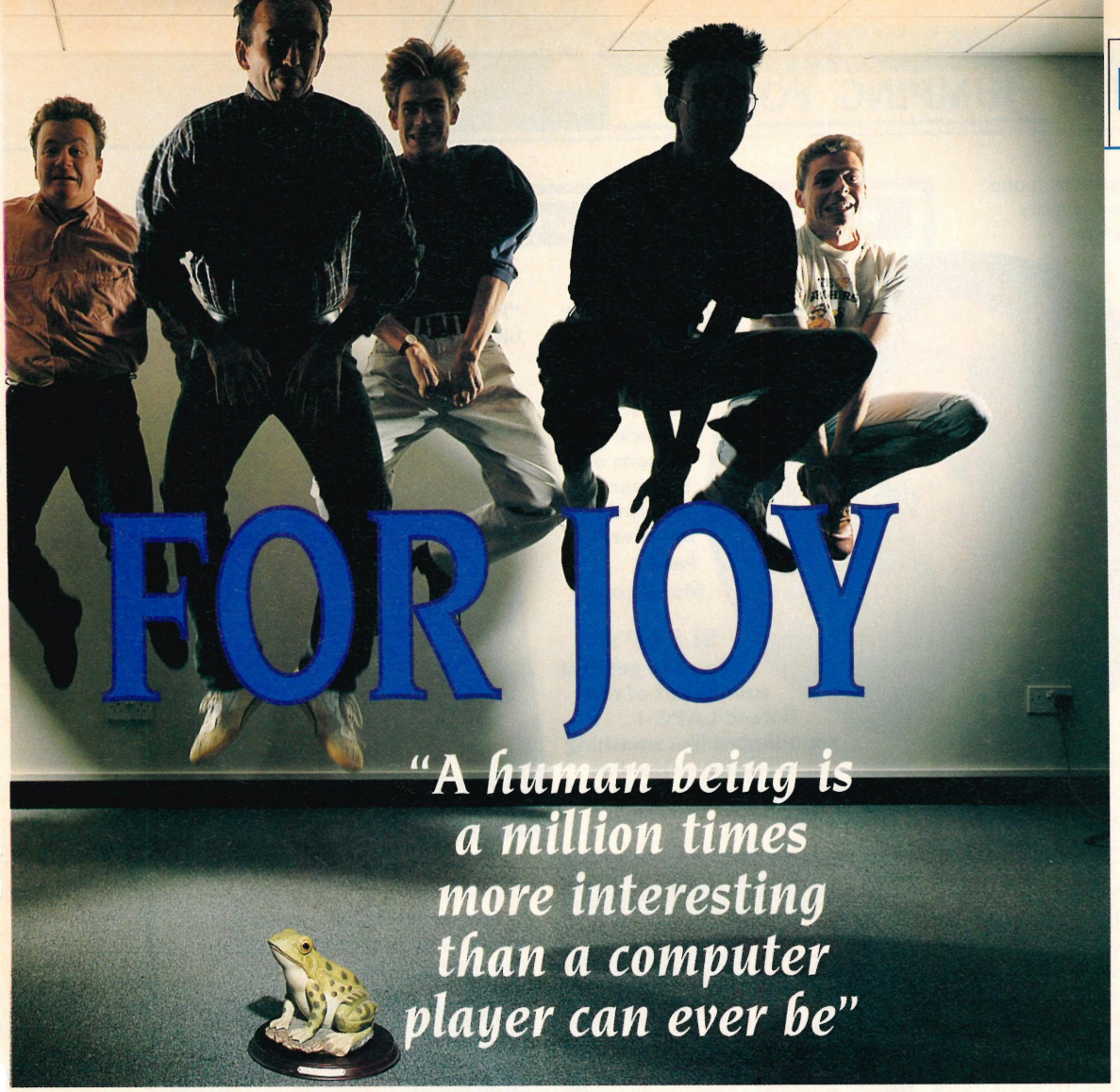
POWERMONGER

Often mistaken as the follow-up to Populous, probably due to bad timing and a superficially similar look, Powermonger is more a wargame and consequentially employs a different emphasis and style of gameplay. As a captain with a few soldiers, you attempt to spread your influence over a series of worlds. The crucial element is keeping a strong control over your food supply and building thriving communities of loyal followers. Make no mistake, you really have to think on your feet.



POWERMONGER: WORLD WAR ONE

Novel idea to extend the playing life of Powermonger, this expansion datadisk is a loose simulation of The Great War. It comes complete with tanks to squash the enemy troops, dogfighting biplanes and rattling machine guns. Instead of food, you'll have to worry about fuel consumption and the supply of ammunition. If this is World War One, where are the trenches? Nevertheless, Bullfrog is sure you can do a much better job than



FOR JOY

"A human being is a million times more interesting than a computer player can ever be"

Aeronautics Space Administration." How does Bullfrog devise these wonderfully original games, then? The answer according to Molyneux seems to lie in occasional brainstorming meetings in the local pub. Escaping from their keyboards for a few crucial hours, the close group of colleagues simply get drunk and think up lots of game concepts. Any idea they can remember next morning is usually the one that deserves to be taken up. After this, they quickly try to get a rough version of the game working, play it out and see how it feels. Regular discussion sessions are then held asking whether the whole thing is working. If it's not, the project can be changed in quite a major way and direction at this stage.

"We are our biggest critics," reveals Molyneux, "If we don't enjoy our games then how can we expect anyone else to? All our games grow rather than being invented on a single day. We add features as we go along."

He adds: "Our extensive playtesting tends to slow development down a little. We've invested over 2,000 hours playing Populous II for example. We also leave the computers playing against each other overnight. This is a really good way to test new programming routines and find out if anything is going wrong."

The aforementioned multi-player technique also makes it much easier to develop a game. It's a quick way of picking up bugs and helps the programmers work out ways to make the computer a more interesting opponent.

"We quickly begin to realise things about our games which we'd never have guessed without this kind of playtesting," Molyneux notes, "That's why the head-to-head option is in there right from the very start. It's practically impossible to do it any other way."

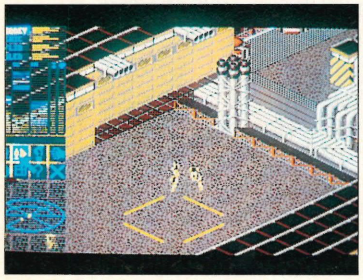
the jerks who were generals during the real thing. World War One requires the original Powermonger to work and should be released in March 1992.

POPULOUS II



Inevitable sequel to the award-winning Populous is Bullfrog's first attempt to both develop and publish a game. The PC adaption is yet to go into production but the Amiga version of Populous II is one of the best games released this year. If you thought life as a god was fun in the original, wait till you try the tasty selection of horrible effects you're able to inflict on those sad little people this time around. Megalomaniacs have to defeat something like 50 Greek gods and mythological creatures before a final showdown with the mighty Zeus. Everything is bigger and better in this follow-up. Who needs Jason and the Argonauts when you could have Populous II? PC Review will be taking a closer look at this corker of a game in the near future.

BOB



Indication of Molyneux's paranoia over recreational drugs, big business and the power of the press. Hey Pete, don't drag us down into your personal hell! In the game, you take charge of a corporation during the 21st Century. Luckily, the action in Bob is far removed from any tedious boardroom meetings, long afternoons on the golf course and shady shares dealings. Have you got what it takes to bankrupt, bribe and beat up any rival companies? It's still early days, but shades of cyberpunk are already filtering through, along with the Bullfrog hallmarks of originality and immense depth. Bob should be here in time for Christmas 1993.

MAKING THE RIGHT CONNECTIONS

Many players enjoy other 'god games' like SimCity and SimEarth from Californian publisher Maxis. As a result, the two companies have decided



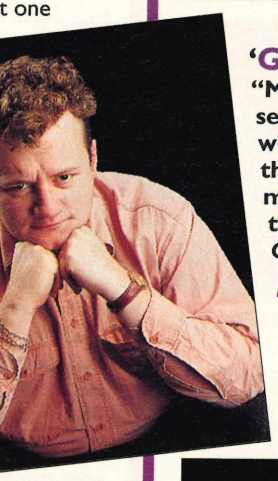
to make their games compatible in one form or another. This won't exactly transform urban planners into digital deities able to earthquake industrial zones but it does mean players will be able to import SimCity designs into the fantasy lands of Populous II.

"If we got together at the start of projects in the future then we could make a lot of things exchangeable," believes Molyneux, "I really like that idea. It obviously doesn't work perfectly because you don't have railroads in Populous II, so they become things like city walls. Connectivity adds so much more to a game. I hope this will start a trend."

Naturally enough, Bullfrog will be forging closer links with Maxis from now on, particularly as both seem to be developing games along similar lines. Creation (Bullfrog) and SimLife (Maxis) are very wacky games still in the design stages at the moment. Think of a software aquarium where you can construct lifeforms and environments.

"The idea of having a game where you manipulate life itself really appeals to us," Molyneux excitedly confirms, "That's the basis of Creation. You're able to create different lifeforms and put them down in a complete environment. These creatures might live happily together, eat one another or even change the surroundings they're living in. A bizarre example might be an elephant and giraffe mating to produce a girelephant, an animal with the body of an elephant and the neck of a giraffe. Every time we talk to Jeff Braun at Maxis he's working on SimSomething. I've even heard of SimBarbie and SimSoap where you can simulate your own television soap opera."







BULLFROG SPEAKS OUT ON PC PERIPHERALS...

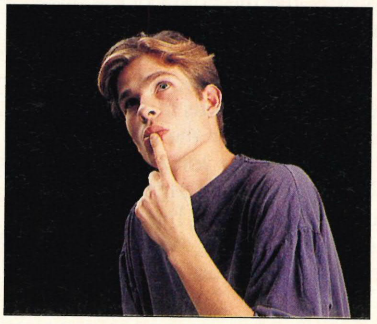
'DOC'
"Scanners are very interesting things. Every secretary in the world has to stick their bottom on a scanner at one time or another."
Peter Molyneux

'SLEEPY'
"You can get real sounds out of the Roland LAPC-I soundboard like smashing blasts and everything else that goes on in a game. It's brilliant."
Kevin Donkin



'GRUMPY'
"Most PC mice that I've seen are crap. They move when you don't move them and they don't move when you do move them."
Glenn Corpes

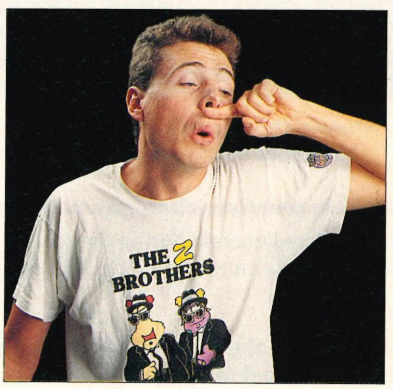
'DOPEY'
"I'd like to be a printer if I was a PC peripheral."
Sean Cooper



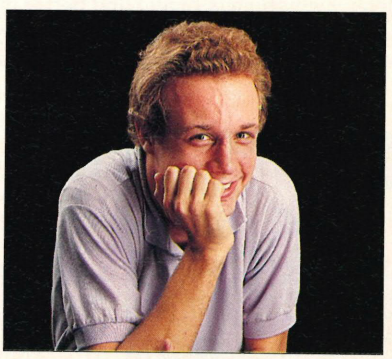
'HAPPY'
"Hold on, I've got a mouth full of biscuit."
Alex Trowers



'SNEEZY'
"I favour extended memory, though I've forgotten why?"
Paul McLaughlin



'BASHFUL'
"A MIDI interface kind of hides itself away inside the PC but it has great power to drive all that musical equipment."
Bryon Hapgood



A special mention goes to Les 'Snow White' Edgar and Gary 'Wicked Step Mother' Carr, two members of the Bullfrog team who disappeared the minute our photographer arrived.



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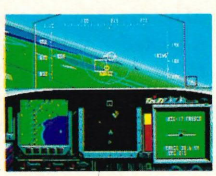
Its fully 'Ad-Lib' compatible soundcard with its twin external speakers, brings you closer to the action bringing a whole new dimension to the PC.

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LINKS



F-15 STRIKE EAGLE II



PRINCE OF PERSIA

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Available from selected branches of Allders, Dixons, John Lewis, Rumbelows, Rymans, Wildings and over 3,000 registered Amstrad computer dealers.

Right now it's time to start dropping subtle and not so subtle hints about what you and your PC want for Christmas. Gordon Houghton presents some gift-wrapped ideas

Whether you want to brush your teeth, repel rats with sound waves, take your own blood pressure or just remove unwanted hair hygienically, someone somewhere has a gadget for it. As if having to resist ordinary temptations like the self-adjusting universal socket wrench or the battery-powered pot pourri fan isn't enough, the moment you buy a PC there's a whole new world of accessories to explore. Granted most of the extras available aren't quite as glamorous as a personal karaoke machine or even a Rap'tou but that doesn't make them any the less essential. So, as it's the season of good cheer we've scoured the market and come up with a selection of some of the more interesting PC gadgets around.

Whether you're after the basics, something a bit more unusual or just want to purchase the most expensive goodies around, the chances are that there's something here for you. And you never know - if you circle the item you want and send it to Santa - come Christmas day you might even find it lurking under that handy plastic, environmentally friendly tree.

THE USEFUL

You can perform a job perfectly satisfactorily for years and years before you discover that handy little item which would have made it twice as easy all along. Don't let this happen to you. Read this section for the low-down on the those little things you never knew you needed but soon won't be able to do without.

DR SOLOMON'S ANTI-VIRUS TOOLKIT

£59

S&S International (0442) 877877

Know someone who's paranoid about catching something nasty from infected disks? Do them a favour - give them a copy of this so they can sleep at nights. Further upgrades are available every month.

UNIVERSAL TILT/SWIVEL MONITOR STAND

From £16.30

We Serve (0705) 325354

For short people with tall desks, tall people with short computers and anyone who's ever needed to turn or tilt a monitor out of the sun. Fits two sizes: monitors from 9 to 12 inches and those from 12 to 14.

THE BASICS

Like soap and chocolate, basics are those little items that PC life would just be impossible without. Everyone can use them and most people want them, so if you're looking for a safe and sensible Christmas present, or just want to kit yourself out, this is the place to look. Of course, we haven't got room to cover everything - for information on similar or related products contact the numbers supplied.

25 RAINBOW DISKS

5.25" £10.45, 3.5" £13.75

Media Direct (0782) 208228

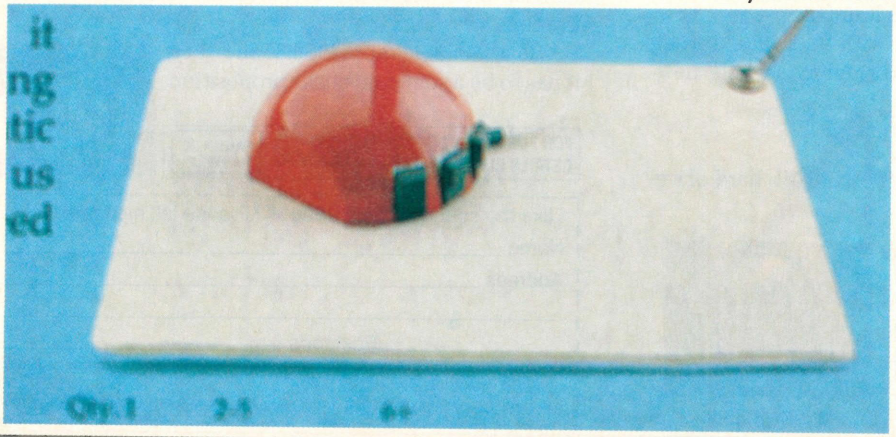
Who wants plain old blue and grey disks when you can get them in a kaleidoscope of red, green, yellow, orange, black and white? They're double-sided double density disks, labels are supplied and you get to choose your own quantity and colours.

ANTI-STATIC MOUSE MAT

£9.95

Inmac, (0753) 825311

A conductive mat incorporating an integral earthing wire for those nasty moments when your rodent gives you a shock. Alternatively, you could always opt for the conventional foam mouse mat. The Original Media Company (0530 813591) sells a deluxe 8 mm thick version for £2.95.

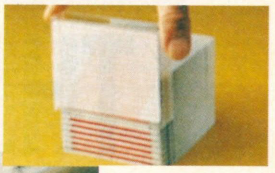


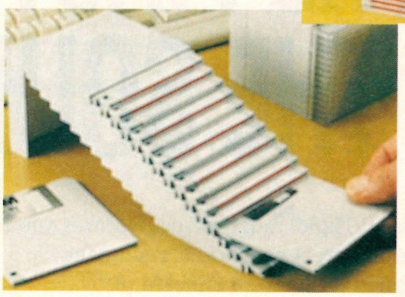
STEP CUBE

£7.95, pair £14.95

Innovations, (0793) 514666

Among the plethora of different disk boxes on the market





(stackable, lockable, flippable - you name it they've got it), this has to be one of the neatest designs around. Fourteen 3.5 inch disks pull out into a staircase when you need them. When you don't, they slide back into a cube.

DISK CLEAN

£1.95

Media Direct, (0782) 208228

Do to your disk heads what you do for yourself - give them a wash and brush-up using this cleaning kit which comes in 3.5 and 5.25 inch versions.

DUST COVER

£8.95

A to Z Computers, (081) 744 3087

The major part of household dust consists of human skin - and who wants a PC which is coated in that? This cover comes in two pieces, one for your monitor and system unit, the other for your keyboard. A separate printer cover costs £4.95.

TECNOPLUS PC SOUND SYSTEM

£149

Evesham Micros, (0386) 765500

The all-singing, all-dancing introduction to the sounds you and your PC can make. The package includes a Soundblaster expansion card, Quickshot joystick, stereo speakers, King's Quest V, Voxkit Sampler, FM

ERGO COPYHOLDER



From £29.95

Inmac (0753) 825311

If copying out handwritten reports or typing in data gives you a crick in the neck, this stand-alone or clamp-based copyholder could work as well as a can of Ralgex. It comes in A4 and A3 sizes. A to Z Computers (081 744 3087) do a cheaper A4 version for £14.95.

ANTI-GLARE SCREEN

£19.95

A to Z Computers (081) 744 3087

Do you see your own reflection when you stare at the screen? If light reflecting off your monitor screen is getting you down, fit this anti-static filter to the front. It's suitable for 14 inch monitors.

CONTROLLERS

Unless you're a keyboard fanatic, it's likely that at some point you'll want to purchase a joystick or mouse. There's so much choice available, but we've picked out one or two of the more unusual ones - from the creative to the cute.

KIDZ MOUSE

£57.58

Logitech (0344) 891313

A mouse that actually looks like a mouse, has its very own birth certificate and comes with an educational software package. It's aimed at PC users aged between 5 and 11 and is designed to fit little hands.

ZOOMER

£59.95

Euromax, (0262) 601006

This looks nothing like a joystick because it isn't one. In fact, it's a very sensitive yoke-shaped controller designed specifically for flight sims. Aircraft styling gives it that authentic aeronautical look.

MAXX PEDALS

£34.99

VIZTrade Company (0444) 245935

Clearly aimed at the ultimate enthusiast, this is a set of plastic rudder pedals designed to enhance the simulated flying experience by giving you foot control over stunt flying manoeuvres. Works with various programs including Flight Simulator v4.

MOUSEPEN



£99

KSI (0590) 644 255

Radically redesigned controller which looks like a chunky biro but works exactly like a mouse: the ball is positioned at the blunt end. Microsoft compatible.

MOUSEMAN CORDLESS RADIO MOUSE

£120

Logi UK, (0344) 891313

Thanks to a radio transceiver which plugs into the serial port and a battery in the mouse, you can perform all the usual rodent functions unrestricted by a cord.

MOUSE HOUSE

£2.95

MD Office Supplies (0689) 861400

It stands to reason: if you've got a mouse it needs somewhere to live. This plastic hidey hole sticks to the side of the computer so you can rest assured that when you're not using it, your rodent is out of harms way.

FOR THE PC THAT HAS EVERYTHING

What do you buy the person who already has a mouse mat, a joystick, an anti-glare screen, a disk box, a copyholder and a kitchen sink? Here's a selection of accessories even the most well-equipped, clued-up, cleaned out computer user might have missed - and we've even remembered the cuddly toy.

PRIVATE EYE



£703.82

EMMS, (0428) 76241

Just the thing for all those people who've always wanted to wear a monitor on their heads, Private Eye is a tiny one-inch head up display attached to a headband. It lets you see what's happening on screen without any need to look up from your ordinary work and so far it's absolutely unique.

SPACE-MATE MOBILE COMPUTER WORKSTATION



£152.69

Jatek, (081) 303 9977

Fed up with printer, keyboard and monitor eating up your room? This adjustable cross between a bookshelf, desk and printer stand is designed to minimise the space your PC takes up and even comes on wheels. Should fit all PCs currently available.

CRITTERS

£24.99

Crittercal, PO BOX 300A, Surbiton, Surrey KT6 5YA

Buy a critter and your PC will never be the same again. It takes just a little effort to Velcro the furry limbs and head to your monitor and hey presto, it's transformed into a cute and cuddly Teddy Bear, Dragon, Bunny Rabbit or Bulldog for evermore.

DESKTOP SHREDDER

£29.95

Innovations, (0793) 514666

The practical solution to those printouts that are just too embarrassing, politically sensitive or financially incriminating. This battery-powered shredder is just seven inches long and gets rid of unwanted documents in a flash. It comes with a letter-opener built in.

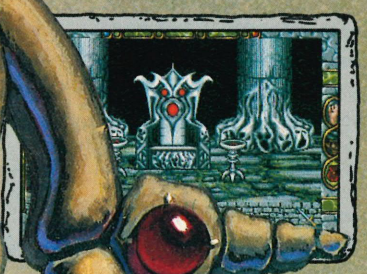


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BEGINNERS GUIDE

In this series of articles about the PC, hardware and software, we'll be taking you step-by-step, through the ins and outs of using, controlling and upgrading your machine.

You will find out what the PC's components are, how to use them, and how to make the most PC software to get the best out of the computer.

Last month Chris Long explained the bits and pieces your PC contains. This month he introduces you to the mysteries of MS-DOS.

Imagine having a chauffeur to drive your car. You tell him what to do, where to go and he does it. You don't have to turn the wheel yourself, explain how to avoid oncoming traffic, or tell him to keep to the correct side of the road.

The operating system of your computer works in much the same way. If you want to copy a file or change a directory, you give it a one or two word command and it carries out the instruction without you having to get involved.

Your PC 'chauffeur'is called **MS-DOS** .It stands for MicroSoft Disk Operating System and it would be correct to assume Microsoft wrote it. It was originally written for the IBM PC when it was launched in 1981, that version was called PC-DOS (Personal Computer Disk Operating System).

There are a lot of versions of **PC-DOS** and MS-DOS about, but they can be treated as more or less identical. Though you should make sure they are the same version number to really be 'the same'. From here on in I shall only refer to DOS and this is to mean both PC and MS-DOS.

Digital Research had a go at writing its own version of DOS, called **DR-DOS**. This is compatible with about 98 or 99 per cent of the PC world. This makes for an interesting life because that last one to two per cent could be the application or game you want to run and you're not going to know it doesn't work until you run it.

DR-DOS does, however, have more 'goodies'in the shape of utilities bundled with it. The downside is that software manufacturers are less inclined to write fixes for incompatibilities with DR-DOS than DOS.

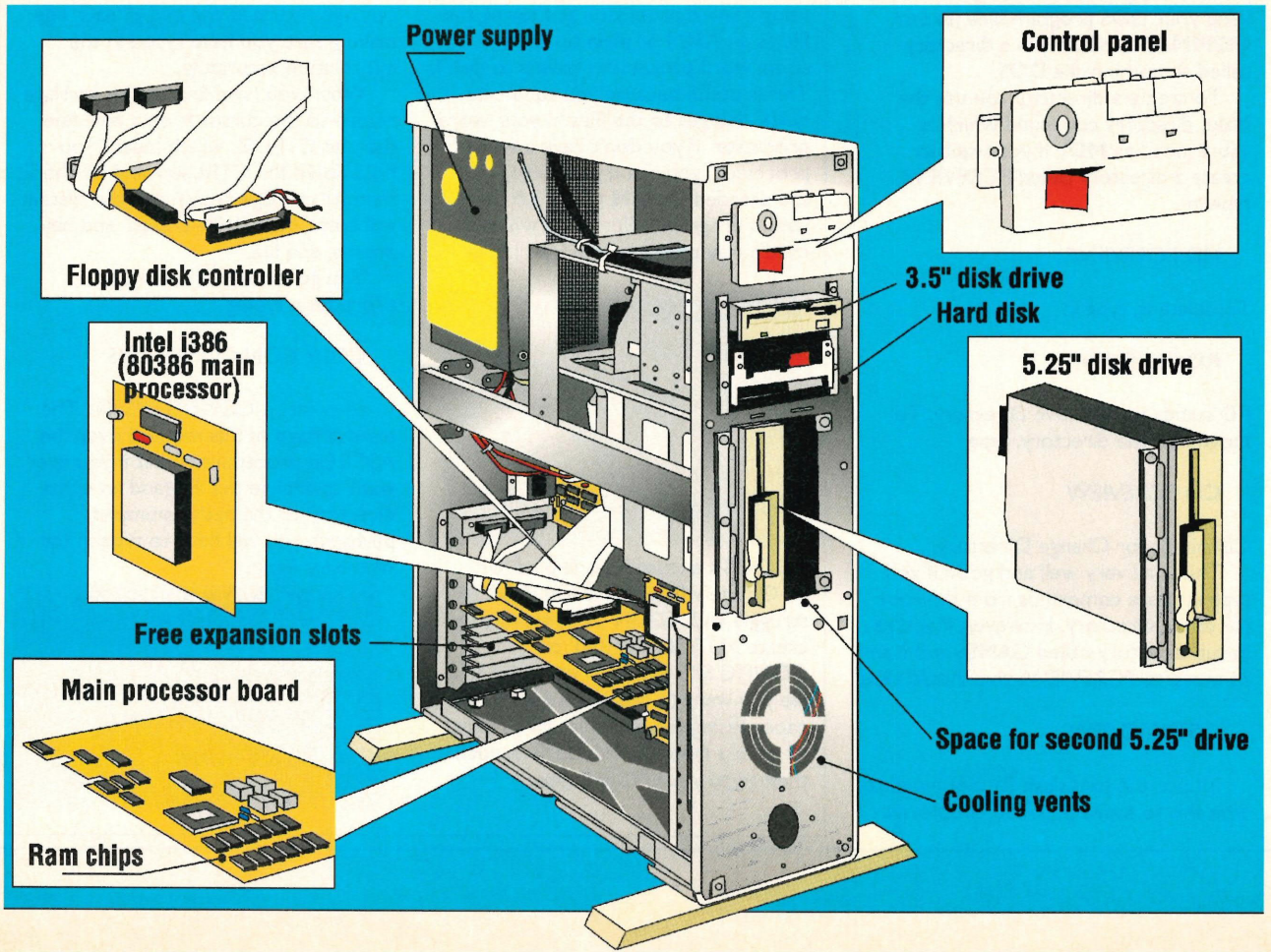
There are various versions of DOS and the current one, 5.0, is probably the best of the lot. If you are in a position to buy a copy I would recommend you do so. The major reason for this is that it takes up less space in your PC's memory than previous versions. And given the complexity of some games today and the amount of memory they need to achieve that complexity, you need as much memory as you can get.

Words in bold text are explained in more detail in the glossary. Where commands for you to type in are listed, you should press the return key at the end of each. While we've printed them in capitals for clarity, you can use lower case characters.

Disk Organisation

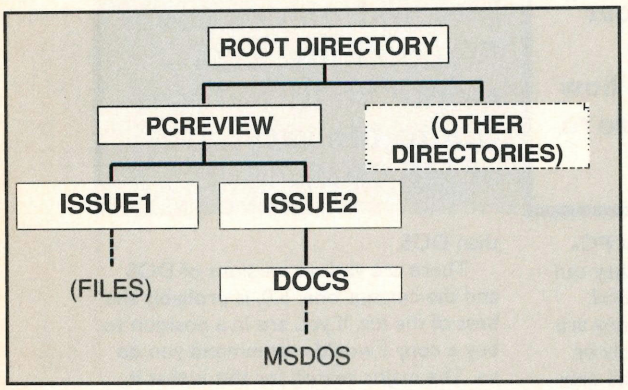
Before we go on, a bit of basics – disk organisation. Using directories to organise your files (see PC Review, issue one) are an important part of the PC: a way of keeping different programs and games separate.

If, say, I'm writing this article on my PC and I call the file that contains this



FIRST STEPS WITH THE PC

article MS-DOS, I need to keep it where I know where it is. But I have a lot of other files on my machine and I want them to be kept separate, so this is what I do...



I create a directory on my hard disk (C:) under the **root directory** (which is the 'main' directory) called PCREVIEW and under that I have already created a directory called ISSUE1. This is issue 2 so, I create another directory under PCREVIEW called ISSUE2 and then under that I create a directory called DOCS and *then* I copy the file MS-DOS in to it.

So I have a line of directories and each one tells me where I am. You need not be quite so involved but it is a good example of how you keep your files separate.

You will want to keep the operating system files separate (this is also useful if you ever upgrade) so it is a good idea to keep your DOS program files (except **COMMAND.COM**) in a directory called something like DOS.

To create a directory you use the Make directory command which is abbreviated as **MD**. If you want to create a directory called PCREVIEW, type in

MD PCREVIEW.

To delete it, type in

RD PCREVIEW

RD stands for Remove Directory. To move into the directory, type

CD PCREVIEW

CD stands for Change Directory.

This is all very well and good if you type in these commands from the root (or main) directory. However, if you're in sub-directory called GAMES and want to move to PCREVIEW, you should type

CD\PCREVIEW

Notice the backslash (\). You need to type this to move between directories on the same level. If you simply type

CD\

without naming a directory, this will always take you back to the root directory.

When you are in a directory you can check what files are in it by using the **DIR** command. DIR lists all the files in the current directory. Interestingly, what happens if you have a lot of files in a directory is there is a flash and all your files whizz by. To stop this you can use a command switch. A switch consists of a forward slash character, followed by a single letter, according to which parameter you want to attach to the command. Try typing

DIR/P

This /P says to the operating system, "list the files but stop when you get to a screenful". Now you can see all your files, one screen at a time.

Or, you can use the letter W after the slash instead, which will show you a wide – across the width of the screen – presentation of the files.

Startup Sequence

As I said in the last issue the way the PC loads is initially via three files: COMMAND.COM; **IO.SYS** and **MSDOS.SYS** (note, in PC DOS even though they are the same those last two files are called **IBMBIO.COM** and **IBMDOS.COM** – in the rest of the feature we shall refer to these as the MS-DOS files). All of them except the COMMAND.COM file are hidden from your directory listings – mainly because you do not want to muck around with them. If they break your PC doesn't load.

At power-up IO.SYS and MS-DOS.SYS load, IO.SYS needs to configure DOS and looks for a file called **CONFIG.SYS**. If it cannot be found it carries on with a default configuration.

Once that is done COMMAND.COM loads and looks for another file called **AUTOEXEC.BAT** a file which contains more setup information, and is just as important as CONFIG.SYS.

Setting up these files can be a bit confusing, and always read the DOS manual or, if you haven't got a manual, try to get hold of one of the many books written on the subject. Failing that write to us and we'll do our best ☞

Creating CONFIG.SYS and AUTOEXEC.BAT

These two files need to be created in ASCII, which is the very basic form of text on the PC. This is either done by using a word processor and saving the file as an ASCII or plain text file(or in some word processors 'saving to disk'). This is useful because you can make quick changes to the files in your word processor. If you don't have a word processor, you can try wrestling with the dreaded **EDLIN** (DOS 5.0 users have a program called EDIT which is child's play comparatively), which is MS-DOS's excuse for a line editor.

AUTOEXEC.BAT

```
@ECHO OFF
PATH=C:\DOS
DATE
TIME
PROMPT $P$G
```

On the whole, life is too short to struggle with EDLIN. A quick way to create AUTOEXEC.BAT or CONFIG.SYS files is to write out the file you want to create on a piece of paper (using the examples given here, or others from the MS-DOS manual), then go to your PC and type:

COPY CON AUTOEXEC.BAT

Then type in the information you've written down line by line with a carriage return at the end of each line, making sure you have typed in the information accurately.

When you have finished hit carriage return so the cursor is on a new line, then hit CTRL-Z, which means you hold down the CTRL key and hit the Z, then hit carriage return and the system will come back '1 file copied' and hey presto, one file.

You go through the same procedure, typing

COPY CON CONFIG.SYS

to create a CONFIG.SYS file. The disadvantage of this method over the ASCII file procedure is that if you ever want to change the file (add an extra directory to the path command, perhaps), you will have to type in the whole lot again.

CONFIG.SYS

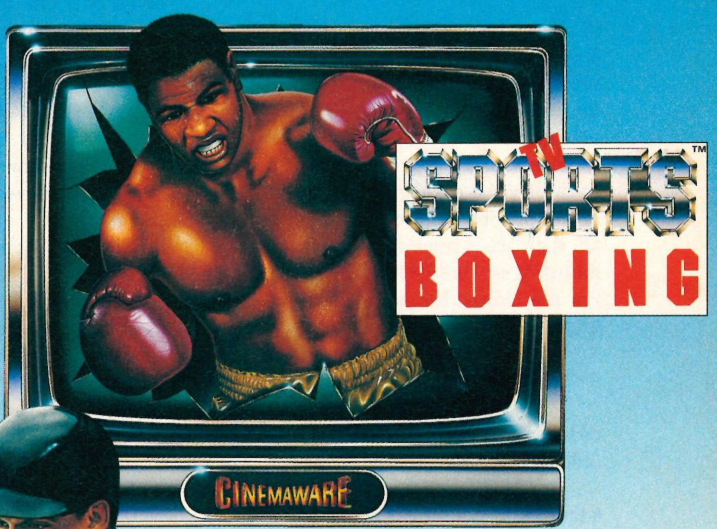
```
BUFFERS=15
FILES=20
COUNTRY=044
```

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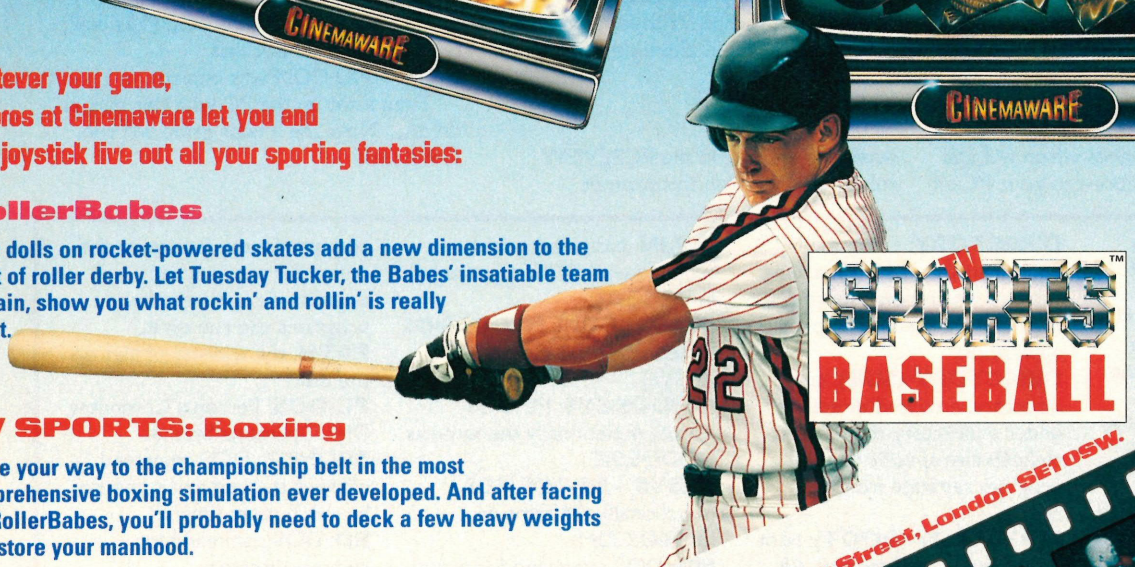




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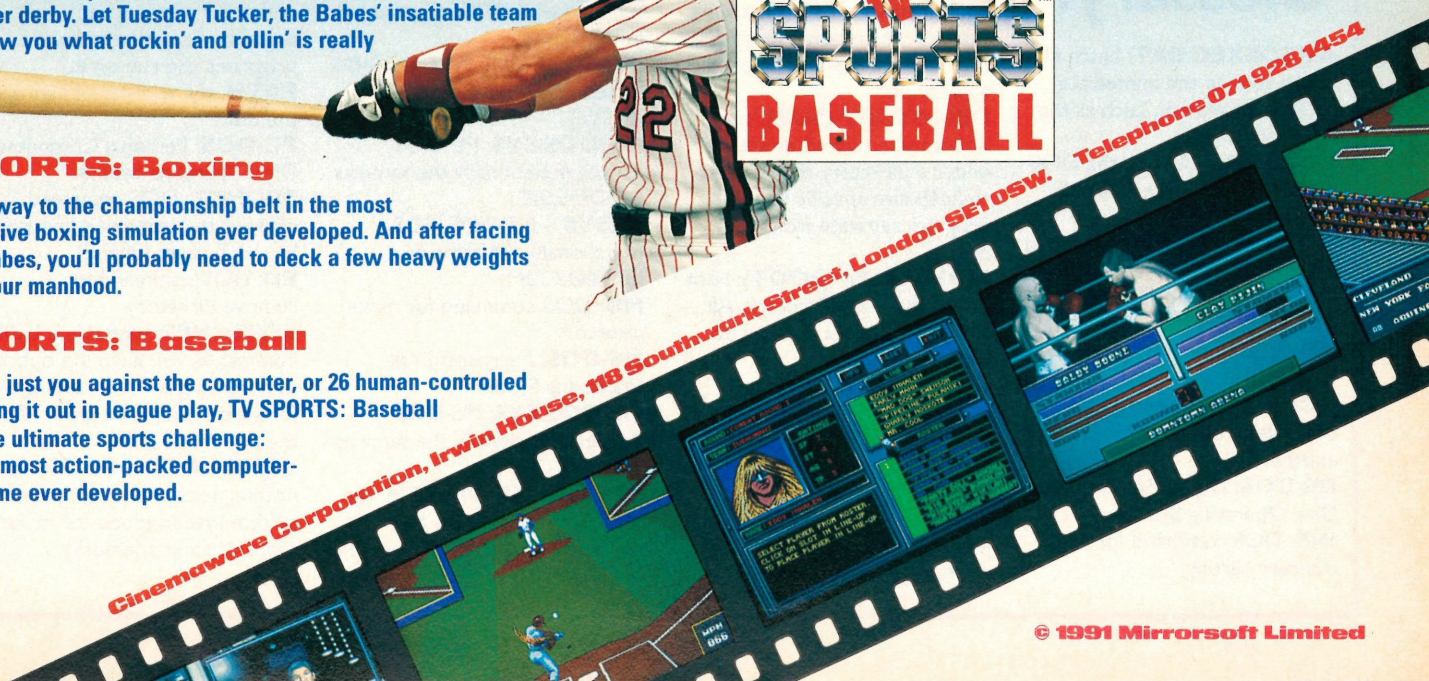


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FIRST STEPS WITH THE PC

to sort you out – see the Q&A page for details.

Of the two, CONFIG.SYS is the most difficult to advise on, but, as a rule of thumb, it should include lines configuring the following: BUFFERS, FILES and COUNTRY. You can check for the existence of a CONFIG.SYS file on your PC and what it contains, by typing

```
TYPE CONFIG.SYS
```

at the C: prompt in the root directory. Either you will get a listing of your CONFIG.SYS file and can check whether the buffers, files and country parameters are included, or you get a "file not found", in which case you don't as yet have a CONFIG.SYS file.

Lines pertaining to buffers and files will have modifiers (some people call them arguments), eg

```
BUFFERS=15
FILES=20
```

These help when you are running applications software and some games by setting aside a bit of memory to help the operating system keep track of its programs.

The country information tells the PC to display the date and time in the style of the country where it is used (in the US the date is normally shown with the month first: 10/29/91 for 29 Oct 1991). For the United Kingdom a line in the CONFIG file, thus

```
COUNTRY=044
```

ensures that your dates will show as day, followed by month.

The AUTOEXEC.BAT file on the other hand is a bit easier to define. Here you can enter commands which will add some extra configurations to your PC on start-up and make life easier for you. You can check for the existence for an AUTOEXEC.BAT file the same way as you did for CONFIG.SYS, above. A typical AUTOEXEC.BAT file might read:

```
@ECHO OFF
PATH=C:\DOS
DATE
TIME
PROMPT $P$G
```

@ECHO OFF tells the PC not to show (or 'echo') the commands on-screen as MS-DOS acts on them.

PATH C:\;C:\DOS sets a search path, naming the directories through which MS-DOS will look to find a file. So if you type in a command which MS-DOS can't find in the current directory, DOS will have a go at finding it in the directories named in the path command. To take the example of the directories earlier, if I kept my word processing program in the PCREVIEW directory, I could only call up the word processor straight from the root directory if AUTOEXEC.BAT contained the line

```
PATH=C:\PCREVIEW
```

DATE will prompt you to enter the correct date every time you switch on the machine.

TIME will do likewise for the exact time.

PROMPT PG is perhaps the most useful line of all. Including this means that DOS will always show you which directory you're in as well as the standard C: prompt. Without a prompt command, DOS will show up a simple

```
C:
```

even when you're in the PCREVIEW sub-directory. With this prompt command, it will make things clearer, with

```
C:\PCREVIEW>
```

These aren't the only prompts you can stipulate. Look in the MS-DOS Reference Guide for other switches you can use to include more information in your C: prompt.

If you need to copy a file from say your floppy to the hard disk (or vice versa) you need to use the **COPY** command. The basic DOS protocol as discussed with the PATH command comes in to play here, too. If I wanted to copy the finished article (called MS-DOS) on to a floppy drive I would use the following language COPY (path from) (path to).

So, in actuality it would be COPY C:\PCREVIEW\ISSUE2\DOCS\MSDOS A:\

Making A Boot Disk

One last tip, for those of you who get 'out of memory' or 'insufficient memory to run application' when trying to run a game. Basically you boot up your PC with nothing in memory and see if that fixes it.

First format a floppy disk and install the operating system on it. This is done by either typing FORMAT /S A: – the /S switch tells DOS to add the IO.SYS and MS-DOS.SYS to the disk, or by typing SYS A: (this sometimes doesn't work so you may need to resort to a FORMAT /S command). You will also probably have to copy COMMAND.COM as well; type DIR A: to check that COMMAND.COM was copied.

Then boot up the PC with this disk in drive A. Now see if your game will run. Good luck.

Glossary:

AUTOEXEC.BAT: batch file which sets up the immediate DOS environment, such as the date and time.
COMMAND.COM: the DOS shell that 'looks after' the PC when up and running.
CONFIG.SYS: one of the two user modifiable start -up files. Contains functions to define how DOS and the PC is set up.
CD: DOS command to change directories
COPY: DOS command to copy files from one site to another
DR_DOS: Digital Research Disk Operating System
DIR: DOS command for a directory listing
DIRECTORY: computer equivalent to a folder in a filing cabinet, which holds specific files. Usually used for a specific application.
DIRECTORY (SUB): sub-directory, a second directory under a directory that is used to keep files specific to the program separate from the rest.
DIRECTORY (ROOT): root directory, main directory. All other directories connect to the root directory.
DIRECTORY TREE: a collection of directories on a hard disk
DRIVERS: small programs that sit in memory and control peripherals and modify certain parts of the systems configuration, like the keyboard.
EDLIN: basic text editor supplied with DOS, superseded in DOS 5.0.
IBMBIO.COM: PC DOS BIOS (functionally the same as IO.SYS)
IBMDOS.SYS: PC DOS Kernel (functionally the same as MS-DOS.SYS)
IO.SYS: - MS-DOS BIOS (functionally the same as IBMBIO.COM)
MD: DOS command for make directory
MS-DOS: Microsoft Disk Operating System
MS-DOS.SYS: MS-DOS Kernel (functionally the same as IBMDOS.COM)
OPERATING SYSTEM: the software that runs on the computer and sits between you and the PC. It converts your commands to information the computer can use, and organises it so that software programs can run on it.
PATH: the address of files on the disk
PC-DOS: Personal Computer Disk Operating System
PROMPT: DOS command, changes the command line (to be much more helpful)
RD: DOS command for remove directory
SWITCHES: with some DOS commands you have the option of modifying them by adding a forward slash plus a letter after the command itself.
VANILLA PC: a PC that has nothing except the most basic system loaded (good for making more room in memory).

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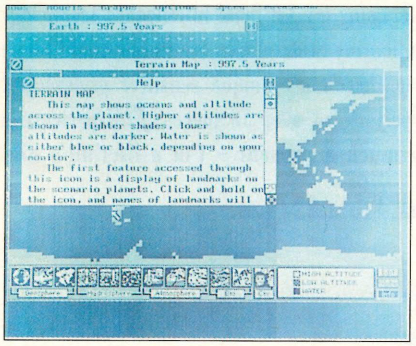
Portable PCs are supposed to let you work and play on the move. Rik Haynes likes the premise but isn't quite so sure about putting it into practice...

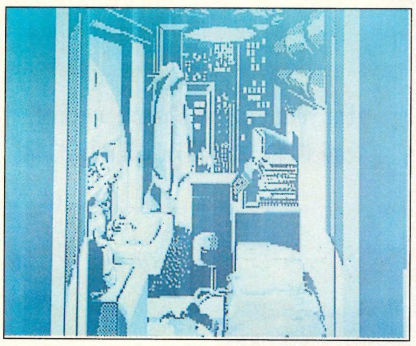
As electronic gadgets get ever more powerful and smaller in size, portable computing has become the fastest growing sector of the PC market.

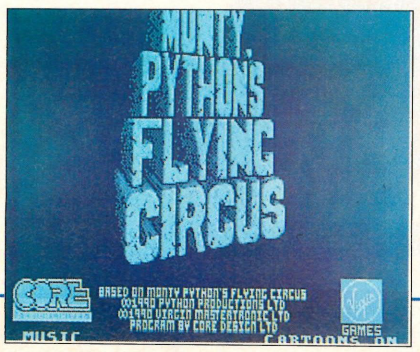
These days you can easily buy a laptop (size of a briefcase, weight around 14lb-16lb) or a notebook (fits into a briefcase, weight around 6lb-9lb) for little more than the equivalent desktop model. Their convenience isn't in dispute. While the problem of incorporating a battery which will last a decent length of time without weighing a ton hasn't really been solved yet – about three hours use on battery alone is about the most you can expect – it does means you can take your portable anywhere, and if there's a mains plug at journey's end, then you can use the machine pretty much as a desktop.

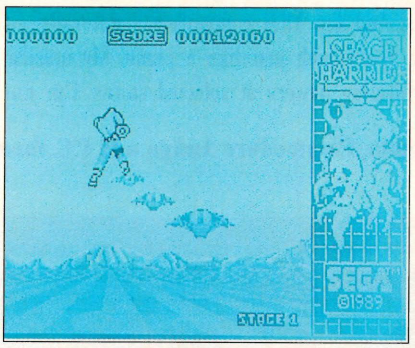
With the huge popularity of handheld games consoles, such as the Nintendo Gameboy, you could be forgiven for thinking that a portable PC, with its vast entertainment software base, could give you the same kind of freedom to play games any time, anywhere – albeit in a somewhat more bulky package. Unfortunately, it doesn't quite work like that.

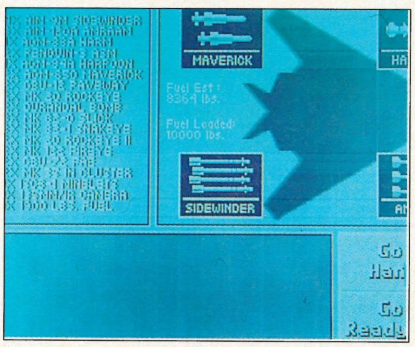
Portable PCs are designed with the business market firmly in mind. While a standard laptop may well have a VGA card, 40Mb hard disk and 3.5" floppy, those essential gaming accessories just aren't catered for. For reasons of space and practicality, laptop expansion is usually restricted to a single half-length slot, so you can forget about joysticks and soundboards. Secondly, that compromise between weight and price versus battery performance operates to the gamer's disadvantage, since games will often use the processor far more intensively than the occasional juggling of











In glorious monochrome, clockwise from top left: Sim Earth (Maxis), Space Harrier (Sega), F117A Stealth Fighter (Microprose), Monty Python's Flying Circus (Virgin) and Rise of the Dragon (Sierra).

More details next month on which games suit which laptops and their playability in portable format.

FOR THOSE WATCHING IN BLACK AND WHITE...

The main thing to be taken into account when running software on a notebook, laptop or luggable is how a game designed for a 256-colour display will work on a grey-shade LCD screen. Anyone who currently uses a mono monitor on their desktop will appreciate the problem.

Firstly, while LCD screen technology has advanced in leaps and bounds in recent years, the clarity of the display is not as clear as on a desktop and legibility is definitely affected by light and the angle of the screen. Secondly, playing games in shiny grey shades can be misleading: if the game needs you to be able to distinguish between a red object and a green object and they are both realised as the same grey shade ...

Thirdly, some games, particularly those which require you to be very specific about your graphics card on installation, simply don't like running on LCD displays – see next month's article for a run-down.

Such problems are destined to be solved in the foreseeable future. Colour laptops do exist (Amstrad does one, so there must be a mass market here somewhere) and very impressive they are too. What also bodes well is that they are rapidly coming down in price. So far they've only managed to tumble from around £8,000 to £6,000, but at least the moves are all in the right direction.

Battery life is a more intransigent problem. Nearly all portables use rechargeable Nickel Cadmium batteries, which provide the best balance between, price, weight, size and power.

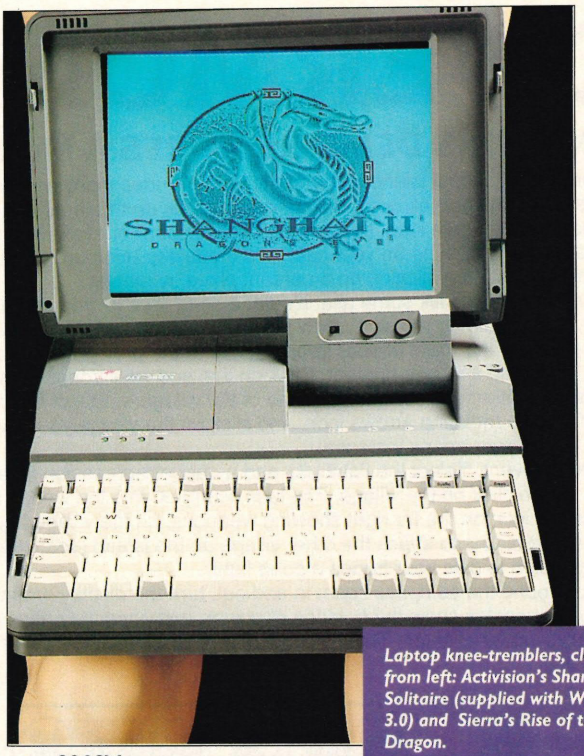
figures on a spreadsheet, thus draining your precious power supply.

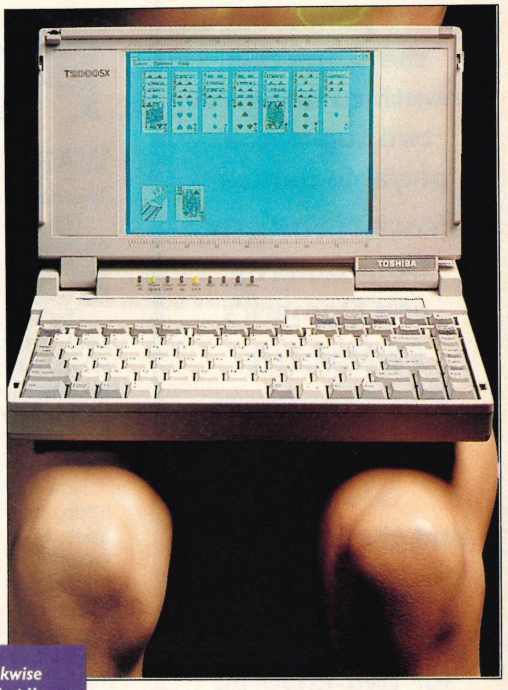
There's a psychological barrier to cross as well. Much in the same way as people suspiciously eye anyone barking into a mobile phone on the train, getting your laptop PC out makes you look like a 1980s yuppie-leftover. Whether you can then keep a straight face when your portable proceeds to play a impossibly tinny tune from its speaker is your problem.

More practically, you will need to rethink game control and start getting used to the keyboard – one reason why puzzles and related games work best. Some portables, such as Elonex's new 320SX, do come with a mouse, but, ah, where are you going to put it, if you truly are playing on the move?

There's no doubt that the idea of portable PC gaming holds much potential – long car journeys, trips abroad where there are unfamiliar power supplies, and so on, even if, at present, the balance between hardware and software technology makes it something of a compromise.

However, don't despair yet. While we wouldn't recommend a laptop as your sole PC, there are a number of games around which you can satisfactorily play on the move. Those that work best tend to be games that don't rely on graphics for their overall effect: puzzles, board game adaptations and text-oriented adventures work better than arcade games or graphic adventures. In next month's article, we'll go into some detail on which specific games are nice little movers.





Laptop knee-tremblers, clockwise from left: Activision's Shanghai II, Solitaire (supplied with Windows 3.0) and Sierra's Rise of the Dragon.



And while manufacturers use low-power processors and memory in the machines, every time you access the hard disk or the processor, heavy demands are made on that power supply. When you're in the midst of zapping away from location to location, you're making more demands on the battery than the most pressurised business user.

The standard manufacturers' estimate of battery life is three hours, but in practice, you can't expect to squeeze more than 90 minutes worth of gaming before the thing packs up. That would probably get you to Rugby on the London Euston to Liverpool Lime street express train, but what about the rest of the trip?

Since battery life is the single thing holding portables back for business applications as well, there is much research going on in this area. Psion's MC series uses conventional alkaline batteries and can boast around 30 hours on a single set, but then the MCs also use Psion's proprietary memory and data storage systems rather than conventional disks.

What is really needed is for publishers to produce games with portables in mind. The token games supplied with Windows 3.0 are perfectly playable on laptops, and Mindscape made an effort when it came to playing games on portable PCs with the introduction of Laptop Chess a couple of years ago. Despite a good response from consumers, hardly any other software house has followed this lead – yet. As PC entertainment becomes more accepted, and portable technology more sophisticated, this market could well be the next big one ...

NEXT MONTH...

Your very thoughtful and hardworking research team on PC Review will present an indispensible insight into the games which can be played effectively on mobile machines.

Every major type of portable platform will be represented along with the leading names in entertainment software. Will Wing Commander run on the faithful old Amstrad? Are the sprites in the Secret of Monkey Island visible on the poorly backlit screen on that cheap South Korean import? Which are the best laptops for playing games?

We name the good, the bad and the unsightly in the most definitive guide of its kind ever published.

COVER DISK two playable demos ...

We've pulled out all the stops this month to bring you two top-notch playable demos: **Powermonger,** from Bullfrog and Domark's **Pitfighter.** Plus a complete game in **Sleuth,** and the invaluable **Touch Typing Tutor** for two-fingered typists everywhere.

Full instructions for each program are given below.

POWERMONGER

WARNING: THIS DEMO REQUIRES A MOUSE TO RUN!

This demo comprises the first island in the game, and includes many aspects of the complete version.

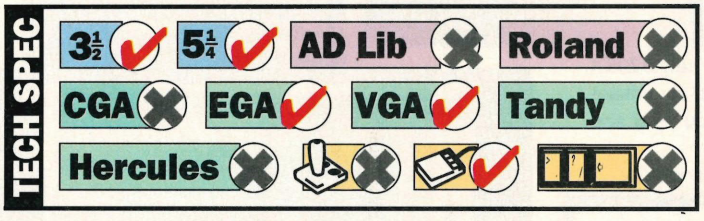
The game starts with your followers in their castle. Click on the three dagger icon to increase aggression, next on the apple icon, then on the castle itself. Your followers pick up all the food available. Check this by clicking on your captain's medals to bring up a status menu, or by clicking on the question mark icon, then clicking on a person, place, whatever.

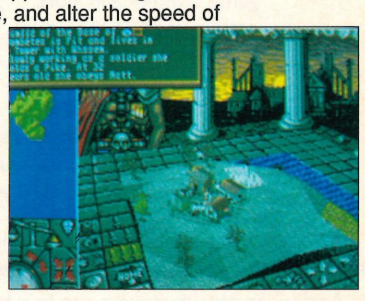
The first thing to do is to kick some ass. It's not a good idea to slaughter the opposition, so select the single dagger, 'only a little aggression'. Now select the sword icon and move to the map. Your cursor leaves a trail, planning the route of your troops. Move to the grey patch of land westwards, and the line becomes red, signifying a village present. Click on this and your troops start walking to the village.

Once the battle is over, you can recruit some of the villagers. Select the three daggers, choose the icon to the right of the radiating arrows icon, and click on the village you have conquered. Check the medals again to see your troops increase.

Now it's time to invent. Select the lightbulb, and a dagger/aggression level (to determine what your troops invent) – then click on the village. The lads scurry off into the woods and start sawing down trees. Now use the icon on the far right showing weapons, on the village to pick up whatever they've invented. Your next task is to attack the other village on the island (southwest of your home town) – use maximum aggression to give your troops a good fight!

The controls around the compass zoom in and out, turn the display around, and so on – it's worth experimenting. The scales show the balance of power, and once they have tipped to the right completely you've won the island. The disk icon allows you to quit the game, and alter the speed of things. Good luck!





How to load the programs

We have a new menu system this month, designed to be more flexible and easier to use. To kick off, put your PC Review cover disk in drive A: (or B:) and log on to that drive by typing:

A: [return]

With the A:> prompt showing on your screen, type

GO [return]

to load the cover disk menu. The items on the menu can be selected using a mouse or the cursor keys. If you have a mouse, this should be automatically detected by the program, which has been designed to be compatible with as many mice, old and new, as possible. To select a program for loading, simply move the cursor to the circle icon next to the relevant program and either click on the left hand mouse button, or press Return.

You will then be asked if the suggested drive and directory are okay. Press **Y** if they are. If you wish to install the programs on to another drive, or to a different directory, you have the chance to edit the suggested location.

Backspace over the suggested drive and directory, and type in your own preference. Press Return and you should find the program decompresses and installs on to your chosen drive and directory without any problems. To run the programs, change to the relevant directory, using **CD** [directory] [return] at the drive prompt, and type in the start-up name:

POWERMONGER

Type **demo** [return]

PITFIGHTER

Type **PIT** [return]
(to force the Pitfighter demo into a particular graphics mode, type **PIT/E** for EGA, or **PIT/V** for VGA. Normally the program will auto-detect the correct graphics mode for your computer.)

SLEUTH

Type **Sleuth** [return]

TOUCH TYPING TUTOR

Type **TTT** [return]

The menu shouldn't present any problems, but if it does, you can install the programs manually.

Continued on page 36

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...Sen. Gen - Know (12-adult)	£8.50
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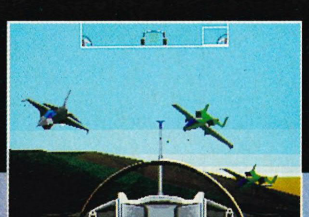
Falcon 3.0,™ the most intensive combat you'll ever face.

FEATURES

- Scenario generator to design training missions.
- Link up with another player via modem or direct cable for two player combat.
- Digitised cinematic graphics and authentic battle sound effects.
- Three 90,000 sq mile real world maps with contoured terrain.

MIRRORSOFT

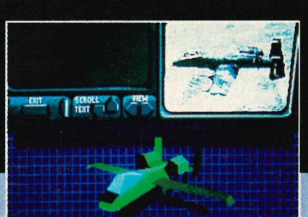
Spectrum HoloByte™



Padlock View



Cockpit View



Target Specification Centre



Selection Menu



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COVER DISK ... two complete programs

PITFIGHTER

Illegal brawls occur throughout the world, and what better subject for a computer game? Domark has converted the successful coin-op to the PC, and we're pleased to give you a sneak preview of the finished product.

TECH SPEC

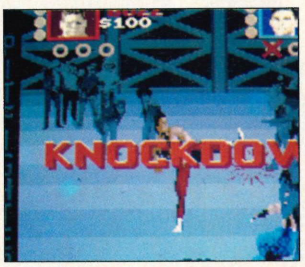
3½ ✓	5¼ ✓	AD Lib ✗	Roland ✗
CGA ✗	EGA ✓	VGA ✓	Tandy ✗
Hercules ✗	✗	✓	✓

CONTROL
Two sets of keyboard commands are provided

SET ONE:
INSERT = FIRE
HOME, PAGE UP, END, PAGE DOWN = DIAGONALS
NUMERIC KEYPAD = MOVEMENT

SET TWO:
SPACE = FIRE
Q, E, Z, C = DIAGONALS
W, X, A, D = MOVEMENT

P = Pauses the game at any time
ESC = Quits and restarts the game





Attention 5.25" disk owners

You may find that programs listed as being on disk A are on disk B, and vice versa. Apologies for this, but rest assured that you should have all four programs on your two disks.

SLEUTH

Sleuth is a text adventure with a difference. The game's locations are all shown in plan-form at the top of the screen and to move from place to place, you use the PC's cursor keys. Much quicker than typing north, north, north all the time.

The game opens with the news that a murder has been committed at a country house. Your job is to glean clues from the rooms in the house, mingle with and question the other guests, and solve the crime.

Aside from the cursor movement to change locations, the interface is as a traditional text adventure. The following commands are among those understood by the game:

Examine
(can be shortened to Ex)
Search
Look at
Accuse
Question
(can be shortened to Q)
Take
Help
Restart
Quit

TECH SPEC

3½ ✓	5¼ ✓	AD Lib ✗	Roland ✗
CGA ✓	EGA ✓	VGA ✓	Tandy ✗
Hercules ✓	✗	✗	✓

If you lose track of the suspects, you can also type Guest List to get a roll-call of the other characters.

The solution to the murder will change each time you play, and Sleuth also adds one other neat touch: you can change the names of the house-guests – perhaps making the other suspects all people you know!

Faulty disk?

PC Review's cover disks are checked and validated, but if you have reason to believe yours is faulty, pop the disk(s) in a jiffy bag with 55p to cover postage, and the form below (filled in) and send the package to the following address:

Spool Duplication,
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Deeside Industrial Estate,
Clwyd,
Wales,
CH5 2NU.

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

Name.....

.....

Address.....

.....

.....

.....

.....

The disk on my copy of PC Review was damaged. Please send me a replacement – I enclose a cheque/postal order for 55p and the original disk.

TOUCH TYPING TUTOR

Ever wanted to learn to type but haven't had the inclination or time? This excellent PD utility solves those problems in fell swoop.

It's fairly self-explanatory, but a few words of advice; concentrate on looking at the screen rather than the keyboard, and remember you have to press Return to go on to the next line – it won't automatically wrap around!

The program will give you warm-up sessions to get you started, and keeps track of your speed and errors as you go. It will save your stats as well – just sign in as Matthew to check out the miserable efforts of our staff writer! Also, the program doesn't let you move on until you type in the right letter, so listen for those beeps.

TECH SPEC

3½ ✓	5¼ ✓	AD Lib ✗	Roland ✗
CGA ✓	EGA ✓	VGA ✓	Tandy ✓
Hercules ✓	✗	✗	✓

This disk has been checked for all known viruses. However, PC Review cannot accept any responsibility for any consequences that arise from using the disk or the programs on it.

THE NO. 1 ARCADE COIN-OP HIT.

PIT-FIGHTER™







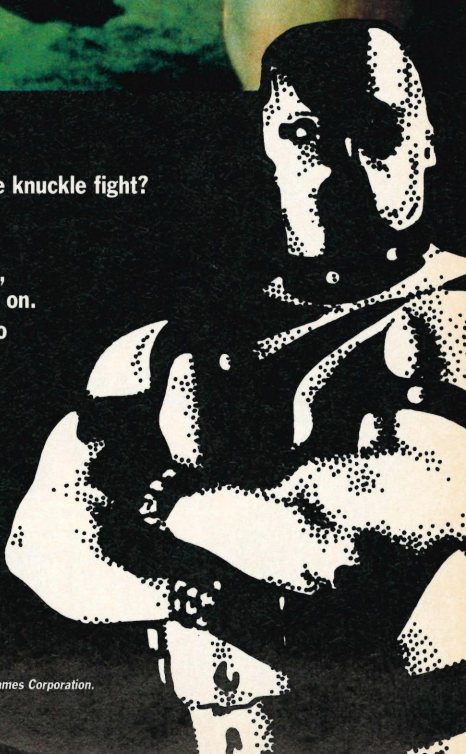




AMIGA SCREENSHOTS







Welcome to the meanest, toughest way of making a living!
Enter the World of Pitfighting – fighting for money.
Do you rate your chances in a free for all, no holds barred bare knuckle fight?
You'll have to face thugs like The Executioner, Heavy Metal and Chain Man Eddie.
Use every form of fighting – martial arts,kickboxing, stab with knives, throw bar stools, beer kegs and anything else you can lay your hands on.
Remember you're never safe – even from the crowd – get thrown into them and you may never come out alive.
Incredible graphics, digitised from real fighters, and amazing real time sprite scaling, bring you the perfect conversion of Atari's No. 1 Arcade Hit.
You'll never tire of this brutally addictive game!!

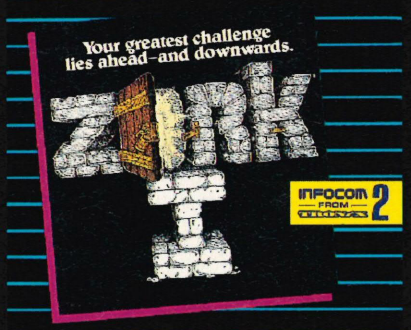
DOMARK

TENGEN

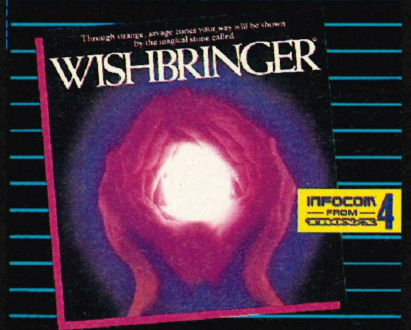
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TEN GOOD REASONS TO USE YOUR IMAGINATION









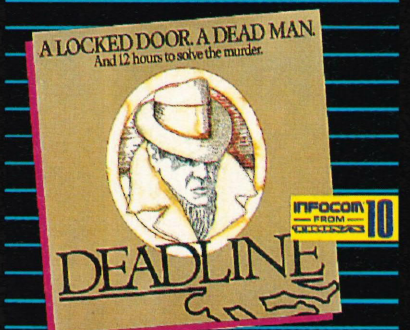












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Left: Ultima VII, exclusively featured in this month's Review section. Below: Pro Tennis Tour 2, from Ubi Soft and Domark's MiG 29M Super Fulcrum

Back by popular demand, the Reviews section takes 13 brand new PC releases and puts them through their paces.

Our reviews are designed to give you all the relevant information you need to know and none of the irrelevant. To this end, we've made them fairly structured; you shoudn't have to wade through wodges of information only to find a game isn't suitable for your machine after all.

Alternatively

...we believe games should be placed in context. If you like the sound of Pro Tennis Tour 2, for example (see over the page), you'll be interested in other games of a similar style. In all our major reviews, we offer comparisons with other titles on the market, some of which may be more suited to your tastes.

Hardware requirements

...there is nothing quite so annoying as discovering your hard disk has run out of space when you're halfway through installing the latest multi-disk epic – and the manual doesn't always tell you how much space you need. We do, though. We also tell you how many disks come in the box, so that floppy-only owners will know how much disk-swapping is likely tobe involved.

Tech specs

... our no-messing, no-guessing guide to the hardware supported by the game. And if there's anything unusual about the specs, or any additional information, we note it in the accompanying comment box.

Two minutes

...the nearest thing to seeing the game in action, as we take you through selected screens and note the gameplay required. You'll find the reviews concentrate on the atmosphere generated by the program and the gameplay involved, rather than regurgitating reams about the background story. You can always read the novella when you buy the game – our job is to help you decide whether you want to buy it in the first place.

Our rating system

... is about as straightforward as you get. None of this Sonics, Graphics, Lastability mularkey (and anyway, with all the different PC configurations, where would it all end?). We give a single mark, out of 10, based on the game's overall quality and how enjoyable it is to play.

ARCADE GAMES

Terminator 2 80
(Ocean)

SPORTS SIMULATIONS

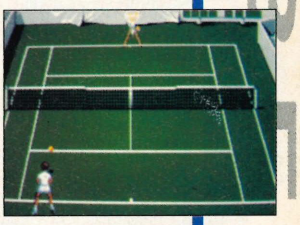
Pro Tennis Tour 2 70
(Ubi Soft)
Earl Weaver's Baseball II 75
(Electronic Arts)
Strike II 78
(Millennium)

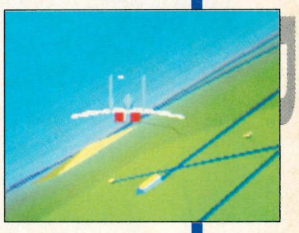
FLIGHT SIMULATIONS

MiG 29M Super Fulcrum 56
(Domark)

STRATEGY GAMES

Ultima VII 40
(Origin Systems)
Patton Strikes Back 46
(Broderbund)
Floor 13 53
(Virgin Games)
Immortal 67
(Electronic Arts)
Police Quest 3 82
(Sierra On-Line)
Bloodwych 85
(Mirrorsoft)





CD-ROM TITLES

World Atlas 64
(Software Toolworks)
Mammals: a Multimedia Encyclopaedia 65
(Software Toolworks)

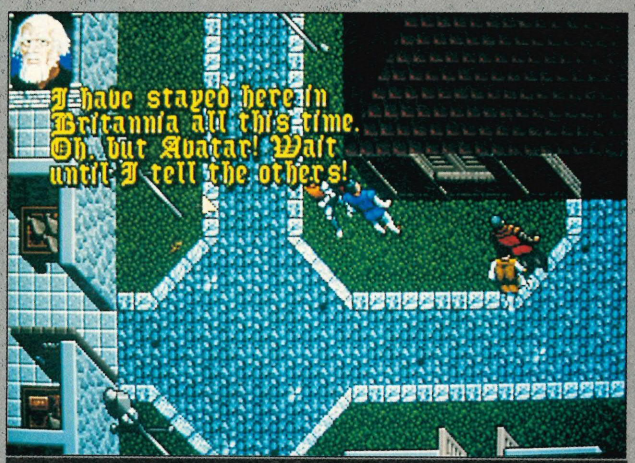
THE GAMES THAT GOT AWAY 86

All those titles which didn't quite make it for the full review treatment, a quick guide to the ratings given this issue, and some explanations and excuses for those games that have slipped, been "repositioned in the marketplace", or are just plain late on to the shelves

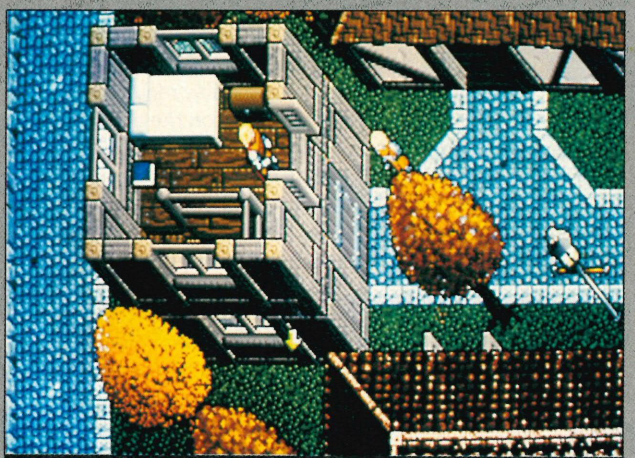


■ Ultima VII - The Black Gate ■ Origin
■ (0444) 831761 ■ £39.99





Returning to Britannia 200 years after the close of Ultima VI, Iolo greets you with undisguised joy Things have not been going well in Britannia, and it falls to you to solve the mysteries of the recent decline of the people.



One neat feature of the interface is that every time you go into a building, the roof will lift off to give a plan view of the interior. This way, you never disappear underneath anything!



Ultima VII- The Black Gate

The Ultima saga is one of the most enduring in games history, and Ultima VII is easily the most ambitious program yet in the series

Typically Texan in outlook, Origin thinks big when it comes to computer games. Writing for its native American market, requirements of 21Mb of hard disk space and two soundboards for Wing Commander 2 may not seem that lavish, but for UK buyers, the software is almost running ahead of the hardware which many people use. For the latest in the popular Ultima series, Ultima VII, the specs required are daunting. You will need a 386 machine (a 386SX will do), 2Mb RAM (and around 550K free in main RAM), around 17Mb free on your hard disk, a Roland board for the music and a Soundblaster for the speech.

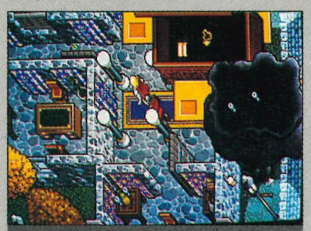
The 386 is needed because the Ultima VII program addresses the chip directly, so an SX will slow things down a bit. The hard disk space is needed because the game is vast.The RAM is used to hold current gameplay parameters and there is always plenty going on. Play this in a darkened room with your speakers turned up and the music and speech is wonderfully atmospheric.

Britannia has never looked this good. The first thing any Ultima player will notice about the game is that the top-down graphic presentation now takes up the full height and width of the screen. All characters, including you, the Avatar, are presented as solid 3D animated beings, and the terrain also looks solid and realistic. You can walk around and explore at will, and when you go either indoors, in the town, or into the dungeons, the roof/ceiling automatically lifts off to show you a plan view of the interiors.

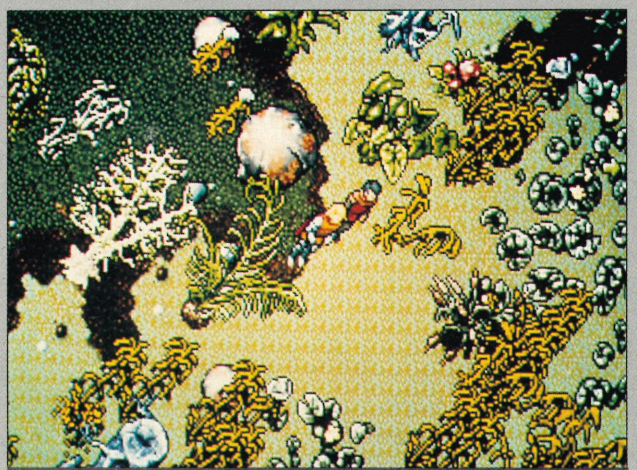
The second thing you'll find is that the keyboard interface has been done away with. Everything is mouse-controlled and everything is accessed via the mouse on that full-screen display.

Ultima VII plonks you back in Britannia, 200 years after the close of Ultima VI, with very little to go on. The spoken introduction, boomed out by the Guardian and accompanied with suitably doom-laden music, is a clear indication that he is up to no good at all in Britannia and an inevitable challenge for you, the Avatar, to return to the kingdom. Within two minutes of starting the game, a somewhat aged Iolo will have reaffirmed that dark deeds are afoot and you'll have been ushered into the stables to find a gruesome murder has taken place. Get as much information as you can out of Iolo; from now on you're pretty much on your own. But the murder in the stables is only one of a number of bodies you'll stumble across during the game and you'll also run into the sinister Fellowship, an organisation run along scientological lines and operating in Britannia. The main thread of your Quest is to find out why these things are happening, and, naturally, to put a stop to it.

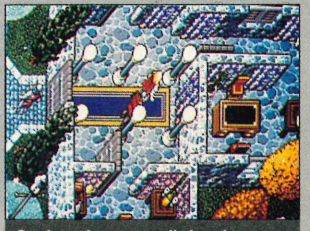
Without giving away too much of the plot, the background to this is that the Guardian aims to infiltrate the world of Britannia, by subverting the minds of the good burghers of the realm.



Objects can be selected for closer examination, simply by double clickng on them with the mouse.



The kingdom of Britannia is a large world of varying climes and vegetation. You'll need to wander out into the swamps, mountains, seas and dungeons to fulfil your quest.



Back in the town: all the objects here are examinable, even if they may not be relevant to your quest.

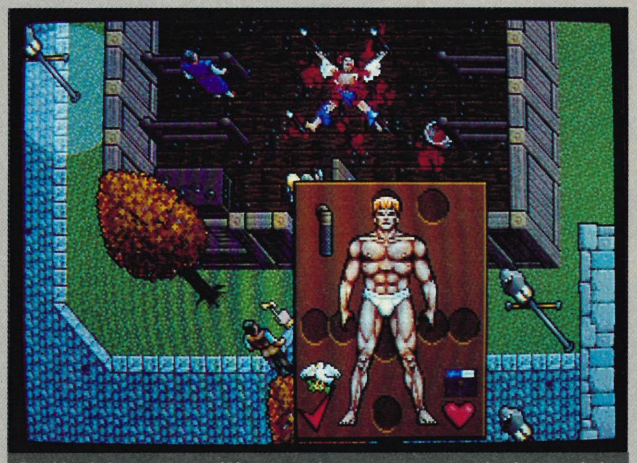
Ultima VII- The Black Gate

He'll also have a go at subverting yours, by chipping in occasionally throughout the game with comments such as, "Do you really know where you're going, Avatar?" which appear to come out of nowhere. So far, the main fruits of his endeavours are manifest in the existence in Britannia of the Fellowship.

Your journey ends when you reach the Black Gate of the game's sub-title, where you will meet the Guardian face to face.

Much work has been done to make the control system easy to use. The left mouse button controls 'hand' movements: click on any object or person on-screen for a spot description; click and drag to pick up an object and move it. Double-click to initiate conversation. The right button controls you and your movement: click once on your character to move one step; even better, click anywhere on-screen and you'll 'path-find' your way to it. Double click on an object to use it, and double-click on yourself to access your status screen. Here you stow your equipment, switch into combat mode, check on your strength, intelligence and dexterity attributes, save the game so far, and so on. No more learning the keyboard lay-out.

Moving around and interaction with others is thus much simplified and after a short while, intuitive. To enter into combat mode, click on the 'dove' icon on your inventory window to



Double-clicking on yourself brings up the inventory screen: the dove symbol indicates that you are in 'peaceable' mode, while clicking on the red heart shows your current attributes and skills. The disk icon is accessed for saving and restoring games. For the first time in the Ultima series, Ultima VII supports multiple game saves – up to ten in all.

Quest within a quest

Part of your quest also involves three 'sub-goals': switching off the power produced by the Guardian's three 'generators', a square, cube and tetrahedron. The sphere radiates disturbances of the ether, causing magicians of Britannia to go mad; the cube is shutting down the moon gates and the tetrahedron is a brainwashing tool - it is, according to the plot at least, the tetrahedron which generates the Guardian's spooky messages to you.

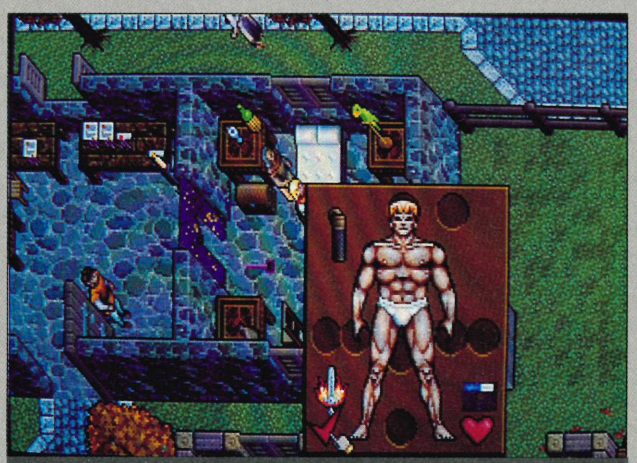
In fact, as you play the game, these three elements are mainly implicit rather than explicit. It's more of an in-joke than anything else: look on the back of any package by rival publisher Electronic Arts and you'll find a square, cube and tetraheadron. This is not a coincidence.

Garriott on Ultima VII

"Before I start an Ultima, I usually have a pretty good idea of what the game goals are going to be."

"Up to Ultima VI there wasn't really any ultimate evil in the world. Everyone was a good guy deep down, if you know what I mean. In Ultima VII, the guardian is an absolute quintessential evil bad guy, who will survive all the way through Ultima VII, VIII and IX."

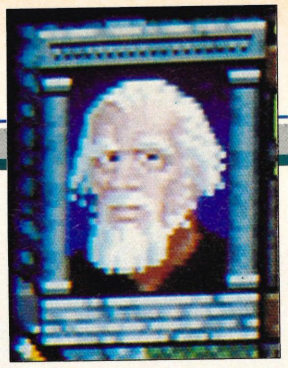
"Some games, say, Bard's Tale and Might and Magic, are very combat-oriented games. My focus is absolutely not combat, my focus is quests, and interesting interactions with people, places and things. The combat is intended to be as easy as possible. Ultimas are becoming more and more about storytelling and less and less combat oriented."



A single click on the dove icon turns it into a flaming sword. Now you're in combat mode, though it would be unwise to start wading in on unsuspecting victims until you've collected some suitable weaponry. In combat, you can either direct tactics manually, or simply let the fighting happen automatically, depending on how much you enjoy getting heavily involved in the combat aspect of the game.



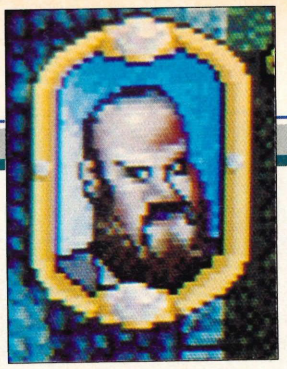
Attributes are divided into the standard strength, dexterity and intelligence ratings. Allied to these are skills which need to be learned through experience gained in the game. Once you've become 'experienced' your experience points can be traded for training – useful since you need to be trained in such arts as magic before you can cast any spells.



Iolo (on the left) has aged somewhat since Ultima VI.



You, the Avatar, are of course as handsome as ever.



The mayor of Trinsic is one of the many people you'll meet en route.

see it become a fiery sword. Having some weapons to hand would be useful as well. Then approach your intended victim and click on him or her. Most combat sequences are automatically controlled, although you can manually direct the tactics used to fight prior to wading in. Hopefully you'll overpower your opponent, in which case you can rifle through their belongings for useful equipment. If they flee from you, injured, they should leave tell-tale trails of blood which you can follow in order to finish them off.

If control and combat have been simplified, the attribute system and use of magic in the game have been made a little more complex. At the time of writing, this aspect of Ultima VII is still being worked on, but, so far, your attributes are based, as expected, on strength, intelligence and dexterity. But as your experience in the game grows, you will also acquire skills based on these attributes, which will affect your ability to do certain things. In order to use magic, however, you will need to have been trained in the art. Training is a process of cashing in experience points gained for training points, so magic won't be available until you're some way into Ultima VII.

There will be some 80 spells available in all, categorised into eight levels or types of spell, ranging from the creation of fireballs and waves you

"When you spread a game out to a lot of people like this, a lot of the creativity and what goes into the game, is not me, and sometimes they vastly exceed my capabilities. On other occasions, it isn't exactly what I would have done. The total is obviously far more than any single individual could have done."

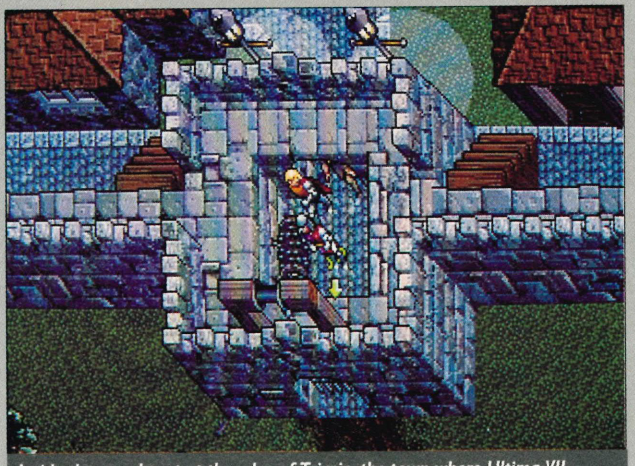
"I know more about Ultimas VIII and IX now than I usually know about the next Ultima game. Usually when I finish one, I only have an inkling of what the next one is going to be like.

"Ultima VII, VIII and IX are a very detailed planned trilogy and the Britannian adventures will come to a conclusion with IX.

"There will be an Ultima X, in that we'll still call it Ultima, but we'll start a whole new world from scratch, and start afresh. After nine Ultimas, I'll need a break. But that's all a couple of years off, so I've got plenty of time to think about it."

HARDWARE REQUIREMENTS

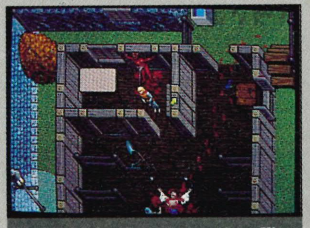
The plan is to package Ultima VII on five or six floppy disks,with hard disk installation essential. It will take up around 17Mb of hard disk space.



Inside the guard post at the edge of Trinsic, the town where Ultima VII opens. You'll need a password before you're let through the city gates into the wilds of Britannia.



The guardian is "an absolute quintessential evil" (see Garriott on Ultima VII, above). In VII, his plans for Britannia include gaining access to the land using thought control on its people. He'll even try this out on you, using the not-so-mystical SoundBlaster card for atmospheric speech.



Two of the gruesome murders. The inclusion of the bloodied corpses has led to the game being given a 13 rating in the US.



A single click on an item yields any information the game holds on it. You can also click and drag to pick an object up and move it.

Ultima VII- The Black Gate

can direct at people or things, to conjuring up animals to populate Britannia. All spells will be accessible via the spell book, which details each one and how to use it.

The move to full-screen graphics and lack of keyboard input in Ultima VII is made more impressive by the attention paid to the finishing touches, which add hugely to the impression of a real land bustling with independent life. Walk into the blacksmith's, for example, and you'll see the blacksmith going through a programmed sequence as he pumps his bellows over the open fire to heat it up, takes a block of iron and heats it until it glows, takes his hammer to the

block and hammers out a sword shape, then takes the sword to the water trough to cool it down - and, yes, you see the water level going down as the heat of the sword evaporates it.

Similarly, interrupt the weaver and you'll be treated to a demonstration of mediaeval spinning and weaving techniques.

Graphically, too, there are additional elements. Britannia has authentic weather: you won't get far in the game before it begins to rain, or even snow. And when it does, you'll see cloud shadows moving slowly across the screen. The windows of the buildings are translucent, in that you can see people going about their business through the windows, and this applies even to the stained glass windows in the churches. At the time of writing, Garriott was wondering if

the programmers would have time to include routines to make all the characters you pass along the way react in some way to your presence, even if just by a quick "Hallo." "After all,

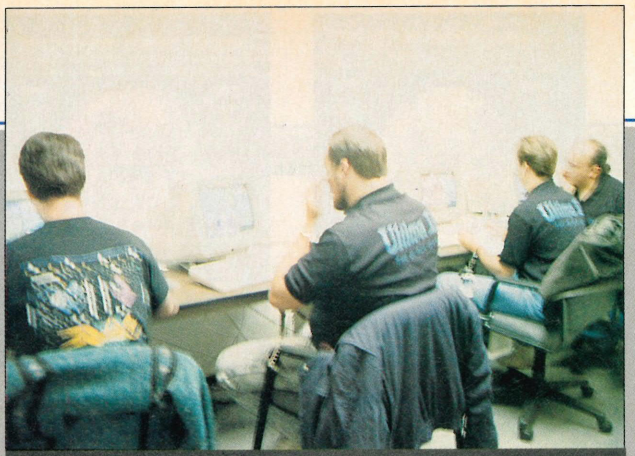
it's more natural," he says. "The shopkeeper doesn't just ignore you when you go into his shop."

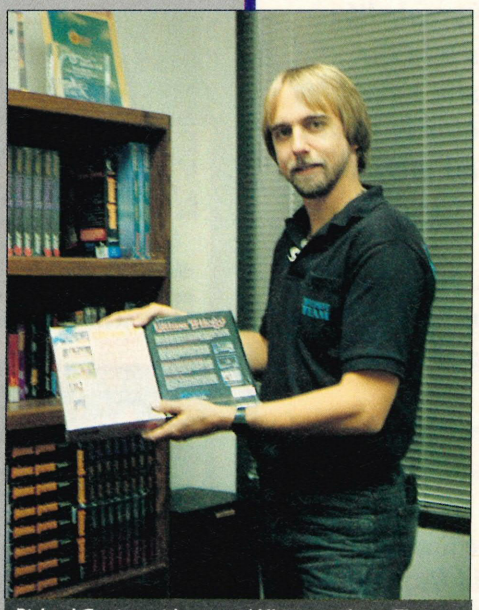
Ultima VII is currently at the playtesting stage, with the programmers working 24 hours a day in ten hour shifts to try to get the game finished before Christmas. Since there are still a few elements of the game to be polished and finalised, we have decided not to award an overall mark at this juncture. It would be unfair to give it a formal rating based on the fact that our copy has some elements that aren't yet implemented, and unwise to rate it on the assumption that each of these elements will be fully implemented by launch time. Keep an eye out for an Ultima VII update on our Reviews reference page (page 86, this issue) as soon as the game is finished and available in its final packaging.



Only an idiot would hit No at this point.

CHRISTINA ERSKINE


The Ultima programmers are working 24 hours a day in 10 hour shifts. Note the handcuffs chaining them to their desks – a not-entirely -serious touch for PC Review's benefit


Richard Garriott with assorted Ultima products. The Ultima packaging has evolved from zip lock bags with handwritten documentation to the movie-style posters and boxes today.

Richard Garriott – creator of the Ultima series

Richard Garriott goes under the pen-name Lord British, a monicker he apparently acquired in uncharacteristically prosaic fashion back in his college days when he greeted a fellow-student with an English "Hallo", rather than an American "Hi y'all". The name stuck and Garriott turned it to good use when he created Britannia, the land featured in the Ultima series. The first pre-Ultimas were devised at school, on a screenless computer where the current game status appeared only on paper as a series of Xs and Os. Ultima I was written for the 48K Apple II and packaged in a polythene zip-lock bag. Even though it was not initially intended for publication, it sold around 30,000 copies. A commercial deal with Sierra for Ultima II was sealed only because they promised him a proper cardboard box to put the game in. And the famous Ultima cloth map.

Things have improved since then. Ultima III was the first to come out under the name Origin, the company set up by Garriott. In Ultimas IV and V, Garriott worked on developing the storylines and characters, still developing the games on a 64K Apple II. For Ultima VI, Garriott moved to the PC for development, and the quality of the visuals leapt, while he attempted to make the game more accessible to non-Ultima aficionados, reducing the number of keyboard controls and context-specific commands. In Ultima VII, that interface has been overhauled again, with the full-screen graphics and total mouse control.

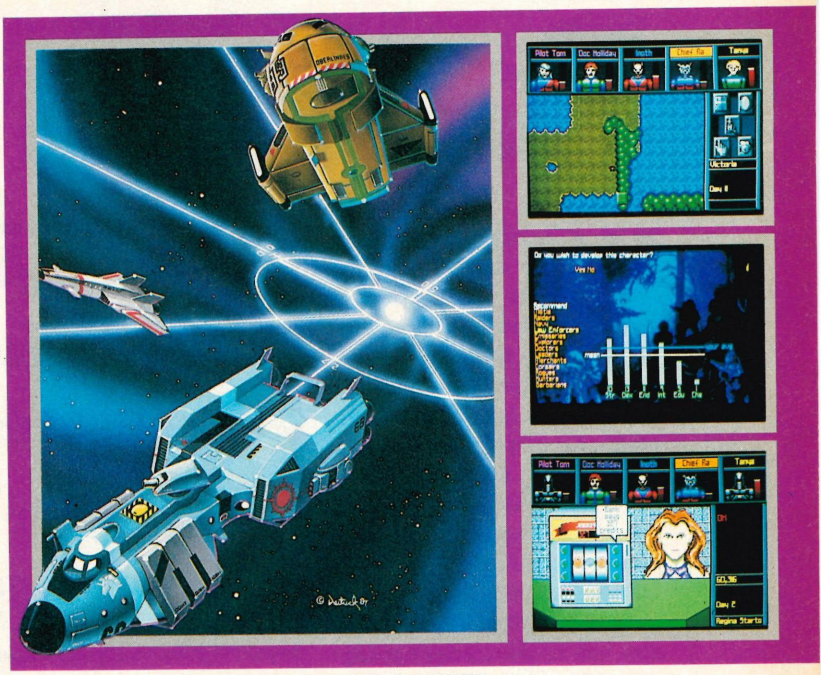
Ultima VII may be a Lord British production, but while Garriott devised the plot and design of the game, there are 20-30 Ultima VII programmers, artists and musicians, and a budget of just under $500,000 to produce the game.

You need a 386SX at least, with 2Mb memory, VGA, and Roland plus Soundblaster for the speech.

TECH SPEC

3½ ✓	5½ ✓	AD Lib ✗	Roland ✓
CGA ✗	EGA ✗	VGA ✓	Tandy ✗
Hercules ✗	✗	✓	✗

"THE BEST RPG/ADVENTURE GAME OF THE YEAR.* JUST GOT BETTER..!!"



* Amiga Computing

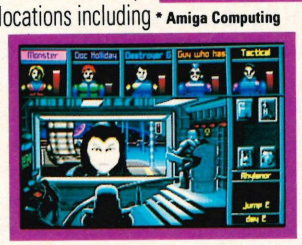
SCREEN SHOTS TAKEN FROM IBM PC VERSION

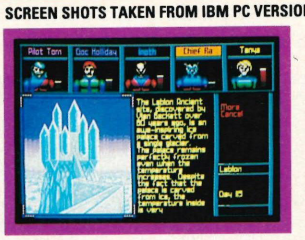


Now, the best RPG/Adventure game of the year just got better!!

The game begins as you and your party set out to stop the slime producing Ancient sites on Rhylanor. There are 127 detailed worlds to explore with hundreds of cities and millions of square miles.

You can travel from planet to planet aboard commercial starships, or one of your characters may own his own ship. Explore hundreds of locations including cities, data terminals, starships with deck plans, gambling casinos, stores and shops, taverns, trade and commerce outlets, vehicle rental locations, character recruitment centres, crashed and abandoned ships and Ancient sites.







MEGATRAVELLER 2

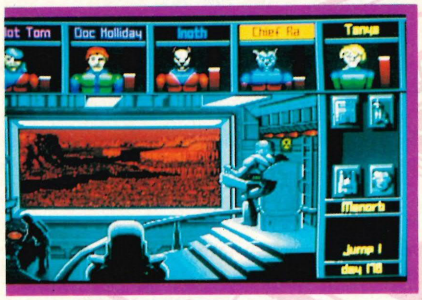
QUEST FOR THE ANCIENTS

300,000 years ago, the Ancients ruled the galaxy, and then destroyed themselves in a suicidal war, leaving only ruined cities and devastated planets. Even today, the ruins of the Ancients are puzzling; mysterious and dazzling artifacts are still unearthed at various ancient sites throughout the Spinward Marches. Now one of the ancient sites has mysteriously sprung to life, running amok and threatening to destroy an entire world. Millions will perish if the ancient site isn't stopped. Ancient sites spread across a dozen worlds, hold clues, and even ancient artifacts that may neutralise the destructive site.

THE LONG AWAITED SEQUEL TO MEGATRAVELLER 1 - A STATE OF THE ART

But ultimately, you'll need to find the legendary Ancient leader who has been reportedly dead for 300,000 years!

Only you can discover if the legend of the Ancient one is true as you play Traveller like you've never played it before in Megatraveller 2; Quest for the Ancients.



At each of the Ancient sites, you can discover artifacts and relics that can help the crisis situation on Rhylanor. By helping the situation, you will receive very significant rewards, which will help you to buy passage, or even acquire your own ship so that you can continue your quest.

Throughout your adventure, you will be pursued by agents of the secret organisation.

As well as a main plot, there are dozens of sub-plots on the various worlds, and even aboard starships, to keep you and your party busy.

You will be confronted with interesting adventures filled with mystery, danger and intrigue.

For years, Traveller was the undisputed champion of science fiction role playing. A game of unprecedented magnitude, there was no aspect of spacefiring adventure that Traveller didn't handle, and handle exquisitely. Then along came Megatraveller, a complete redesign of the original Traveller that stands as one of the most remarkable gaming achievements of the last decade.

Superbly designed, Megatraveller was quoted as the pinnacle of science fiction role-playing.



Megatraveller 2: Quest for the Ancients is a unique and innovative role-playing adventure that goes leaps and bounds beyond Megatraveller 1.

The game features the most advanced and comprehensive character generation system ever developed as well as the most intuitive combat system for ground and space conflicts. The overhead perspective is equally unique, showing your entire party from a perspective that realistically represents a large, modern city.

Megatraveller 2 features a much more graphic-intensive presentation than Megatraveller 1. An enhanced trade and commerce system is implemented in Megatraveller 2. The new economic system is much more realistic and benefits from the substantial increase in worlds.

Megatraveller 2 uses the PAL system: you are the leader of the party, and the others act as your friends. You can give orders, but acting intelligently based on the skills and the characteristics they possess, they may not follow your instructions if they believe that different actions on their parts will ultimately help you in a more effective way.

There are hundreds of NPC's to meet, converse and trade with during your adventure.

Overall, Megatraveller 2: Quest for the Ancients is an all new game with exciting advanced features. The sheer size and scope of the game with over 127 different worlds to explore will keep you playing time and time again. This together with the superb graphics and animated sequences and the revolutionary PAL role-playing system, make for the most exciting adventure yet seen on a Home Computer.



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■ UK Distributor TBA ■ £TBA

Patton Strikes

Chris Crawford is renowned for innovative strategy games such as Balance of Power, Balance of the Planet, and Guns and Butter. With Patton Strikes Back, he returns to the classic wargame - but one anyone can play.

Wargaming appears to be out of fashion. Even its strongest supporters, such as US publisher SSI, have been lured away from the genre by the glamour of Dungeons and Dragons and other role-playing fantasies. So its welcome news that Chris Crawford, who years ago left the classic wargame for new horizons in strategy gaming, is bucking the trend.

Patton Strikes Back recreates one of the crucial encounters of World War II, the Battle of the Bulge, when the Germans attempted to counter the Allied offensive launched by the D-Day landings. A large force of German infantry and armour poured across the Ardennes in Belgium.



One of the innovations in Patton Strikes Back is the History Book - pairs of informative screens that put the battle in context. One set gives strictly factual data, the other is anecdotal.

In the game, you get to control either the German or Allied forces, trying either to confirm the Allied victory, or rewrite history.

The key to Patton Strikes Back is the design of the control system. As Crawford explains in the manual: "My fundamental goal was to create a 'wargame for the rest of us'. Wargames have always been monstrosities, staggering under rulebooks that read like contracts for corporate takeovers wanted to change that. I wanted to create a wargame that was first and foremost easy to play."

In that, PSB is a great success. You have one map of the battlefield, showing roads and other terrain, and military units. Click on a unit to issue orders, or alter existing commands. The available orders are equally simple: defend, move or attack; to the latter two you can add directions. And that's about it.

In traditional wargames you had to worry about logistics,

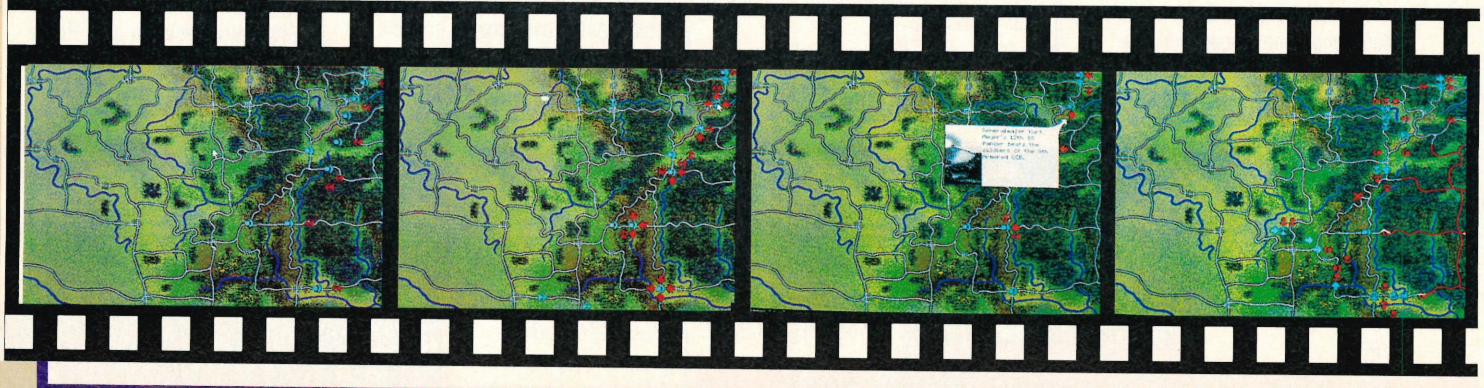
TEN DAYS THAT CHANGED THE WORLD...

Dawn on December 16, and the computer-controlled Germans come smashing across the Ardennes. Allied units are few (reinforcements arrive eventually) which makes your job simpler.

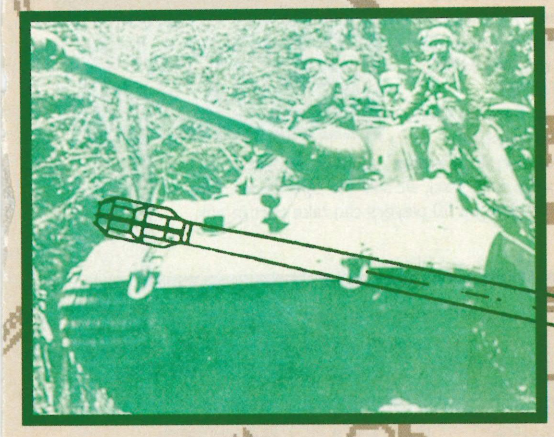
By mid-morning the first casualties are mounting. Newsflashes, complete with short video sequences, announce the major events

December 18 and things are looking deceptively good for the Germans. Although US reinforcements are arriving, supply lines have been cut in several places and the Germans have broken the Allied centre.

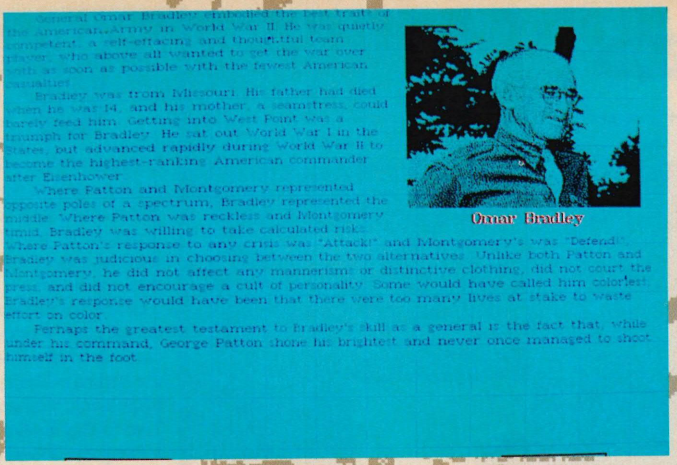
Midway through the game, it looks like a cinch for the computer with the Germans 260 points ahead. But the Allied counter-attack is underway, massive reinforcements have arrived and the weather has opened up, bring the Allied air power into play.



Back







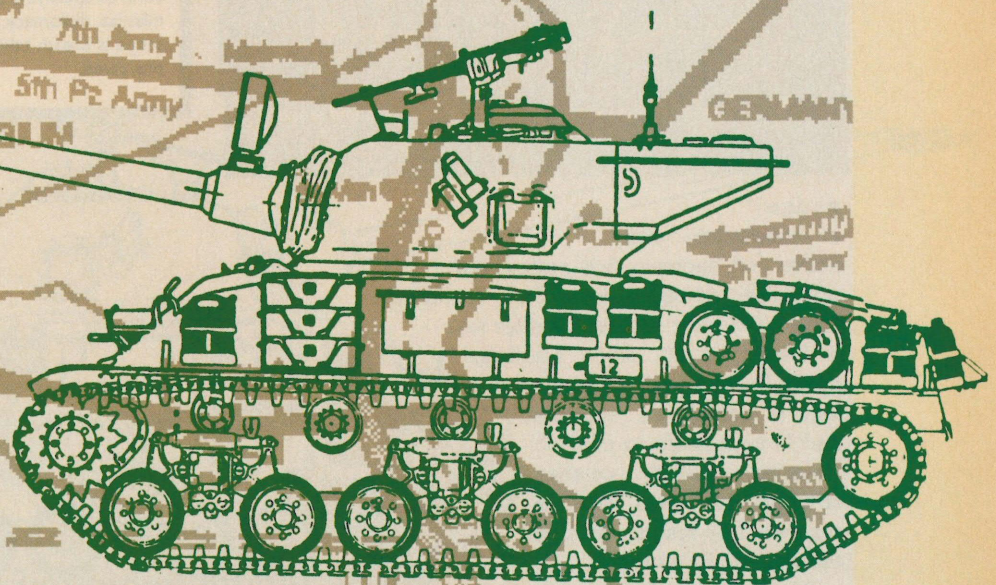
Omar Bradley

General Omar Bradley embodied the best traits of the American Army in World War II. He was quietly competent, a self-effacing and thoughtful team player, who above all wanted to get the war over with as soon as possible with the fewest American casualties.

Bradley was from Missouri. His father had died when he was 14, and his mother, a seamstress, could barely feed him. Getting into West Point was a triumph for Bradley. He sat out World War I in the States, but advanced rapidly during World War II to become the highest-ranking American commander after Eisenhower.

Where Patton and Montgomery represented opposite poles of a spectrum, Bradley represented the middle. Where Patton was reckless and Montgomery timid, Bradley was willing to take calculated risks. Where Patton's response to any crisis was "Attack!" and Montgomery's was "Defend!", Bradley was judicious in choosing between the two alternatives. Unlike both Patton and Montgomery, he did not affect any mannerisms or distinctive clothing, did not court the press, and did not encourage a cult of personality. Some would have called him colorless. Bradley's response would have been that there were too many lives at stake to waste effort on color.

Perhaps the greatest testament to Bradley's skill as a general is the fact that, while under his command, George Patton shone his brightest and never once managed to shoot himself in the foot.



troop readiness, lines of supply, unit strength, what kind of equipment was at hand (was it armour, light infantry, heavy infantry?). In Patton, everything is simplified: the kind of unit is irrelevant, and there are only two attributes to worry about - strength and readiness.

Units lose strength in combat, and never recover it. When strength reaches zero, they're eliminated. Readiness is a



Air strikes are beginning to take their toll - cutting German supply lines each day, leaving advanced units vulnerable and weakening German lines.

Christmas Eve and the tide has turned. The computer is now 62 points down, illustrating the problems the Germans face - early successes are easy; holding onto the gains is the tricky bit. Large numbers of red crosses show shattered units, out of supply and trapped behind Allied lines.

By Christmas Day, the German assault has turned into a disaster with units surrendering in desperation.

The end of the game, and the end of the German hopes. The computer's huge lead in the early stages has become a massive Allied success - just short of the 500 points needed for an overwhelming victory.

ALTERNATIVELY...

UMS II

Rainbird £40.86

Universal Military Simulator II and its predecessor UMS were and remain mould-breaking classics. If you are interested in strategy games, buy them now. They are probably not ideal for beginners but a tactician's game collection is incomplete with out them.

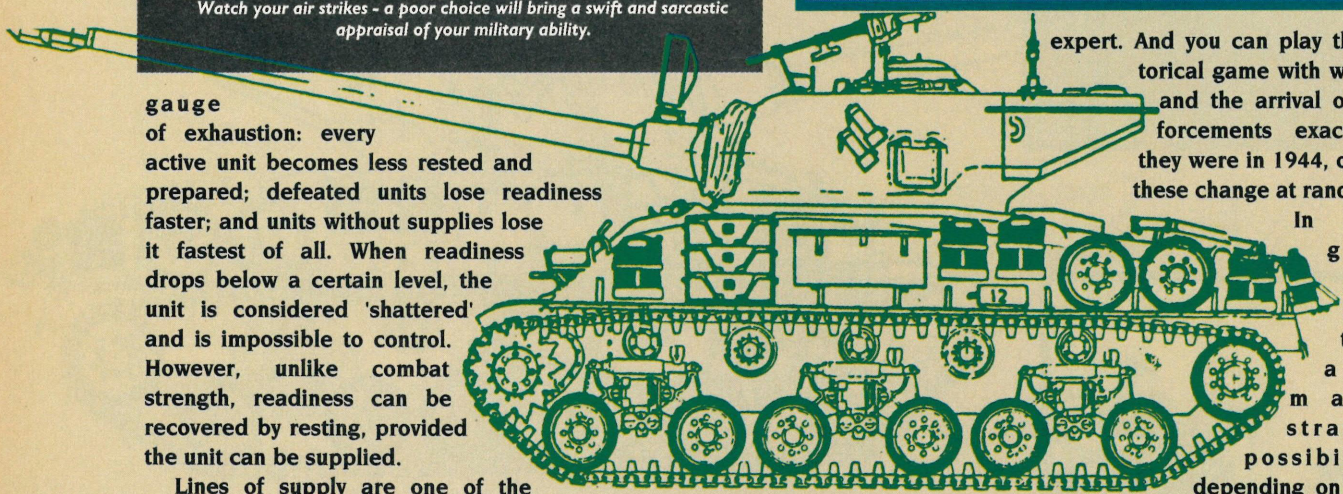


UMSII, with its massive manual and complicated windows menu system of control, covers three major scenarios - the battles of Alexander the Great, the Napoleonic Wars, and the World War Two D-Day landings of 1945.

The game allows you to become God-like in environmental and logistical control, specifying forces, terrain, weather, supplies, budgets, missiles, diplomacy, plus full scale land, air and sea operations. The scope is breath-taking. Imagine, up 50 players can take part in any one game.



Watch your air strikes - a poor choice will bring a swift and sarcastic appraisal of your military ability.



gauge of exhaustion: every active unit becomes less rested and prepared; defeated units lose readiness faster; and units without supplies lose it fastest of all. When readiness drops below a certain level, the unit is considered 'shattered' and is impossible to control. However, unlike combat strength, readiness can be recovered by resting, provided the unit can be supplied.

Lines of supply are one of the most important considerations, mirroring the historical fact this was a fast, mobile engagement and fuel supplies were critical to both sides. It's possible to push one or two units beyond enemy lines, but because they lose supply they will soon shatter and become easy victims to any enemy action. In Patton, therefore, a coordinated strategy is vital.

Victory in the game is measured in terms of unit strength and 'landmarks' - key territorial objects like towns, bridges and road junctions. The game runs the historical period of about ten days; at the end of that time you win if you have a positive score, and lose if your score is negative.

Once the game begins, everything happens according to your orders and the outcome of individual unit actions - there are no 'turns' as in traditional wargames. For the first few games, this can be a bit overwhelming and you find key units sitting idle because you've forgotten to issue new orders.

However, the game can be paused at any time, giving you the chance to check on all units and issue new commands. And after a few games, you get the hang of it - there aren't an enormous number of units to control, and the map display shows you everything that's happening.

So far, so simple - but there wouldn't be much of a challenge if that's all there was to it, and like all successful games, Patton has some subtleties. On the large scale, there's a lot of variety in the game setup.

You can choose from half-a-dozen levels of difficulty from beginner to expert. And you can play the historical game with weather and the arrival of reinforcements exactly as they were in 1944, or have these change at random.

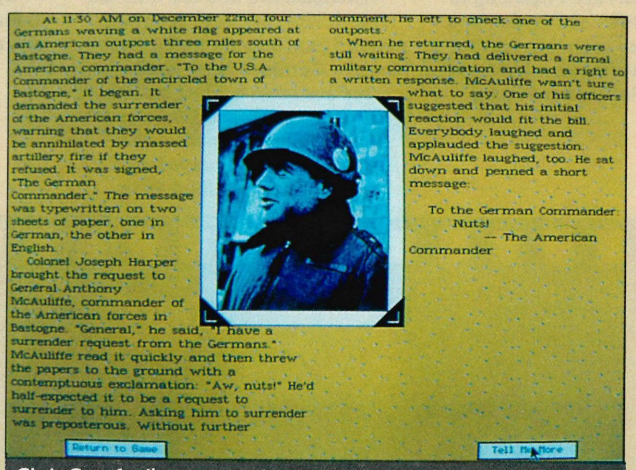
In the game play itself, there are many strategic possibilities depending on which side you play. As the Germans, for example, it's possible to achieve a victory on the grand scale by extending a long, thin line deep into Allied territory, provided you can maintain your supply lines. Conversely, the Allies can stymie the German offensive by a dummy retreat that sucks in many German forces which can then be cut off and eliminated by a pincer movement attacking the rear.

Supply is far more important to the Germans, since they are pushing into Allied territory and supply can only come from one direction; the Allies initially get supplies from west, north and south.

The Allies have another important advantage: air superiority. Under historical conditions, this only comes into play



A year from now you will still get enjoyment from Patton.



At 11:30 AM on December 22nd, four Germans waving a white flag appeared at an American outpost three miles south of Bastogne. They had a message for the American commander. "To the U.S.A. Commander of the encircled town of Bastogne," it began. It demanded the surrender of the American forces, warning that they would be annihilated by massed artillery fire if they refused. It was signed, "The German Commander." The message was typewritten on two sheets of paper, one in German, the other in English.

Colonel Joseph Harper brought the request to General Anthony McAuliffe, commander of the American forces in Bastogne. "General," he said, "I have a surrender request from the Germans." McAuliffe read it quickly and then threw the papers to the ground with a contemptuous exclamation: "Aw, nuts!" He'd half-expected it to be a request to surrender to him. Asking him to surrender was preposterous. Without further comment, he left to check one of the outposts.

When he returned, the Germans were still waiting. They had delivered a formal military communication and had a right to a written response. McAuliffe wasn't sure what to say. One of his officers suggested that his initial reaction would fit the bill. Everybody laughed and applauded the suggestion. McAuliffe laughed, too. He sat down and penned a short message:

To the German Commander:
Nuts!
-- The American Commander

Return to Game | Tell Me More

Chris Crawford's return to the classic wargame could herald the return to prominence for the genre. The legions of his fans who admire the strategic intricacies of Balance of Power and Balance of the Planet will be impressed.

Ultima® VII

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System Requirements:
IBM-PC or 100% compatible 386SX, 386 or 486
Hard Disk, High Density 5.25" or 3.5" disk drive
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*Games without frontiers

There may be few members of the gaming public that know the name of Chris Crawford, but for those who rate intelligent design and mind-stretching strategy ahead of pretty graphics and whizz-bang action, Crawford is one of the few stars of computer gaming.

He started designing games back in the days of the Atari 800 with a series of excellent wargames, including Eastern Front which covered the German offensive against Russia in World War II.

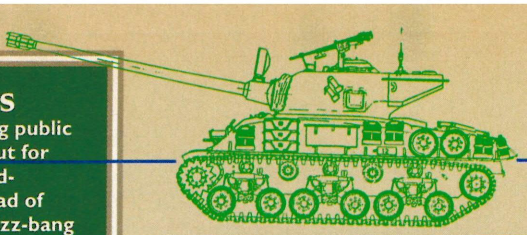
However, his ambition was to create the ultimate strategy game of warfare and politics - an ambition only partially realised by Balance of Power which was the first computer game to be acclaimed by publications like NewsWeek and The New York Times. He subsequently added ecology (Balance of the Planet) and international trade (Guns and Butter) to the list of elements in strategy gaming.

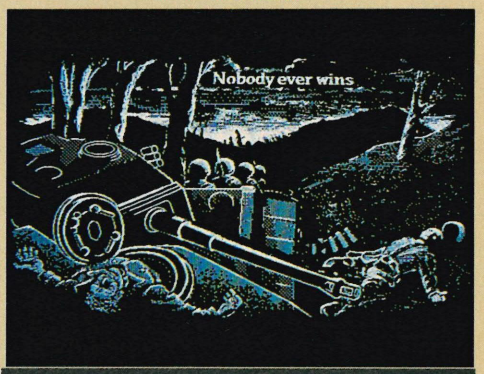
The process of creating Balance of Power is described in Crawford's excellent book of the same name (Microsoft Press, £8.95, ISBN: 0-914845-97-7). More than just a guide and explanation of this one game, the book is the first detailed handbook of computer games design. Would-be games programmers should consider it an essential read.





Quality graphics add to the atmosphere.





The sombre closing screen is becoming a Crawford trademark - after many enjoyable hours of mayhem and mass destruction, here's a swift kick in the conscience.

late in the game because bad weather kept the planes grounded, but when planes are available, a few judicious air strikes can cut off supplies to every German unit.

Air strikes have another advantage: they allow the Allied player to know the whereabouts of all German units. Otherwise, enemy units are invisible unless they are close to one of your own.

One of the hallmarks of a Chris Crawford game is the wealth of non-essential information provided. In Balance of Power, for example, there was a virtual encyclopaedia of information about national birth and death rates, economies, telephones and televisions per head of population, and a myriad other details. In Patton Strikes Back, Crawford has created 'The History Book'.

The History Book is a series of historical data sheets and anecdotes, complete with digitised photographs and diagrams, on actual events and people involved in

The Battle of the Bulge. The appearance of these datasheets is triggered by events in the game, or you can browse through them via a menu.

Although they add a new dimension to the game, providing a wealth of background material and putting everything into its proper context, their appearance can be irritating in the heat of battle. Fortunately, you can turn this feature off and resort to browsing.

There are many additional touches that set the game above average. 'Newsflashes' give you a running commentary on events, as towns are captured and lost, and units score victories in combat - or crumble in defeat. You can call up strategic advice - which won't actually help at all, but the epigrams of the great commanders of the past 2,000 years do give food for thought.

And if you misdirect an air strike - targeting a friendly unit, or a worthless piece of terrain - you get a sardonic, and sarcastic, observation from an animated, cigar-chewing superior.

I went through an odd cycle of responses to Patton Strikes Back. At first, it seemed nicely presented and sufficiently challenging. After a while, it seemed too shallow, and the History Book and the other additions looked like icing on a none-too-satisfactory cake. Finally, I came to realise Chris Crawford has created something great.

There are criticisms to be made. For example, there seems to be a disappointing lack of intelligence in the computer's play - it will mindlessly pursue a defeated unit regardless of whether it's sensible to do that. And the computer doesn't really get tougher as you progress through the difficulty levels: the odds are simply increasingly stacked against you.

By reducing the wargame to its essentials, Crawford has designed a game which is chess-like, but in reverse. Like chess, it's almost an abstract of war; the difference is that in chess terrain plays almost no part and the challenge is in marshalling pieces of different strengths and abilities. In Patton, the pieces are virtually identical, while terrain is all-important. Combine that with the simplicity of the control system, and the result is a game which has almost unlimited appeal. It won't have you racing to play every day but a year from now it will still present you with a challenge.

PETER WORLOCK

PC review 8 RATED

HARDWARE REQUIREMENTS

Unusually for a wargame, Patton Strikes Back requires both a hard disk and a VGA display. The data files occupy around 3MB of disk space and the game expects to find them in a single directory - so playing from dual-floppies is out. The display requirement is forced by the use of VGA's 16-colour 640x480 mode. However, the game will run on any PC-compatible from an XT upwards provided you have 640K of RAM.

Quality of the graphics is excellent but PC sound is just a series of beeps

TECH SPEC

3½ ✓	5½ ✓	AD Lib ✓	Roland ✗
CGA ✗	EGA ✗	VGA ✓	Tandy ✗
Hercules ✗			

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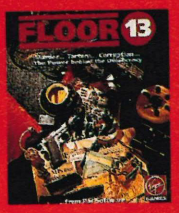
100% PURE ENTERTAINMENT

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Conan's Hyborea is a realm of great peril and supernatural evils. Wizards perform dark sorceries, gods and demons roam the lands and the remnants of ancient races contend with upstart humans for mastery of the Earth.
Learn the secrets of Hyborea's sorceries to help Conan overcome its many evil dangers and bring him to a reckoning with Thoth Amon.

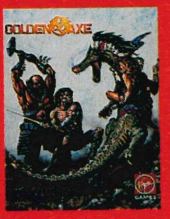
FLOOR 13



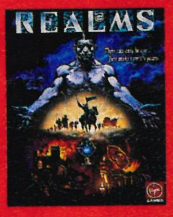
In a democratic society like our own how does an elected government appear to keep it's popularity? How are scandals averted, subversive elements controlled, undesirables eliminated and "incidents" covered up? Just how does the government stay in power? A democratic western government like our own cannot be seen to be suppressing opposition, invading privacy, spying on it's own nationals, murdering undesirables...
Housed on the 13th floor of an anonymous new office block, deep in the heart of London's docklands, the organisation you control does not officially exist. It is totally secret and the public must never be aware of your actions. Even to the head of your government your are a semi-mythical group.
Yet in the name of national security you must limit the "political damage" to the government by any means at your disposal assassination, interrogation, infiltration - without alerting the nation to your existence.

GOLDEN AXE

A faithful conversion from the coin-op, Golden Axe offers all the thrills and excitement of the horizontally-scrolling original. Mighty warriors, sword-swinging heroines, magic potions, cheeky gnomes and dragons are all part of this massive Sega arcade hit. At the start of the action, the player chooses to become one of three mighty adventurers. Each warrior has different attributes and is aided by a form of magic (Earth, Fire or Thunder). Up to two players can join forces on the quest to defeat the evil Death Adder and his minions. The journey is both long and arduous, fearsome warriors line the route to Death Adder's lair, and each group has to be defeated before the quest can continue. Defeat a dragonrider, and you can mount the creature adding its fighting capabilities to your own. Some dragons can kill or disable an opponent with a swish of the tail, while others breathe fire and brimstone and barbecue their foe!

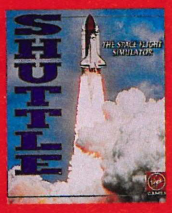


REALMS



For the first time, you can take COMPLETE control of your own destiny as you attempt to dominate an entire world. The King is dead. Long live the King. And the King is you .. .
Endowed with the divine right to rule, you inherit your father's Realm on his death.
But the fragile peace has been shattered and war rages between the Realms. Now your brief reign has become a fight for survival. The neighbouring Realms are growing in strength at your expense. Do you build lines of supply to barter with them? Or build armies to battle with them? Each Realm vies to be the ultimate power. There can only be one. Just make sure it's yours...
Created by the award winning Graftgold development team, REALMS combines the intuitive playability of an arcade game with the depth of strategy usually only found in the most complex simulations.

SHUTTLE



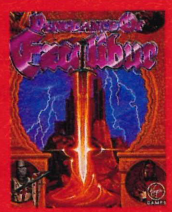
Based on official government documents, SHUTTLE is the most accurate and comprehensive simulation of NASA's Space Shuttle ever produced. With the aid of Mission Control, you will master such challenges as deploying and repairing satellites, launching spy satellites, manoeuvring your craft in zero gravity, attaining the correct re-entry trajectory, and pulling off complicated landings.
Advance polygon and elliptical graphics along with actual land and star maps were used to create the breathtaking 3D panoramas of the Orbiter and its environment, which can be viewed from any angle at any time.

SPOT

Discover the most addictive game created since man invented draughts.
Spot takes minutes to learn, yet is guaranteed to keep you coming back for more... and more... and more.
In the quest to dominate the playfield, you do mind-bending battle with up to three opponents - human or computer. Learn to think ahead, develop your skills - then ramp up the challenge by changing the difficulty level.
Spot offers five skill levels, allows you to design custom playfields to your heart's content, and you can even introduce an extra element of stress by playing against the clock.

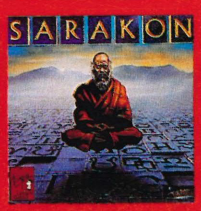


VENGEANCE OF EXCALIBUR



In Vengeance of Excalibur, your pursuit of the demon lord will take you to Spain, a divided land ruled by the bickering Christian kings in the north and by the powerful Muslim Caliph in the south. With unending feuds between the rival kingdoms and greedy mercenaries spoiling for a fight at the beck and call of the highest bidder, Spain is a hazardous place to visit. The vast map portrays the rich diversity of medieval Spain in all its resplendent variety and beauty and is yours to wander at will. Command the knights and whatever followers they are able to recruit to explore the hundreds of villages and cities, fortresses and castles, dungeons and palaces and all the secret places where the Shadowmaster may dwell. Seek what aid you can as you acquire and learn the use of sorceries of Moorish Spain, for only with the aid of enchantments and the loyalty of strong allies will you stand a chance of ridding the world of the demonic Shadowmaster once and for all.

SARAKON



What have a sea horse, a magician, a butterfly and a mask got in
The answer is... Sarakon.
One of the simplest games you'll ever play. If you want a game you can pick up, and play immediately then Sarakon is for you.
By simply matching pairs of similarly engraved tablets, work your way through 40 ever more cunning levels designed to drive you to the very edge of distraction.
The beauty of Sarakon is in it's simplicity.
In fact it's simply... ADDICTIVE.

THE MAGNETIC SCROLLS COLLECTION



This 'three in one' pack features THE GUILD OF THIEVES, CORRUPTION and FISH! . Each of these classic adventures has been enhanced to run under Magnetic Windows. the revolutionary game playing system first seen in Wonderland. All games feature brand new animated graphics, icons for every object, auto-mapping and a full 'on-line' help facility. GUILD, CORRUPTION and FISH! were each bestsellers in their own right together and enhanced they should form a knockout combination.

Virgin GAMES

VIRGIN GAMES LTD.
338A LADBROKE GROVE,
LONDON W10 5AH
TEL: 081 960 2255
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REALMS

There can only be one ...
Just make sure it's yours.

Love Thy Neighbour?
Or Put Him To The Sword?
The Choice is Yours.

For the first time, you can take complete control of your own destiny as you attempt to dominate an entire world.

The King is dead. Long live the King.
And the King is you...

Endowed with the divine right to rule, you inherit your father's Realm on his death. But the fragile peace has been shattered and war rages between the Realms. Now your brief reign has become a fight for survival.

The neighbouring Realms are growing in strength at your expense. Do you build lines of supply to barter with them? Or build armies to battle with them? Each Realm vies to be the ultimate power. There can only be one. Just make sure it's yours...

Created by the award-winning Graftgold development team, REALMS combines the intuitive playability of an arcade game with the depth of strategy usually only found in the most complex simulations.

Enter the world of Realms and you could control:
~Over 125,000 square mile of fractally-generated landscape
~128 armies, each a thousand strong and with definable battle formations
~Countless cities, their inhabitants lives and their money
~Six distinct humanoid races

The last word in arcade strategy.

Virgin GAMES

GRAFTGOLD Creative Software





Your troops were victorious and report very few casualties

A GRAFTGOLD production for VIRGIN GAMES

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■ FLOOR 13 ■ VIRGIN/PSI
■ (061) 960 2255 ■ £34.99

Floor 13

A civil service game is unusual enough, but few games have created so much press interest as Virgin's look at government and the dirty tricks trade

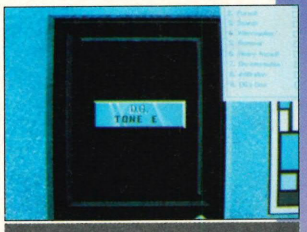
When would-be politicians dream of high office, the Department for Agriculture and Fisheries is unlikely to be high on their list of career desires. Little do they realise that behind the facade of the new office block in the Docklands is one storey accessible only to a chosen few and that this sub–department reports directly to the Prime Minister who would officially deny its existence without any hesitation whatsover.

Not surprisingly, really, considering the secret portfolio of its Director General – to follow, investigate, and if necessary, torture and assassinate suspected subversives.

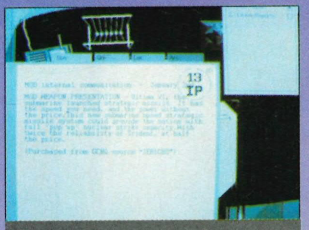
Needless to say, this job is fraught with danger, appeasing the PM whose popularity you need to assure. Keeping him (or her) in power at any cost is the order of the day, but nothing too public can occur – the authorities would deny all knowledge of the department. On the other hand, if the PM's popularity gets too high, he'll decide he doesn't need such an albatross around his neck, and will send you for flying lessons out of your 13th floor window (the fate suffered by a Mr R Branson, your predecessor).



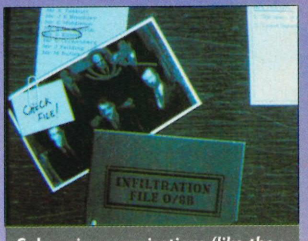
Stuck on the horns of this dilemma – to be good, but not that good at your job – it's time to sign in as the new DG, choose the office decor (yes, really), and settle into your comfortable office chair. The best way to approach business is to first study the day's reports. These are a mix of suspect files, news clippings, intercepted messages, and so on. This leads you in to the plot(s) and gives you hints on how to proceed, which is vital: you can't afford to make many mistakes! Next up is the fun part, assigning orders. Individuals can be followed, their residences put under surveillance or searched for incriminating evidence and, if the situation calls for it, abducted, tortured, or murdered – and all in a day's work. Well, it beats being a shop assistant anyway. Or anything for that matter.



This gives you the option of moving forward a day, entering the office, or visiting a department .



Every day brings a set of news reports, some of which are red herrings.



Subversive organisations (like the RSPCA) can be targeted for infiltration by your agents.

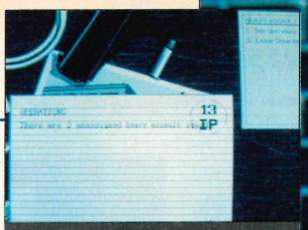
As you'll have noticed, the game is presented in monochrome to heighten the sense of faceless bureaucracy, an idea that works effectively. There is colour in the game, but it's restricted to the opening sequences.

Similarly, there's no sound beyond the introductory music, leaving Floor 13 to stand on its game play merits alone – a seemingly dangerous idea in these days of intricate graphics and sound effects to complement the playability.

I must confess to having fallen for this in a big way. The subject matter alone is so appealing – it's time PC games escaped from the fantasy/science fiction rut most companies



Ever wondered where those juicy scandals appear from? From the security services, according to this game, spending money on disinformation yields slanderous stories about your target in the national press.



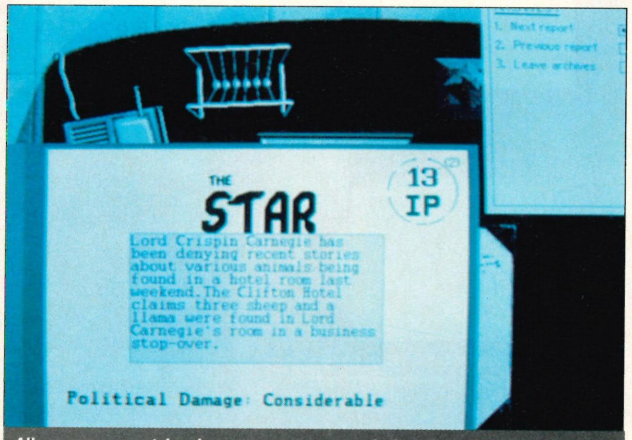
Heavy assault teams are used to remove the threat posed by a particular location - by attacking it with some serious hardware.

are in, with only flight and other sims trying to address the real world – and even they smack of a 'Boys Own' outlook. I'm not saying that Floor 13 is exactly true to life, but the very fact that the civil service is up in arms about it indicates there must be some truth to it!

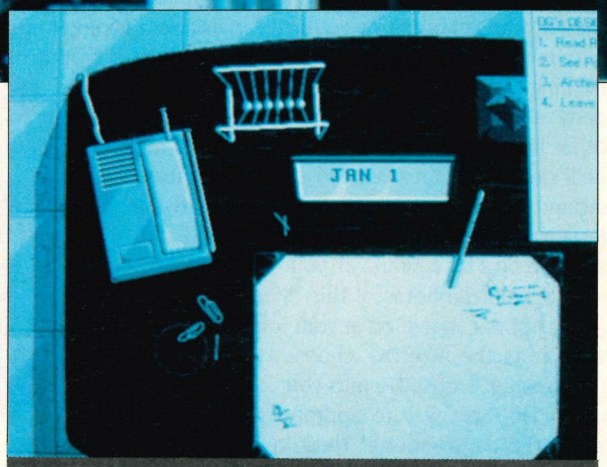
David Eastman, the game's designer, based the scenarios around real events like the shoot to kill scandal in Ulster and the resignation of top officials like Cecil Parkinson. What makes the game more than just a juggling of resources is the humour pervading it.

The main aim is to become the Grand Doodah (or whatever) of the Masons, which is bound to ruffle a few feathers or indeed aprons in the police force. The game contains some profanity, but this only occurs in the torture transcripts, and that's hardly unrealistic. If someone was wrenching out my toenails I'd do the same!

Faults are present in the game, though. Some of the situations that crop up seem all but unsolvable, and others take ages to get a lead on – and then you receive a memo that all files relating to the incident are being shredded! The interrogation system is a little wonky too; after snatching some poor bod from the street and giving orders to the appropriate department, they reply saying they don't know where the suspect is! Torture in general tends to be a waste of time: grilling the wretch without physical force (Procedure Zero) never gives



All newspaper articles that come across your desk are rated as to their political damage or capital. On the whole, the fewer stories in the papers the better - the Prime Minister gets a little irate otherwise.



Floor 13 comes down to the smallest of details - including the coffee stains on the desk! Unfortunately, you don't get the chance to play with your balls, as they're present only as a decoration.

results, and moving up to Procedure Three has the unfortunate side effect of killing the suspected subversive. Well, it's not possible to release them afterwards – they might blab.

These slight problems aside, I haven't been this enthralled by a computer game for a long, long time. The subtle blend of intrigue, surveillance and life–or–death decisions involves the player totally, an especially surprising feat considering the lack of any 'action'.

Sitting at my desk, signing orders that spell catastrophe for the subject without having to get my hands dirty, brought home the cynical, manipulative corruption power brings – and I can't think of another game which has done that. The balancing act required takes some getting used to, and I found that one game would get me sacked for failing to keep up the (unspecified) party's position in the polls, while in the next my outrageous success in silencing

PC review 7 RATED

TWO MINUTES OF SUBTERFUGE

When a suspect file turns up, it's worth looking carefully at his or her details – there are always clues to their secrets.

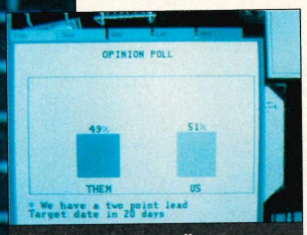
This poor geezer stands no chance, as he's about to receive attention from nearly every department under your control!

The day after the order went out, the suspect's residence has been searched. Now move menus to find out what was discovered!



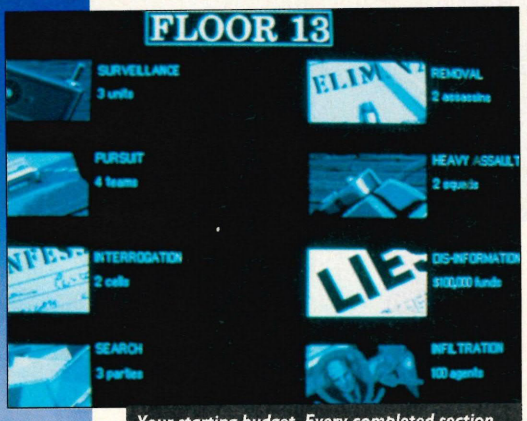


Searching suspects' houses often uncovers useful clues regarding their alliances and contacts.



The all-important polls are fundamental to your health!

Floor 13



Your starting budget. Every completed section increase your budget, although costs for disinformation are non-returnable.

opposition to the PM meant being introduced to the pavement at high velocity. Tricky. Therefore the game boils down to doing your job effectively without letting the PM get too cocky about his poll performance. As events unfold, the opposition gets tougher; my first subversive group was the Animal Liberation Front, but afterwards German terrorists started appearing. I haven't yet had to lock horns with the terrifying AA (as in Automobile Association), but I'm quaking in my boots at the thought. More seriously, the Mafia and the Illuminati pose a threat by their very secretive nature, while the INLA and Red Army Faction will kill, maim and torture – and that's YOUR job, dammit.

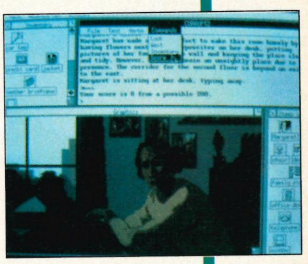
PC gamers deserve original, innovative products. Too often software houses churn out the same tired old thing, with no light of inspiration guiding the design. I can think of dozens of games that leave Floor 13 standing in terms of graphics, music and assorted fireworks; strip away the veneer, though, and you're left with a pitiful amount of meaty game play.

Floor 13 is the perfect game to sneak on to your office hard drive, play late into the evening while your boss thinks you're slaving away. Buy Floor 13 and immerse yourself in a hidden, exciting world of political intrigue. This is a gem among dross.

MATT REGAN

ALTERNATIVELY...

CORRUPTION

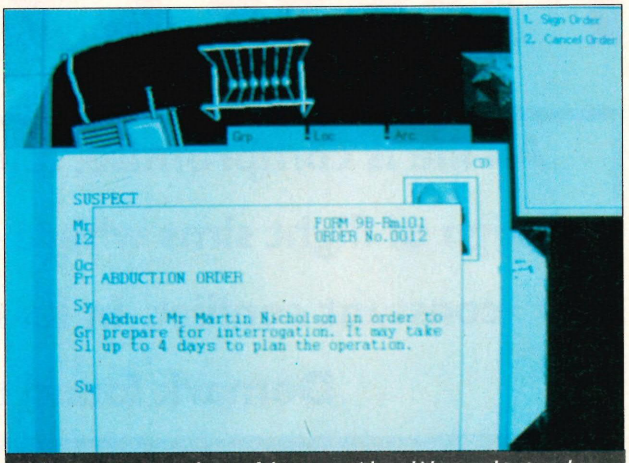


Virgin/Magnetic Scrolls £34.99
Set in the closeted world of the City of London, this classic adventure game centres on a massive scam - with your character lined up to be the scapegoat. Although the scenario differs greatly from that of Floor 13, the feeling of claustrophobia - and paranoia - comes across in both. Now packaged with Fish! and Guild of Thieves, Corruption uses the new MS interface to full effect.

COVERT ACTION



Microprose £40.86
This takes a more standard view of the secret service, portraying them as a force for order and stability. More James Bond inspired than Floor 13, Covert Action puts the emphasis on the second word of its title with plenty of arcade sections, but there's plenty of cerebral challengehere too. Recommended.



Abduction is an integral part of the game: without kidnap and torture, how on earth are you going to get any information? Be careful, though;, as the regular police complain to the PM if there are too many unexplained disappearances.



After signing in as the new DG, you get to choose the interior furnishings!

HARDWARE REQUIREMENTS

Our review copy came on four 3.5" disks, and took up about four megs of hard drive space. The game's controlled via the keyboard and this, along with the game only progressing when you request moving to the next day, makes it ideal for those who like to take things at their own pace.

Speed isn't of the essence, but at 8MHz you can expect loading delays with VGA graphics.

TECH SPEC

3½ ✓ 5½ ✓ AD Lib ✓ Roland ✓
CGA ✓ EGA ✓ VGA ✓ Tandy ✗
Hercules ✗ ✗ ✗ ✓



MiG-29M Super

All life is compromise, and never more so than in the design of flight sims where realism and game play are in constant conflict. In its second MiG-29 sortie, has Domark found the right balance?

In their first attempt at producing a winning flight sim based on the MiG–29, publisher Domark and developer Simis never really took off. Widely applauded for its realism and pretty much panned for everything else, the original came and went with something like the speed of its supersonic Soviet–made namesake.

Less than a year later, the design and publishing duo are back with a second attempt and this time the emphasis is firmly on the game play. Realism is a secondary consideration and it's a far more enjoyable flight as a result.



MiG 29M Super Fulcrum – chasing successful American flight sims.

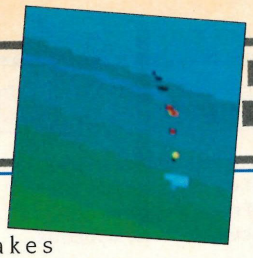


General view – tank exploding during ground attack.

The MiG–29M of this title is a fictionalised version of the real Russian fighter, with a fictionalised control system which



With the air cover out of the way, you can concentrate on the main job: ground attack. It's wise to clear the ground defenses first – tanks, anti-aircraft guns and SAM missile launchers – before hitting the buildings. After this, it's back to base for refuelling and re-arming, and planning the next sortie.



■ Mig-29 Super Fulcrum ■ Domark
■ (081) 780 2222 ■ £40.85

Fulcrum

makes life a lot simpler for the pilot and, presumably, for the programmers. This leaves more room for those things desktop pilots consider essential: better graphics, more combat, and a much stronger storyline.

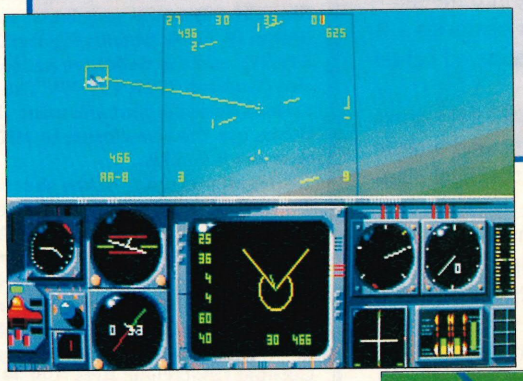
The plot is in keeping with the new world order, dispensing with the old Cold War scenarios and pitting you as a member of a UN peace-keeping force sent to free an unnamed portion of South America from rebel domination.

These are well-equipped rebels, with state-of-the-art weaponry at their disposal, and several airbases, supply depots, roads and a railway under their control. Happily, this presents you with a variety of challenges, including aerial dog-fighting, and ground attacks against everything from unarmed trucks to tanks and SAM missile batteries.

Your ultimate goal is knock out the rebel headquarters, but life is not that simple. Between your single airbase and the enemy HQ are a multitude of hostile forces. So you need to develop a strategic approach to the game, based on gradual conquest of essential resources.

This relatively simple set-up presents you with a satisfying challenge, forcing you to devote some effort to planning a series of missions, rather than simply leaping into the air, guns and missiles blazing.

Most key enemy targets have air defence. This one is an F16 fighter, but there are also Cobra helicopters. Single opponents are fairly simple: lock-on with your heat-seeking missiles...



...and down he goes. Things get tougher against multiple opponents, and you may have to resort to shooting them down with your cannon – a tricky task but immensely satisfying.





You need a head for heights as the MiG29M Super Fulcrum turns away sharpely from its target. Watch out for enenemy returning fire from the ground. Tanks may be in the area or SAM missile batteries. You could be in for a very nasty surprise.

At the same time, it gives you a free hand in how you go about achieving your goal, rather than forcing you to play through a preset sequence of short missions.

Controlling the aircraft is easy enough so even complete

PC review TWO MINUTES OF FLYING...

Although MiG-29M is essentially a single campaign, you have to play it in a series of linked missions - although you determine the sequence of targets. Success or failure on each flight governs your future moves.

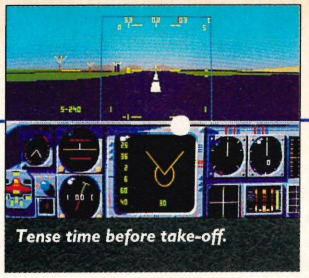
The main map display shows you enemy dispositions, and lets you assign navigation waypoints. Once you've decided on your targets for the mission, visit the status screen. It lets you choose between three different weapons setups.

Weapons setsups are: air–to–ground, air–to–air and mixed. You have eight missile positions on your plane; a mixed load gives you four each of air–to–air and air–to–ground missiles, while the others give you a 6:2 bias.

From either map or status screen, clicking on the 'plane' icon takes you to the runway and your first view of the game proper. Note the sparseness of the instrumentation and the curious smog–filled appearance of the sky and distant horizon.

First stop on this flight is a bridge. Knocking this out will cut the rebel supply lines – although it can be repaired by enemy trucks. Because of the simplicity of the controls, you can concentrate mainly on firing weapons on target.




Tense time before take-off.

novices will be able to get airborne and into action with the minimum of fuss and poring over manuals. But because most of that action is in ground attacks, the danger of flying into the dirt – or colliding with mountains, bridges and other obstacles – is ever–present and more than enough to keep hardened fighter jocks on their toes.

For those who want a more realistic flight, MiG-29M works in two modes – the default, simple flight model, and a more complex mode that more accurately simulates the flight characteristics.

However, you need somewhat better equipment for this. At least a 16MHz processor, says Domark, although the 16MHZ SX review system coped with it perfectly, suggesting anything faster than 16MHz isn't necessary.

Nobody is perfect, though, and Domark/Simis have made several mistakes in the process. First, and worst, the manual is a stinker. At barely 50 pages (the other 50 are in Italian), it is sketchy to begin with. Although it's strong on detail about the real MiG-29, there's very little to help you with the simulation, and almost nothing about the game play itself. But a lot of what's in there is either wrong or self-contradictory.

For example, the packaging makes great play of the 'brand new quadruplex fly-by-wire control system', yet the manual states: "The MiG-29M uses advanced aerodynamics. It does not have a fly-by-wire computer system and therefore relies on good handling and pilot skill for its performance." It also talks about a training mode that does not exist, cockpit displays that are not displayed, and says the simulation does not include high-g blackouts when it does.

PC review 7 RATED

There are also several complaints about the software itself. For instance, every static screen is displayed via a fade-in/fade-out routine that may have been impressively slick on the developer's 486 powerhouse but on a humble SX system is irritatingly jerky. And the graduated skies and ground horizons give the appearance of flying in a bad smog.

Others are faults of omission. Sound effects are sadly unrealistic as cannon shells go 'plunk' and crashing aircraft go 'kerplunk' (Chuck Yeager's Air Combat proved that the PC's built-in speaker can be acceptable with enough imagination and careful programming).

Worse still, all the action takes place in a curious limbo: there's no wind, no cloud, and no passing of time (so, for example, there are no night missions). It also has a good choice of view points but no record and edit facility, something mandatory in a modern flight sim.

Finally, since you're meant to be part of this UN peacekeeping force, the game play would improve if there were some evidence of the allies. Although it's possible to recapture enemy airfields by landing there, you never see friendly aircraft or ground vehicles which would provide an extra, welcome dimension to the game.

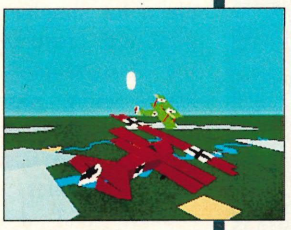
As a result, MiG-29M is a solid, enjoyable game – easy to get into, good fun in short doses, and better by far than the original. But it never comes close to greatness. US publishers like Microprose, Electronic Arts and Dynamix have set the standards by which flight sims are judged; British developers, sadly, are still falling short.


Enjoyable flight sim but there some omissions.

PETER WORLOCK

ALTERNATIVELY...

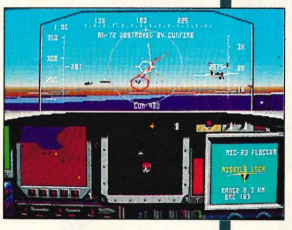
The flight simulator has undergone an astonishing rate of development in the last year, with a blitz of new programs and upgrades from Microprose, Electronic Arts, Dynamix, Ocean and many others.



The current Air Ace is undoubtedly Microprose with its own squadron of flight sims offering everything from World War I biplanes (Knights of the Sky, £39.99) to the very latest stealth design (F-117A: Stealth Fighter 2, £39.99), and the definitive helicopter sim (Gunship 2000, £39.99). The serious desktop pilot will want all three, but the one closest to MiG-29M in setting and features is F117A.

It highlights many of the shortcomings of the Domark/Simis program: a richness of ground detail that makes MiG-29M look positively barren; a wider variety of missions, nine different combat theatres, lush presentation screens, character rewards and development - this is vintage Dom Perignon to Domark's Babycham.

For those more interested in the craft of air combat than in the graphical fripperies of air gaming, Chuck Yeager's Air Combat (Electronic Arts, £29.99) is currently the last word.



It has far greater breadth - six different planes to fly from three different periods: World War II, Korea and Vietnam - and all modelled to a very high degree of realism. There are dozens of preset missions (including some ground attack sorties for variety) and you can also create your very own missions for effectively limitless challenges.

But presentation has not been neglected: in-flight animation, static sequences and ground detail are very well done, sound effects are excellent, and there are appraisals from Yeager himself in digitised speech.

You can also record and edit flights, creating action-packed movies of your greatest aerial exploits.

And if you want to know how documentation should be done, this is it. Superbly designed, with a wealth of factual information, tips from Yeager, and some full-colour illustrations of the aircraft in question, the manual alone is almost worth the asking price.

REQUIREMENTS

Hardware requirements are minimal - any PC-compatible, 512K of memory, and any display system from CGA upwards (although playing in CGA mode is a ghastly experience). While a hard drive is recommended to reduce between-flight delays, you can play from a single floppy disk drive if necessary.

Polished graphics and very enjoyable game play have been given priority at the cost of realism.

TECH SPEC

3½ ✓ 5½ ✓ AD Lib ✓ Roland ✗
CGA ✓ EGA ✓ VGA ✓ Tandy ✓
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PC review

QUESTIONNAIRE Continued

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Adventure games	❑	❑	❑
War games	❑	❑	❑
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❑ Less
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Hardware features
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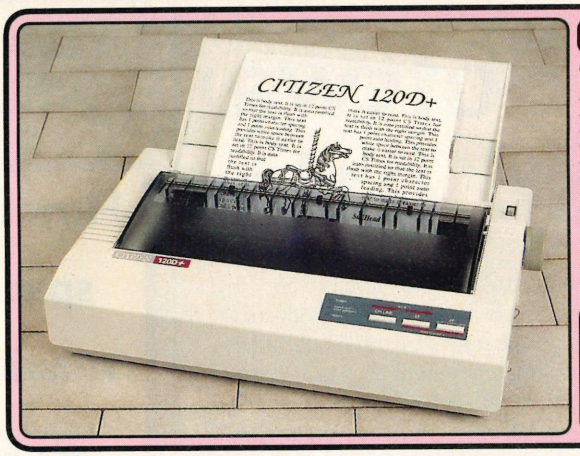
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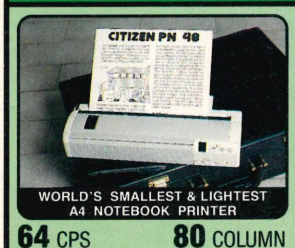
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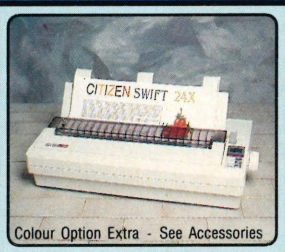
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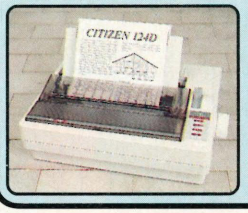
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CD-ROM

The Software Toolworks World Atlas

How does the vast storage space of a compact disk maximise the potential of an computerised atlas? With reams of statistics, of course

CD-ROM is a natural for maps. It is therefore no surprise that there are so many of these products appearing, although the ones I have seen so far have mostly failed to realise their full potential. This is also true of The Software Toolworks World Atlas, but less so than others.

However, it's easy to install. Assuming that you already have the standard Microsoft CD-ROM extensions on your machine, all you need do is type Install from the CD directory and you are away.

Once the disk is running you get pretty much what the title suggests, as the product mimics the structure of a standard atlas almost exactly. Initially you are presented with an image of the globe. Clicking on a continent takes you to a more detailed map of that part of the world. Select a country and you are presented with another map.

It was at this point my hopes were raised. Having zoomed into Libya, I noticed that, unlike the other cities on the map, Tripoli , was marked in red. "Is it going to give a street map of Tripoli?" I wondered, as I moved the cursor over the name.

Alas, what it told me was that Tripoli was in Libya, had a population of 551,477 in 1973, the local time was 06:09:44, its longitude and latitude, country calling code, temperature (26 in September) and distance to 'Bergen' – Software Toolworks' quotation marks, not mine. Bergen must be a place of high importance to someone on the development team.

REQUIREMENTS

HARDWARE

A CD-ROM drive, 2Mb RAM and a 286, Minimal hard disk space required.

Thankfully, the Atlas is pretty even handed about the details it gives for countries and cities, although Russia comes off pretty badly with information on only four cities compared with nine in the USA.

Having explored this part to its logical conclusion, it was back to the globe map to investigate an array of intriguing menus to find if it could do anything else useful.

The first one was, oddly, called Text. From it I could access details on any country in the world, covering geography, people, education, health, government, economy, agriculture, communications, travel and my favourite, crime.

In the US, it told me, there where 5,664.2 offences per 100,000 people, compared with 6,773.2 per 100,000 in Australia. From this data some people might believe Australia is is positively riddled with crime. However, being a native, I can assure you that 6,053 per 100,000 of these offences are in the course of the annual Australian rule football fixtures.

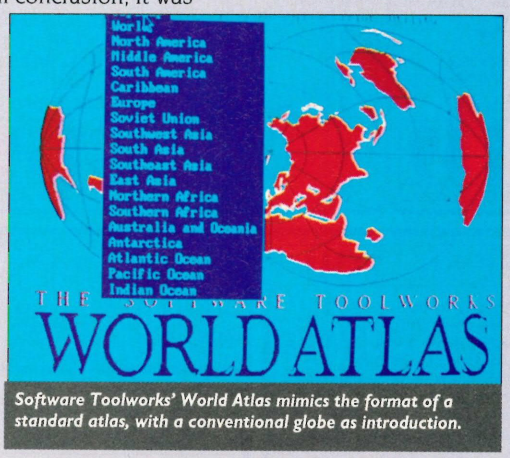
Most of the information is statistical, and, sadly, the specific source of the data, or the year to which it applies, is rarely identified, giving very little indication of how reliable it is. The sources of the data used on the disk are credited in a more general way, and they appear to be credible, but the lack of specifics obviously reduces the product's usefulness for scholars, who often need this information.

The really fun part of the World Atlas is the feature which allows you to create a statistical map for any country, continent, or indeed the whole world, from any of the information on the disk. Choosing the StatMap menu gives you the option to select a category of data.

Having done this, the software goes off and draws a statistical map, using colour coding which, like all the other maps on the disk, can be saved as a PCX file and can be included in other documents. It is also possible to produce a graph from the data on the disk, and while these are not of any great artistic achievement, they do the job. The disk also contains 18 fairly standard topographical maps covering the major regions and oceans.

While the World Atlas is a pretty uninspiring product, it does what it claims to do well. Its best feature is its ability to generate statistical maps, but this only gives the slightest hint of how a CD-ROM atlas could be so much more useful and exciting than its paper equivalent.

For the most part its mimicry of the type of product you can buy in any book store for £20 and don't need a computer to use, makes it a hard investment to justify.



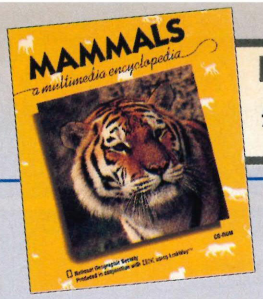
Software Toolworks' World Atlas mimics the format of a standard atlas, with a conventional globe as introduction.

TIM CARRIGAN

Maps can be stored as PCX files and can be included in other documents.

TECH SPEC

3½ ✗	5¼ ✗	AD Lib ✗	Roland ✗
CGA ✗	EGA ✗	VGA ✓	Tandy ✗
Hercules ✗	✗	✓	✓



CD-ROM

Mammals:
A Multimedia Encyclopædia

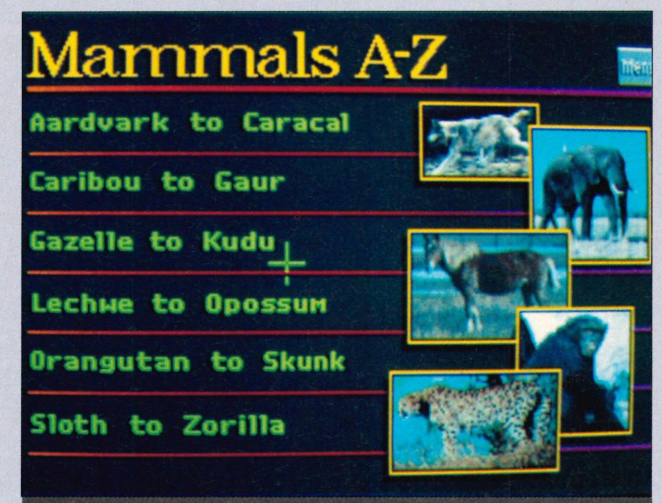
The Mammals disk, a joint venture between IBM and the National Geographic Society, has been getting rave reviews all over the world as one of the first CD-ROM products to really deliver the promise of multimedia.

And so it should. Developed by a cast of thousands, this disk has had more money pumped into it than your average small-time CD-ROM developer is likely to see in a life-time.

One of the disk's major areas of innovation is the specially developed software which allows small video clips to play in about a third of a screen window, without the host machine needing any special video hardware, as is the case with other digital video systems for the PC.

The jacket suggests you use a PS/2 machines – it would, wouldn't it? – but it worked just fine on the my AST with the standard Microsoft CD-ROM extensions.

In Mammals, you can play small video clips without your PC needing any special video hardware



Details on each subject can be accessed quickly by this alphabetic index



The African serval is one of the larger of the 'small cats'



Yes, us humans are in here too.

No real installation was required, although the instructions did recommend that I edit both the CONFIG.SYS and AUTOEXEC.BAT files, and refused to help me do this in any way. I elected not to do this, as both amendments appeared to be specifically for a IBM CD-ROM drive, and everything but the sound worked fine, although the motion video clips where very jerky.

Fully utilising the CD-ROM media, Mammals includes 700 640 x 480 8-bit images, all of which look exceptionally good in standard VGA; 150 maps which give details of where the animal in question can be found; 45 motion video clips; loads of sound bites; and an interactive game.

The major body of the work is 150 screens each related to a specific mammal. Each of these has a series of icons indicating what media types are available on that animal. These include motion video clips, stills, of which there is often more than one, a map, a data icon giving basic information such as the animal's size, weight, life span and reproduction habits (without any stills or video clips sadly), a fact sheet and sound recordings of each animal.

There is also information on the order of the mammals and an ugly glossary of terms which really lets the product down. While this contains a lot of useful terms it is not possible to search over it in any way . You are left to scroll through all the entries to find the one you want.

The game included in the disk is more educational than fun, an obvious indication that Mammals was designed for use at school rather than at home. It challenges you to track down a particular mammal from the clues provided.

Mammals is an impressive piece of work. Indeed its one of the first CD-ROM disks I have seen that it is possibly to believe someone could learn from. The use of many nicely displayed pictures, the inclusion of motion video clips and the addition of sound make it a genuinely engaging and worthwhile product.

What's more the designers have taken the time to make it pleasant to look at and make it really easy to use. The content also appears to be well-researched and accessible. I was also impressed that the disk was so easy to install and use. The fact that it is happy to run on a standard DOS machine means everyone can enjoy this disk.

Tim Carrigan is editor of Multimedia magazine

HARDWARE REQUIREMENTS

CD-ROM drive 2Mb RAM and a 286, minimal hard disk space required.

Stereo headphones can be plugged into the CD-ROM drive.

TECH SPEC

3½ ✗	5¼ ✗	AD Lib ✗	Roland ✗
CGA ✗	EGA ✗	VGA ✓	Tandy ✗
Hercules ✗	✗	✓	✓

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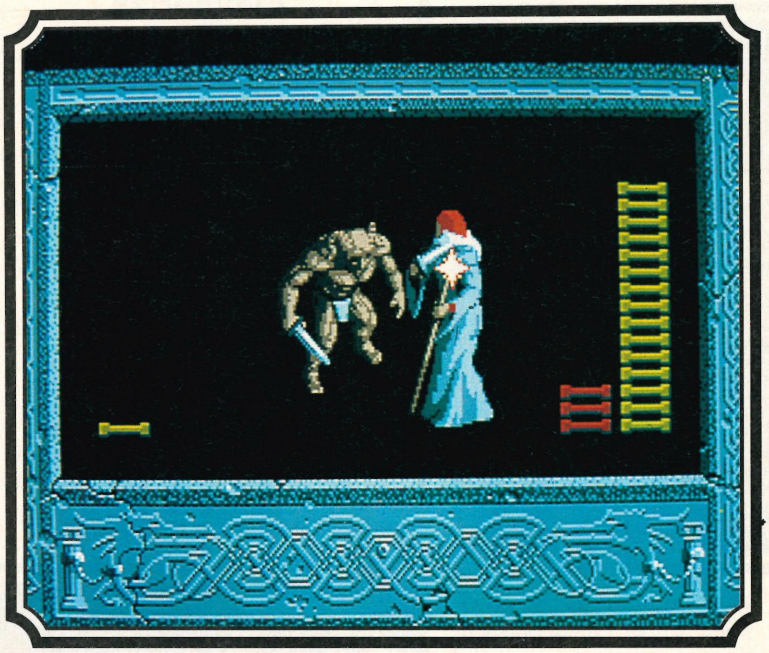
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EA converts its isometric dungeon quest to the PC. Will it be a monster smash, or is the control system too orc-ward?



The Immortal

To sleep, to sleep, perchance to dream. An attractive sentiment, but in The Immortal it leads to danger, mayhem and dragons.

Arcade adventures are increasingly popular and EA's stab at the genre has now arrived on the PC after a rapturous reception on other formats, thanks to its impressive animation and novel approach to character control.



Discovering objects brings up a screen like this, allowing you the choice of picking them up or not.



A quick snooze helps to revitalise the hapless hero, recovering precious energy points.

The Immortal casts the player as an un-named sorcerer who has recurring dreams of his mentor Mordamir trapped beneath catacombs, and so trundles off to rescue him. This puts the player in control of his or her sorcerer, who starts the game in a darkened chamber where Mordamir communicates through a ghostly image. Then it's off into the great unknown, where conflicts and conundrums (not the Countdown-type, fortunately) await.

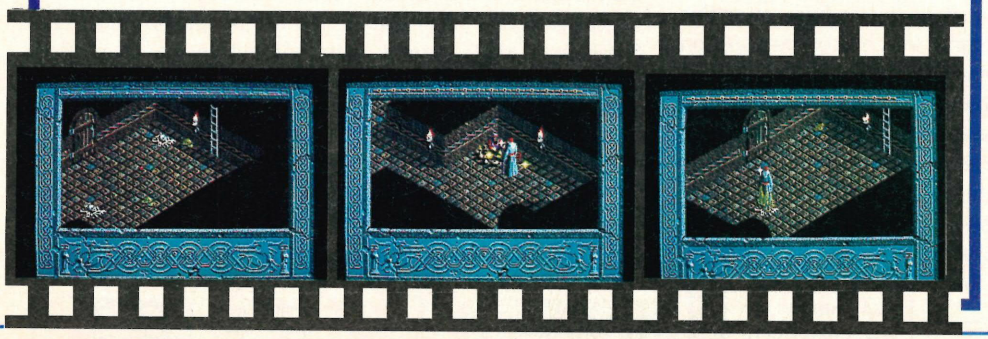
The manual recommends a joystick for moving the man with the pointy hat, but keyboard control is fine provided you've become adjusted to the diagonals involved - the isometric view means that left becomes up and left, and so on.

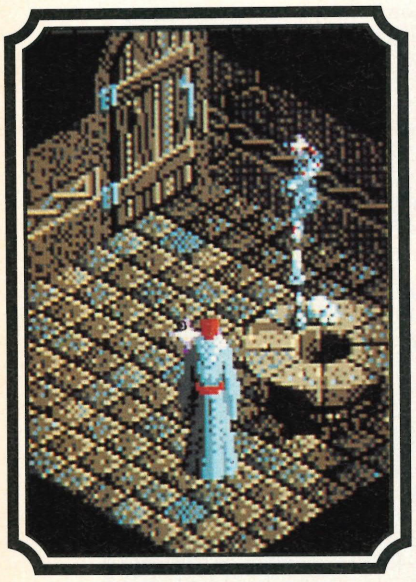
The puzzles are a weird blend of intellectual challenge, joystick control and ferrying objects from one location to another. The manual contains a partial guide to the first level, which should steer most people in the right direction, and from then on hints help with the later levels. Although some lateral thinking is needed it doesn't take Mensa membership to discover answers to the problems in the game. However, I found it irritating to fail - and die - because my positioning of the character was a pixel off. There are lots of pits and fatal areas in the game,

PC review TWO MINUTES OF GEM GATHERING

The second level plunges the player in at the deep end. The first room is full of slime monsters! How on Earth are you going to get the interesting items litterin g the floor?

Heading out though the northern door, you come across a tradesman selling vials of protective salve . But his price is too high...Going back again, you're able to haggle down the price to something manageable. Now you can return to the room. Safe from harm, you can retrieve the gem and sword in the first room - but unless you hurry to finish the level, the oil will work off before too long! Leaving you to suffer this sorry fate!



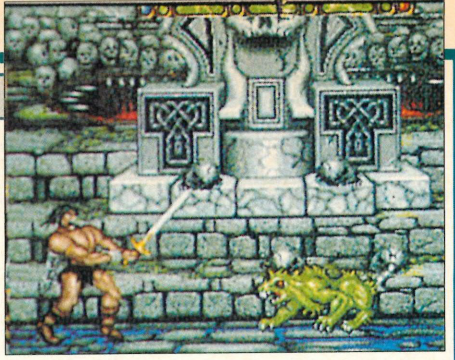


ALTERNATIVELY...

Conan the Cimmerian

Virgin Games, £TBA

Although not released as yet, this is an arcade adventure featuring the famous hack 'n slay warrior created by author Robert E Howard. The animation is not up to the standard of The Immortal, but there's more of a strategic element to the game, with the muscle-bound hero drumming up support against his nemesis Thoth Amon.



HeroQuest

Gremlin £29.99

This was originally a hit boardgame which has also enjoyed success on other formats, and Gremlin promise the PC version will arrive around Christmas. Unlike The Immortal, HeroQuest allows up to four players to compete in various subterranean complexes, gathering cash and fighting monsters. This is in effect a multi-player RPG game, admittedly not a complex one, which makes heavy use of animation but creates a completely different style of presentation.



which are difficult to avoid when you're being pursued by a horrible monster.

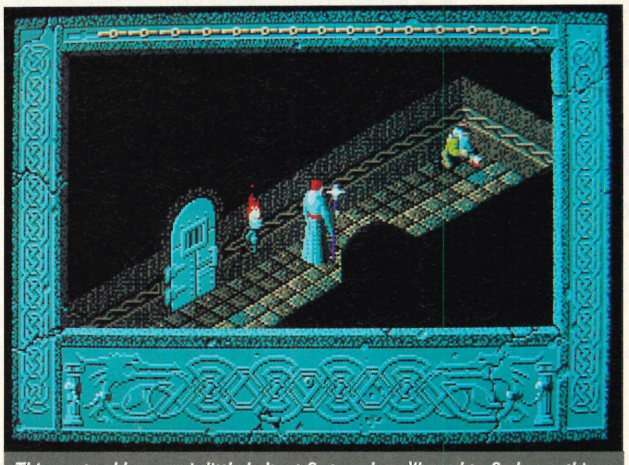
Which brings me to a point that also caused me anguish, and is bound to do the same to other players. Every time you finish a level, the game provides a certificate - ie password - that allows you to continue form that point next time you play. Fine, no problem there, as you can restart that level if you die.

However this is the only way to save the game, which means if the hero dies having completed 99% of a level, it's back to the start of it. This is all right if you know how to avoid doing whatever you did wrong last time, at least it is once or twice, but after that it gets too annoying. The best approach is to play until you get stuck, replay the level for a couple of times, then leave it for a while before coming back (hopefully) with a fresh approach to the problem.

The back of the box touts the 'movie-quality' graphics and while I wouldn't go that far, it's a joy to see the way the characters behave under certain conditions - falling down a pit and desperately trying to swing out with your staff is my favourite animated sequence.

The sound is pitiful through the internal speaker (now there's a novelty!), but the Roland and Ad Lib options pile on the atmosphere to transform the game into something a lot more absorbing.

If our masochistic hero stumbles into combat with one of the dungeon denizens then the graphics zoom in to show the action close-up. Each combatant has an energy bar that decreases as he's hit, and defensive and offensive moves are available for battering the opponent to kingdom come. This works well, especially as I've discovered a set of moves guaranteed to win!



This crusty old gnome is little help at first, and you'll need to find something to alter his mood. No, not the strange mushrooms you use to eradicate the Goblin King's opposition, but rather the interesting dust he provides because he's so impressed you killed him.



Through cunning use of a shiny coin, the entrance to the second level is revealed at last!



If combat's proving a problem, here's a handy hint for keyboard users; hold down 7 on the keypad and repeatedly press Shift.

HARDWARE REQUIREMENTS

This is a joy for people with little or no hard drive space, as it takes up a mere 600K of space, and is perfectly playable from floppies, provided you've got 640K of RAM. There's one 3.5" disk, or two 5.25" disks, making this perfect for lower-end machines.

The EGA graphics and Ad Lib sound are worth looking out for too.

The Immortal works well and fulfils all its promises, which is a rare thing most of the time. The lack of a save option is a problem, but perseverance wins through, and this is a very polished product that stands head and shoulders above the recent batch of PC action games. I recommend this for people looking for a break from their current marathon adventure or strategy game, or who just want a quality arcade-style romp on the PC.

MATT REGAN

PC review 6 RATED

TECH SPEC

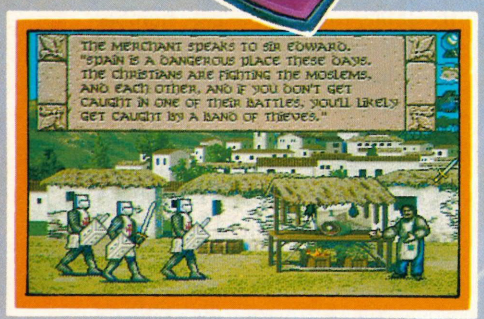
A game that is slow but eminently playable down to 8MHz and below, EGA graphics are bright and clear.

3½ ✓ 5½ ✓ AD Lib ✓ Roland ✓

CGA ✗ EGA ✓ VGA ✓ Tandy ✓

Hercules ✗ ✓ ✗ ✓

Vengeance Of Excalibur™





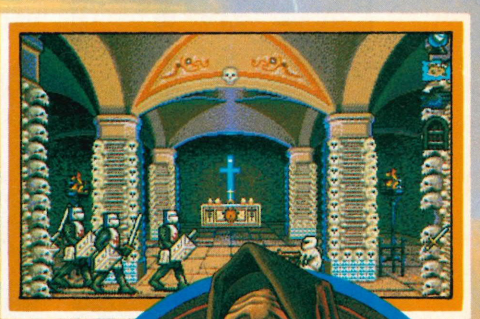
Shadowmaster – Lord of Demons has stolen the Sword Excalibur and the newly recovered Holy grail, plunging Britain into a time of darkness and death. Your quest is to pursue the demonlord to Spain and recover the sacred relics. The Shadowmaster must be stopped!

Features

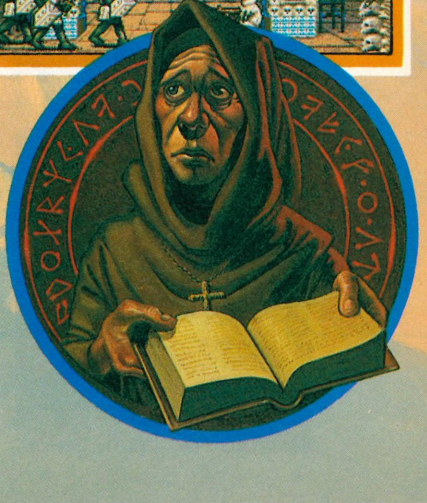
- *Hand rendered art*
- *Improved user interface*
- *No keyboard necessary! Point and click to perform all game functions.*
- *Overview map of Spain*

Available on P.C., Amiga and ST









Virgin GAMES

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■ Pro Tennis 2 ■ Ubisoft
■ (0252) 860299 ■ £29.99

Pro Tennis



Ubi Soft is back on court two years after the original Pro Tennis Tour - but has anything changed?

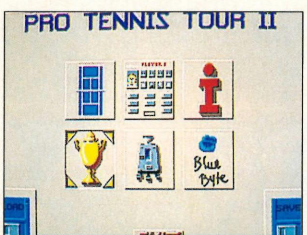
Pro Tennis Tour 2 is not so much an enhancement of its predecessor as a complete (and welcome) re-write. Players of the original will find much that is familiar - three playing surfaces, tournament play and a trio of difficulty levels - but this sequel has tweaked the playability and adds many more features.

If you don't already know the rules of tennis neither the manual nor the game do much to enlighten you; but apart from that minor drawback it is the most comprehensive simulation of the sport available, and follows the laws exactly. From the main menu you can select a one-off friendly or an organised calendar of tournaments, create your own character and check his/her statistics, or just program a ball machine and practise your shots.

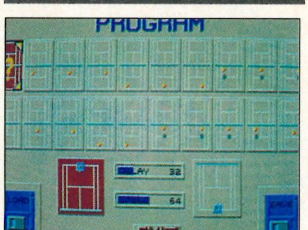
There are three difficulty levels at which you can play: Junior (in which the computer controls your movements and you concentrate on strokes), Average (in which you control both movement and strokes) and Character mode. This last section enables you to create your own player and save him/her to disk. Presentation throughout is excellent: all the menus are very easy to use with joystick or keys, and quitting any game or tournament is simply a case of pressing the ESC key. The variety of options is exhaustive, with the ability to change a large number of parameters: court type (clay, grass, hard), number of players (singles, two vs one or doubles), number of winning sets (one, two or three), player control (joystick or keys), difficulty level, male/female players (enabling you to have mixed doubles), and player stats.

This last category only applies when you create your own character, and splits your game into seven areas - forehand, backhand, fore and backhand volleys, smash, service and physical condition. By switching points around you can concentrate on your strengths and method of playing - for example, you may hardly ever produce a backhand volley, so it's not worth allocating many points to that section.

The two basic game types offer you the choice between a one-off friendly or a whole career (which can be saved to disk). The friendly game can be accessed straight after loading by simply holding down the fire button, and allows you to create such bizarre contests as two players against one. Tournament mode is an entirely different affair: you have a diary of possible events and choose which ones you want to enter. For example, in the first month (January), you can play doubles and singles in the Australian and New Zealand Opens, and



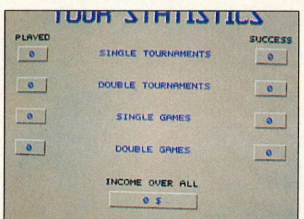
From the main menu screen you can play a tournament or friendly game, practise with the ball machine, change a game's parameters or check player statistics.



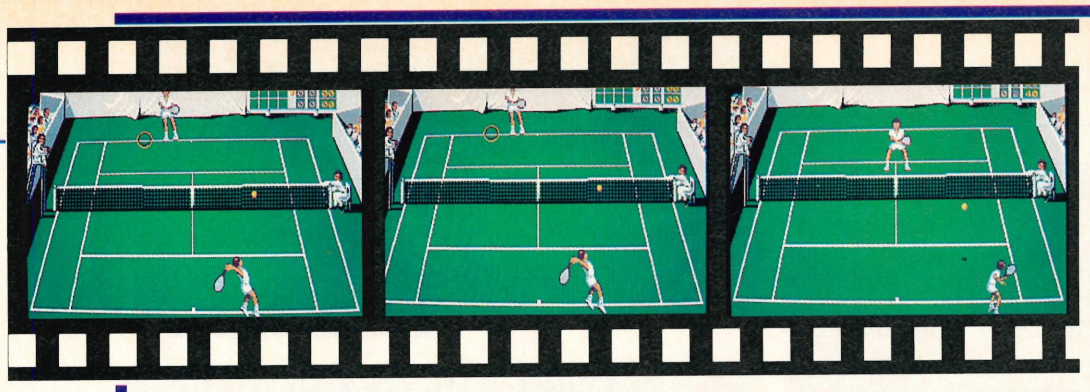
The ball machine is fully programmable, even down to the speed of the ball and the frequency with which it is released.



The options screens allow you to choose the court, player sex and name, allocate stats and choose your skill level.



Tournament play allows you to enter all the world's major and minor tournaments at your leisure.



TWO MINUTES OF SERVE AND VOLLEY...

The action in Pro Tennis Tour is viewed from the traditional 'camera' angle at one end of the court - players swap ends after every couple of games so no unfair advantage is gained. As with the real thing, every point begins with both players preparing for the serve. In Easy mode, pressing the fire button tosses the ball up into the air...

...and striking the ball is automatic - all you have to worry about is correctly positioning the round cursor in your opponent's half. (In Average and Character modes, the length of time you hold down the fire button is the key to accurate strokes). If you have a weak serve - ie, if you haven't allocated enough points to serving on your stats screen - and your opponent has a strong forehand or backhand, you'll quickly be in trouble.

The reverse is also true, however: strong serving statistics are more likely to result in aces. Winning points isn't just a matter of getting into a good position and hammering the ball out of sight: when you come up against the top players, a series of good strokes and a definite strategy are the only route to success. For example, a slow top spinshot to the corner of your opponent's court gives you time to advance to the net for that crucial volley.

play a team match in the Davis Cup, whereas February starts you off with the Stella Artois in Milan. This allows you in effect to customise your season, earning money along the way. What's more, before every game your opponent's vital statistics are revealed, allowing you to plan your strategy before you start.

Actually playing the game is just as enjoyable as customising it. You can move in eight directions, and there are eight shots available, dependent on whether you're at the net or near the base line. As well as controlling the direction of the ☞

Anyone for tennis?

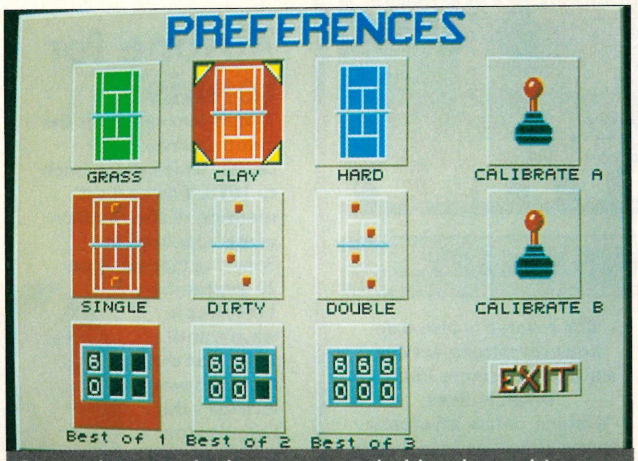
Tennis evolved from the indoor game of real tennis, which dates back to 1050. The earliest mention of the modern game appeared in Sporting Magazine on 29 September, 1793, but it wasn't until 1872 that the first club was formed - the Leamington Club, created by Major Harry Gem.



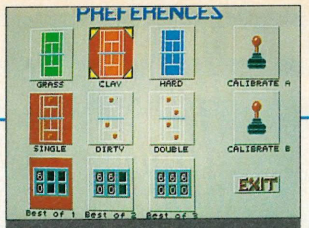
Commercialism wasn't slow to follow: in 1874 Major Walter Clopton patented a form known as 'sphairistike'. Although it's now widely recognised simply as 'tennis', the sport has undergone a variety of name changes throughout its 200-year history, including Field tennis, Lawn tennis, Pelota, and Lawn rackets.



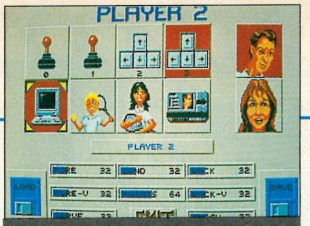
If you just want to get straight into a game, just hold the fire button down after loading and you're away.



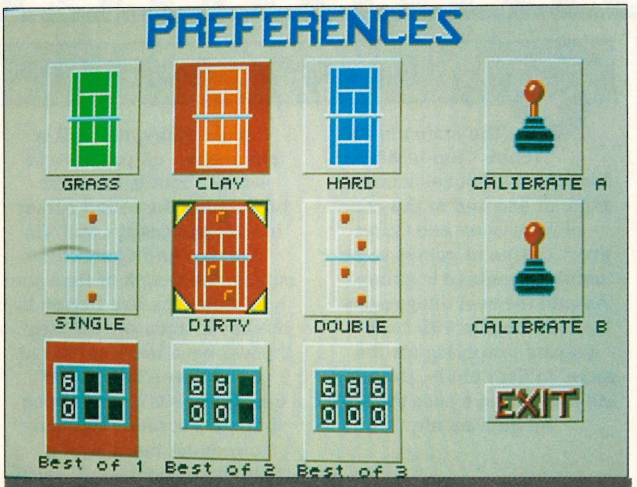
Once you have created a character, you can check how they are doing at any time.



There are three surfaces to choose from: clay, grass and hard.



You can set up the friendly singles match to your liking, even to the point of customising your opponent.



If you want to make life difficult for your opponent or yourself, play two against one...

ball you can smash, volley, drive and even play a delicate chip shot. In addition, by holding down the fire button you can set the strength of the shot - the more time you have to play a stroke the better is the quality of your return. The variety in serving is no less wide-ranging: by directing the cursor you can place the ball just about anywhere.

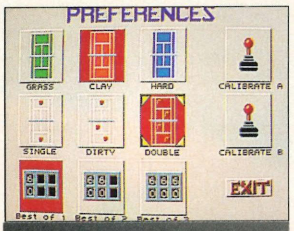
And just as in real tennis you have to think about your shots. Put your opponent under pressure, make him or her play hasty returns - and punish them hard! There are some neat tricks to be learned and the manual provides some interesting pointers.

The control method is responsive, and the three difficulty levels mean the action is as easy to begin as it is tough for the experienced games player. The opponents vary from those you could defeat with one hand tied behind your back to the kind of pros you won't beat for months. Even if you do get tired of playing the computer (which will take a very long time), there's always the two- to four-player options.

The only minor drawbacks are in sound (AdLib was used for



...which gives you time to practise your most difficult shots to your heart's content.



You can play in the doubles game solo, or with up to three other (human) players



Once it's all over, the stark truth of your humiliating defeat or glorious victory appears...

this review) and, to a lesser extent, graphics. The title tune is decent enough and appears whenever you're making menu choices, but the in-game sound effects are quite poor, particularly the unrealistic ball noises. Some crowd noises and comments from the umpire would also have added atmosphere to the games. The graphics are generally colourful and neatly drawn, but the doubles matches tend to suffer slightly from a lack of smoothness in player and ball movement. Neither the sound nor graphical drawbacks are serious enough to mar your enjoyment, and they certainly don't affect the game play, but they could have been better.

The game runs best on machines of 8 MHz or faster - any slower and the drawbacks of doubles play mentioned above become unacceptable. However, since it relies to some extent on graphical effects (following the shadow of the ball in order to judge the line, for example), and since the keyboard controls can be a little clumsy for making diagonal runs, it won't perform as well on a laptop.

Pro Tennis Tour 2 has many superb features which make it the best PC tennis game available (although it doesn't have much competition anyway). As a simulation it's faithful to the original and very playable; as an arcade game it's addictive whether you're playing alone or with a group of people. The price might appear to be a little steep, but it's just about justified by the wealth of options and the variety in the game play.

If you're looking for a first-class simulation of the sport, this is it.

GORDON HOUGHTON

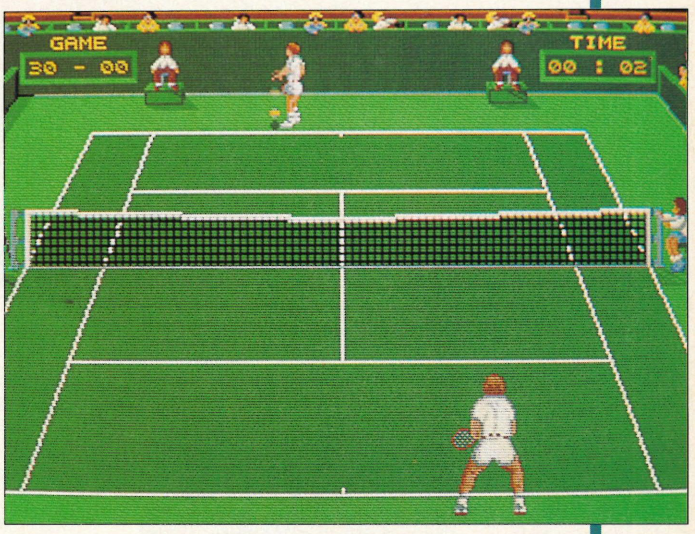


ALTERNATIVELY...

PRO TENNIS TOUR

Ubi Soft (£30.64)

Pro Tennis Tour 2's predecessor was released more than two years ago to reasonable critical acclaim, but suffers from a few minor drawbacks - particularly the control method which is a tad stiff. Options include practice serving and receiving, tournament play, a ranking table (against 64 other players), adjustable difficulty (Easy, Advanced and Professional) and the ability to save/load games in progress. As with its sequel, there are three types of court: clay, grass and cement. However, one of its best features (which PTT2 unfortunately doesn't repeat) is an extensive coaching section in the manual. Even so, if you have a choice between this and the sequel, choose the latter.



4D SPORTS TENNIS

Mindscape (price TBA)

Although it's virtually finished (even the manual has been printed), you won't be seeing this on the shelves until next summer, because Mindscape doesn't consider it suitable for winter release. However, we do know what's to come, and it's similar to others in the '4D Sports' series. There will be three surfaces (grass, clay and hard), a ladder of increasingly difficult opponents, a tournament play option, individual statistics saved to disk, and a clinic where you can practise shots. So far, so what? Well, Mindscape also promises two very unique features: selectable camera angles which will give you every view from court-level first person perspective to a 3D overhead mode; and a Replay feature, in which you'll be able to watch your classic strokes again at normal speed, fast forward, slow motion or frame-by-frame. Watch out for it.



REQUIREMENTS

A word of warning to owners of the Amstrad 1640: Pro Tennis Tour 2 does not run in EGA mode on your machine! No one else needs to worry: it comes on one high density 3.5" disk and uses up 900K when installed. If you haven't got a hard drive, you need to copy the program to formatted disk(s). It runs on a PC with 512K, but this isn't quite enough to see all the effects and options, although it still features most of them. Even with 640K, you won't get maximum effects - for example, the ability to play men against women - unless you disable memory resident programs first.

TECH SPEC

VGA isn't used to its full potential, and the AdLib sound effects are sparse and unrealistic. The title tune is a bonus, however.

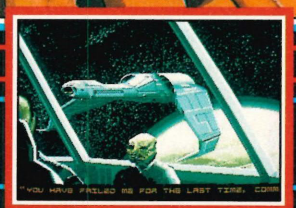
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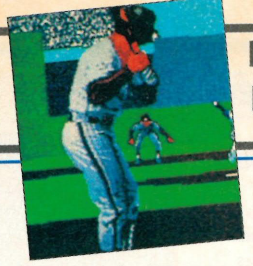
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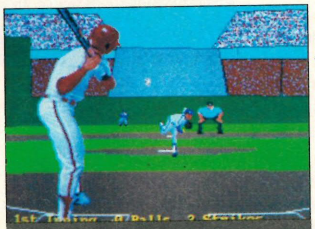
A 3D 'epic' that reaches a milestone in polygon technology in terms of speed, graphical detail and pure out-and-out playability. A multitude of missions, ranging from devious to manic, take you deep into the heart of this sci-fi conquest of outer space. **EPIC** - a masterpiece of software engineering.

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A national obsession, Baseball dominates sport in the USA, pushing aside football and basketball. What is so great about it? And how well does it convert to PC?



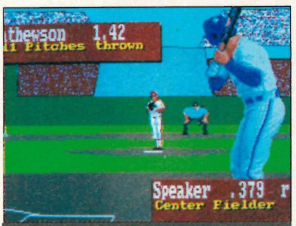
Top of the first inning, two strikes one out.

Earl Weaver Baseball 2

Earl Weaver Baseball 2 does not immediately answer the first question but a few minutes examination will answer the second. In short it's quite impressive.

Baseball is a big stadium event ritually attended by millions throughout the long and gruelling 162 match spring and summer season in the USA. If it hasn't already grabbed your attention it probably soon will if the way American Football has caught on and is promoted over here is anything to go by.

However, and I won't mince my words here, baseball can be incredibly boring for newcomers. For this reason it is doubly important that the presentation of a game like this is as exciting, busy and realistic as possible.



Top of the second inning. Mattewson pitches, Speaker bats, their current statistics are always shown.

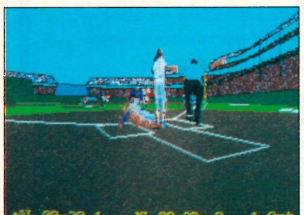


Speaker at first may be trying a steal a base. Watch out for the pitcher, if he throws to first base Speaker will be out.

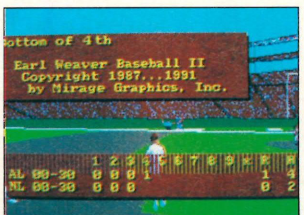
One of the first essential criteria for judging a sports game must be ease of control. If like Earl Weaver 2 there is a multitude of play options it would seem obvious to lay them out as simply as possible, unfortunately this is not always done. Happily though it is here.

Control is laid out logically and accessibly using the keyboard and numeric pad. Within the confines of the nine central numeric keys and/or the section of the main keyboard cornered by Q, E, Z, C lies most of the controls you will need to operate Earl Weaver Baseball. If you are on defense, ie. you are the pitching and fielding team this pad controls the type (speed and amount of curve), location (where in the strike zone you want the ball to go) and delivery (how you throw it) of the pitch. Then assuming the batsman actually hits your ball control switches to the fielders whose job is to recover the ball. Fielders are automatically guided towards their target by the computer however once in possession of the ball the keypad must once again be used to instruct the fielders as to which base the ball should be thrown to. Choosing the right base is essential as the object of the game is to prevent the offense from scoring home runs and to do so by getting a ball to any one of the bases before the opposing player reaches it.

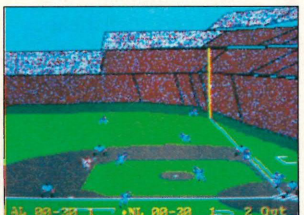
The rules for batting (offense) are even simpler but just as effective. So as not to confuse us Rookies the instruction manual clearly states that, on offense, batting a ball involves taking your finger OFF a button while running between bases involves putting your finger ON a button. There are two types of batting in baseball, a normal outfield bat which involves hitting the ball as hard and as far as you can or a 'bunt' which involves grounding the ball with a downward bat just in front



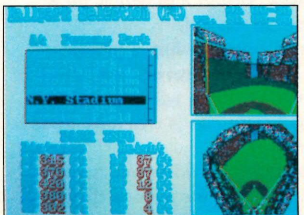
Speaker's safe at home base and...



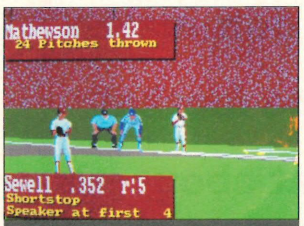
He scores the first run of the day for the AL at the top of the fourth inning.



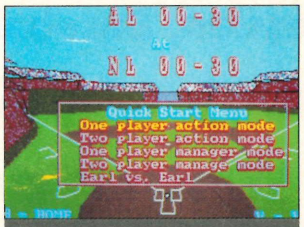
Wagner scores for NL at the bottom of the fourth innings.



The field selection screen. I'll be darned if I know which one to choose!



Doing well this time the AL have scored three runs at the top of the first inning, this could be a good day.



The options mode allows one or two player 'play the game' action or management simulation plus an opportunity to see Earl strut his stuff

of home base forcing the fielders to chase a closer but nonetheless more difficult ball on the ground. Just before pitcher throws the ball press 5 or 6 on the keypad for a bat or a bunt and then gauge the right moment to release it as the ball wings it's way towards you.

If you get a good shot at the ball your batter will attempt a run to first base. If you start a run but suddenly realise you're not going to make it you can run back, but remember if you're caught between bases you'll be called out. Pressing buttons 8 or 2 or the equivalent on the keyboard will make you run forward or backwards. If you fail to hit three legal pitches then you'll be struck out, however if the pitcher makes an illegal pitch you get a free walk to first base.

Another way of gaining a base on offense is to steal one. The batter can't do this but someone on first, second or third base might be able to get away with it if the pitcher is not paying attention. Remember though, pitchers, especially computer controlled pitchers are smart and won'teasily fall for this.

The range of options is impressive. Unfortunately this doesn't include options on the real teams you play. None of the well known ones are here, instead teams are represented by NL and AL, presumably meaning National League and American League. This is a little unfortunate but there are eight different stadiums available to make up for the lack of teams. Very much a TV sport there is even a facility which enables you to alter coverage camera angle! For the real boffins there is a management mode. The graphics are good and realistically animated without being stunning.

PC review 6 RATED

LOAD YOUR BASES.

Some basic baseball terminology to help with Earl Weaver.

1. At bat. The player who is in the batting enclosure. He remains there until he's struck out or makes a run.

2. Balk. An illegal pitch from a pitcher. This allows the batter to have a free 'walk'.

3. Batting average. The number of hits divided by the number of times he bats. An important indicator.

4. Bottom of the...second, fifth, etc...The second half if an innings.

5. Foul ball. One that is not hit into the diamond, or fair territory.

6. Inning. An inning is when both teams have been to and completed a single batting cycle with three men each being put out. Each team bats for nine innings.

7. Loaded bases. When a player is on a base it is said to be loaded.

8. Run. A run is scored when a player successfully follows the correct sequence of bases to reach home base without being knocked out. A home run is when he does it all in a single run.

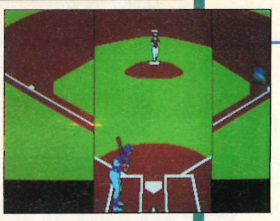
9. Safe. A player is safe when he reaches the base he was aiming for before the ball. The umpire will always call a safe.

10.Top of...the fourth, sixth etc...The first half of any given innings.

ALTERNATIVELY...

RBI2 Baseball

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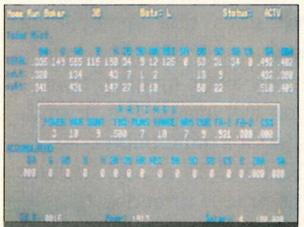


RBI 2 is colourful, accurate and has all the popular teams of Major League baseball on its rosters. So how does Earl Weaver measure?

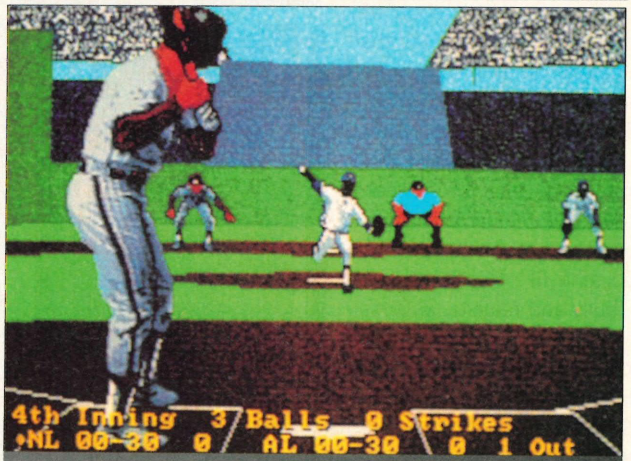
On the graphics side RBI certainly seems more colourful than Earl Weaver however the latter does seem to have the edge on realism as far as I'm concerned with the sprites looking a lot less 'cartoon' like. Game play is rather more extensive with Earl Weaver too, with more, easier to understand and operate moves and depth. However, what about all those colourful teams? I suspect that many people will go for RBI for this reason alone. If it's real action you're after though I'd plump for Earl Weaver.



Advanced features menu. Batting practice, continuing saved games and many other less immediately useful features are available here.



The in game features menu. More choice than a used car showroom!



Being able to change the system settings during a game is quite valuable. Make a note of where the sound off switch is, you'll no doubt be using it!

Sound too is encouragingly good though the music is guaranteed to get tedious. The biggest problem with Earl Weaver, is the lack of introduction or explanation of baseball.

However Earl Weaver Baseball 2 is most definitely a quality product giving what is probably the most realistic representation of Baseball of any PC game yet available in this country and as such will stand on its own against more colourful competitors.

ALAN DYKES

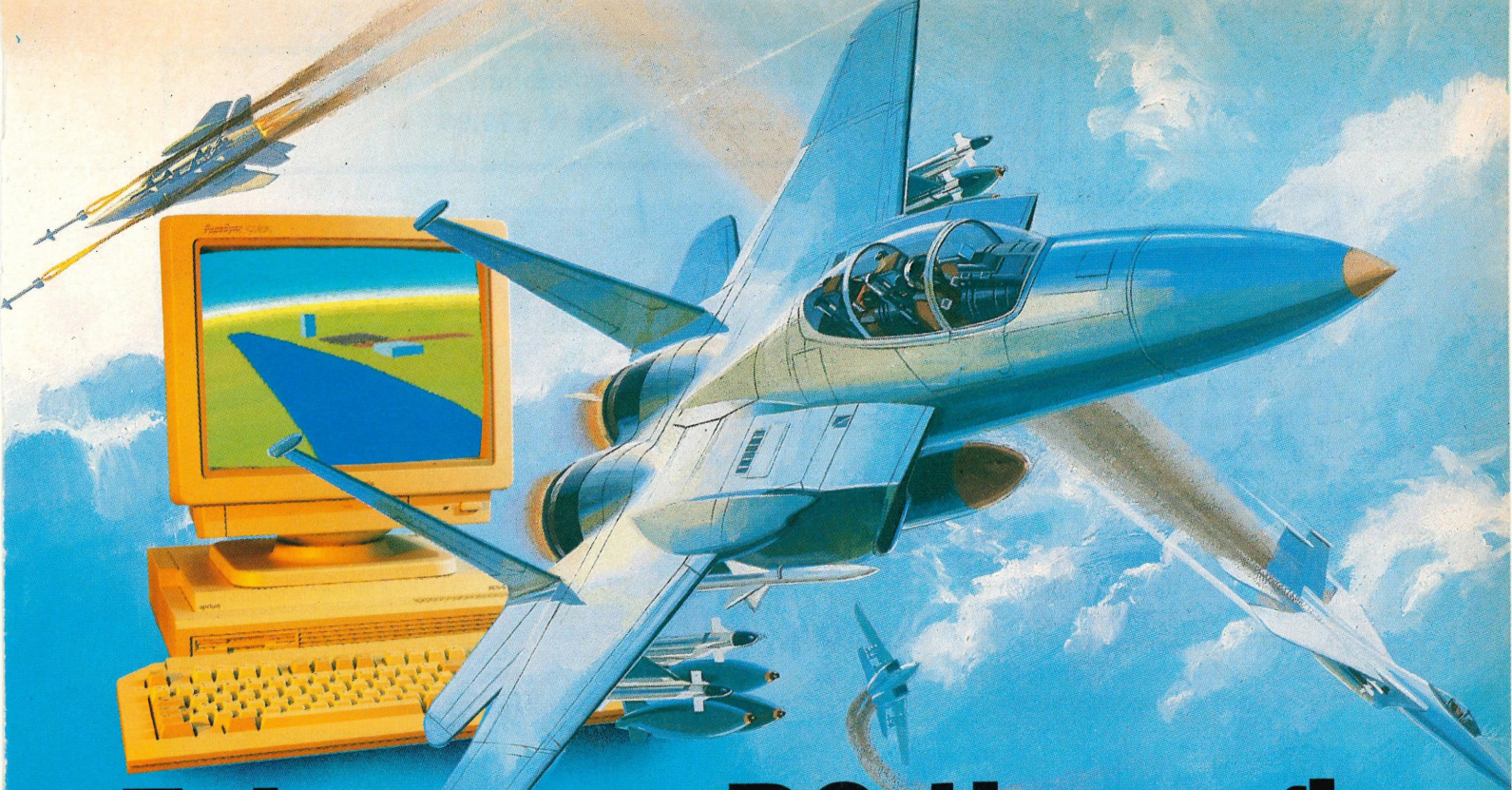
HARDWARE REQUIREMENTS

Supplied with two 3.5" or three 5.25" disks. Wheel copy protection card. If installed on hard drive will take up 506K. For EGA or above only. VGA users should use MCGA graphics mode.

TECH SPEC

The Internal speaker sound is adequate but annoying. Roland or Adlib would be an advantage.

3½ ✓ 5½ ✓ AD Lib ✓ Roland ✓
CGA ✗ EGA ✓ VGA ✗ Tandy ✓
Hercules ✗ ✓ ✗ ✓



Take your PC through the sound barrier!

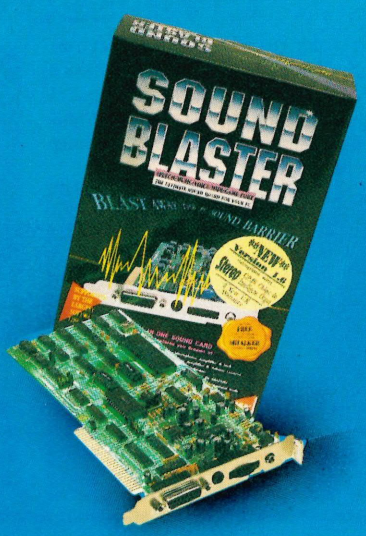
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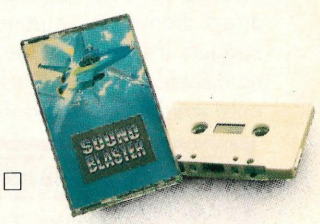
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Strike 2

The unofficial sequel to Thunderstrike is an out–and–out blaster set on 60 alien worlds in four different galaxies. There is no story-line worth mentioning (it doesn't need one), but the basic idea is this: choose one of four alien races and compete against the other three.

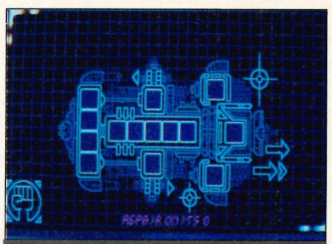
Each of the 60 worlds consists of a wraparound 3D scrolling landscape. Some landscapes contain black guiding tracks which allow super fast movement – but they are only available if you have the right equipment fitted to your craft.

The first of the five games you face is Survival. Here you just have to stay alive until the time limit expires. This obviously means you could complete a round without firing a shot, but kills are rewarded with cash, so it's worth hunting the enemy.

PC review 7 RATED



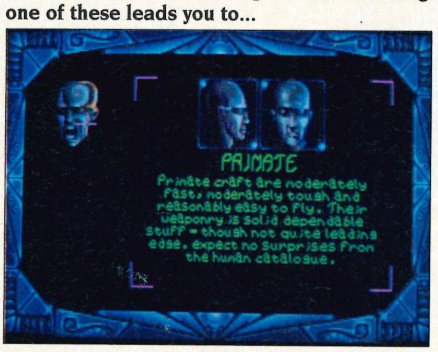
The view of your craft is unusual - it's seen from a `camera' which tracks its movements over the contours of the landscape and tries to keep up with you as you perform spectacular manoeuvres.

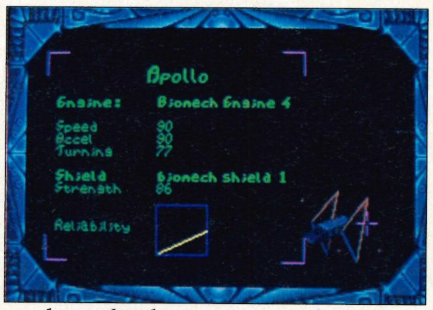


The terrain map gives you an overview of your current landscape, showing the position of track-locking trenches, drone generators and other ground installations.

CIVILISED CHOICES

There are four races to choose from: human (good all-rounders), reptile (fast and well-armed, but not manoeuvrable), insect (very manoeuvrable but poorly shielded) and biomech (excellent but expensive). Choosing one of these leads you to...





...the craft-selection screen. There are 16 craft to choose from, four from each race. Each can be equipped with a huge range of blasters, mines, shields, missiles and other natty gadgets. But beware, kitting out your dream machine can prove costly.

Invasion involves defending a central pyramid against attack drones, who mutate into suicidal and highly dangerous Ramjets if they reach the pyramid. Astra–Blast is an attempt to disable unstable blocks of Proto–matter which try to fix onto your ship. Hit and Run involves taking out enemy Drone Generators, rewarding speed of completion with bonus points. Finally, there is the toughest of the lot: Ground Defence. Here you have to destroy all enemy Drone Generators while keeping your own installations safe from attack.

Each of the four galaxies features a champion on the central planet. Only when you have enough cash can you face him – and even then you'll need to be armed to the teeth to win. More than 200 items can be bought at a between–levels hardware store to convert your humble craft into a lethal weapon.

Presentation is the key to Strike 2's success – it's full of nice touches. For example, the program saves your name so you don't have to input it every time you load, and when you complete a level the craft performs a roll before heading for outer space. In addition there's a neat loading sequence, excellent selection screens, a save/load option, high score table, a huge range of bolt–on goodies, and 16 craft which look and handle differently. The graphics are competently drawn throughout: the effect of flying over a contoured landscape is superb, and there's good use of shading and colour. The first few games will prove a little tricky as you get used to the controls – but after that you'll be hooked.

GORDON HOUGHTON

HARDWARE **REQUIREMENTS**

Strike 2 comes on one 3.5" or two 5.25" disks. It runs equally well from floppy or hard disk, using up 670K on the latter. It requires 640K RAM minimum.

It's impressive and runs smoothly in VGA, even at 12 MHz. EGA isn't quite as colourful.

TECH SPEC

3½ ✓	5½ ✓	AD Lib ✓	Roland ✗
CGA ✗	EGA ✓	VGA ✓	Tandy ✓
Hercules ✗	✓	✓	✓

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■ Terminator 2 ■ Ocean/Acclaim
■ (061 832 6633) ■ £29.99

Another movie licence game gets the cash rolling in. But is it too high a price for the punter to pay?



The first stage can be quickly passed by keeping your finger pressed on the fire button. Can you manage such a monumental feat of arcade reflex and hand-eye coordination? No problemo.

Termi

Easily the most successful movie of the year, Terminator 2 is a non-stop rollercoaster ride through the best special effects ever seen. Spending something like $100 million, film company Carolco and director James Cameron threw everything onto the big screen in an effort to keep punters on the edge of their seats. So, does the monitor of the PC come alive as you take on the role of robot warrior Arnold Schwarzenegger?

Software development team Dementia has used Ocean's much tried game-of-the-movie formula. Make no mistake, this is a straight port over from the Amiga version. You'll know what to expect if you've ever played Batman – The Movie, Robocop or Total Recall. Unimaginative and limited arcade games are strung together in an attempt to recreate action scenes from the movies. If each of these stages were competent games in their own right, things would be really dandy. In the case of many of these titles, including T2, they ain't.

For would-be Terminators willing to ignore this oversight, the game itself is split into eight sections, separated in the VGA version by short animated sequences digitised from the movie. The first level is set in a corridor with only a vending machine and three wall lights for company. You're facing a much-tougher opponent for the first time. Arnie might well be a futuristic cyborg killing machine with a tough armour-plated endoskeleton, but this guy is made of liquid metal. The T1000 is able to transform itself into any kind of person and objects like the chequered floor if need be. He can even absorb a shot gun blast in the head from point-blank range. The programmers have, therefore, decided that a beat 'em-up is called for. After firing off all the rounds in their hand guns, the two humanoid machines must shuffle along towards one another until they're close enough to start throwing punches, kicks and head butts. As each sustains damage, their portraits below gradually deteriorate until they've become a metallic skull or metal likeness. Don't be too cocky if you manage to beat the TI000 because, as the famous saying from the original Terminator goes, He'll Be Back!



Next, you're riding a Harley Davidson motorbike along the drainage corridors of Los Angeles as the hard-to-kill T1000 chases not far behind in an imposing truck. Here you dodge left and right as obstacles scroll down from the top of the screen. If you're not fast enough, that horrible T1000 will capture John Connor and the human race will be destroyed 30 years from now. After this, Arnie makes repairs on the servo mechanisms of his right hand. Ignoring the fact that the third level is inspired by a scene from the first Terminator film and not T2, you rearrange sections of circuitry to enable the fingers to move before a time limit runs out.

The rest of the game is pretty much a rerun of the first three stages, with a laughable shoot 'em-up in the Cyber-

PC review TWO MINUTES OF 'INTERACTIVE MOVIE'...



Taxing isn't one of the words that springs to mind when describing the first level of T2. Grab that autofire button!

A brief sequence of digitised frames from the film is your reward. If the previous stage was any challenge, this would be a good time to relax.

Don't take too many risks on your powerful Harley Davifson bike because the collision detection is a wee bit dodgy, folks.



nator 2



Be careful avoiding obstacles and collecting bonuses during the ride' em-up section on Level Two because the collision detection leaves a little to be desired.

dyne Laboratory and yet more one–on–one confrontations with the T1000 to look forward to.

Bringing out games based around popular movies is fast becoming one of the biggest money makers for software houses. Consumers buy the T–shirt and soundtrack, so the chance to actually participate in a representation of the story and characters from the film should be irresistible, right? The trouble is, these interactive adaptions rarely live up to the original movie. Perhaps companies should spend more effort on the design of their games, especially Ocean.

Save your money.

RIK HAYNES

HARDWARE REQUIREMENTS

Gamers with any sort of AT and above shouldn't have too many problems. T2 takes about 1.5Mb of your hard drive. There's no install program so you'll have to physically copy files. I hope you're not a beginner to DOS as there are no instructions telling you how to do it!



The designers must have been great fans of the original Terminator movie because I certainly don't remember Arnie repairing his hand in T2!

ALTERNATIVELY...

Robocop 3

Ocean



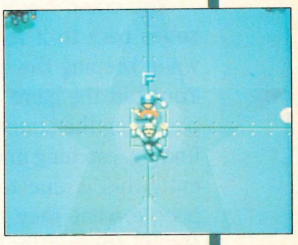
Price TBA

Digital Image Design, the Runcorn-based outfit responsible for the arcade flight-sim F29 Retaliator, is promising something special for this game. Still under development, Robocop 3 started life as an elaborate animated demonstration of a walking robot like the type seen in Star Wars, or with further adaption, the infamous ED-209 crime-fighting machine from Robocop. Following the plot of the third movie, which should also be released in a couple of months time, you again take the role of Robocop as he encounters Ninja droids, car chases and a nifty jet-pack. These sequences are presented using novel polygon-based 3D graphics. Early reports indicate this Ocean release is looking far better than T2.

Speedball 2

Imageworks

£30.99

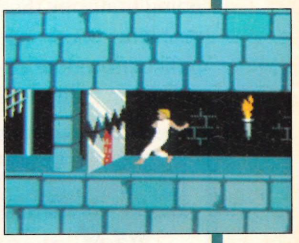


Inspired by the cult '70s movie Rollerball, Speedball 2 is everything an arcade game should be...sheer excitement which doesn't take itself too seriously. Take part in an fast and ultraviolent sport set in the future. Think of a cross between Basketball and American Football with the added edge of weapons, power-ups and such like. If you're on a tight budget, the original Speedball is now available on the Mirror Image label for under a tenner.

Prince of Persia

Broderbund/Domark

£29.99

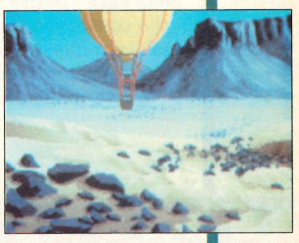


Brainchild of a psychology graduate at New York's prestigious Yale University, Prince of Persia is a fusion of addictive game play and extraordinary animation. Venture into the dark and dangerous dungeons of an evil Sultan as you search for a princess sweetheart. There's plenty of climbing, traps and a dash of swashbuckling to discover in this action adventure.

Indiana Jones and the Fate of Atlantis

Lucasfilm Games/US Gold

Price TBA

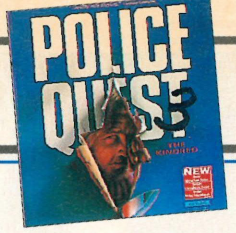


Not exactly an arcade game, though this graphic adventure does contain a fair degree of action. Fate of Atlantis is included here as an indication of what can be done with a movie theme when proper thought is put into design. Lucasfilm Games reckon the principle thing for them is creating good game play. I couldn't agree more!

Sadly, there are no digitised animated sequences from the movie when EGA mode is selected.

TECH SPEC

3½ ✓	5½ ✓	AD Lib ✓	Roland ✓
CGA ✗	EGA ✓	VGA ✓	Tandy ✓
Hercules ✗	✓	✗	✓

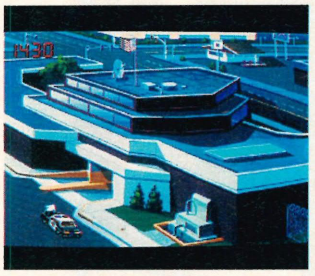


■ Police Quest 3 ■ Sierra On-line
■ (0734) 303322 ■ £39.99

Police

Time to pound the streets in the third installment of Sierra's 'real-life' police drama

I was shocked on opening Sierra's latest foray into computer gaming extravagance. Such a large box containing only five disks! What happened to the boxes that used to arrive with abnormal bulges in them owing to excessive disk storage? Seriously, Police Quest 3, from an initial view, looks to be pretty small compared with some of Sierra's more recent titles. But, being a somewhat cautious admirer of the first game and a more ardent admirer of the sequel, I wasn't bothered in the slightest by the size and couldn't wait to immerse myself once again into the world of Sonny Bonds and the Lytton Police Department.



Your home away from home. Work starts at 1300 hours every morning and ends at around 1700 hours every night.

You could say that this time round, Sierra has taken the series back to it roots, borrowing heavily from the first title, while keeping the story flowing from the end of the second. You start the game back in uniform (albeit a sergeant's one), patrolling the streets in a black and white (police car that is), finding, catching and incarcerating crooks by the book. Apparently this is due to a survey conducted by Sierra, asking people what they thought of Police Quest 2. The results showed the public preferred a Hill Street Blues game more than a Miami Vice game.

As I said, I preferred the second game, but then I'm just an action-junkie. It's all very well doing things by the book, but this does cause a problem. Most average citizens don't know police procedure off by heart so it has to be provided for them in the manual. But by doing this, you take away the puzzle-solving element from each situation.

Speaking of Miami Vice, Jan Hammer has been brought in to do the soundtrack for the game, but even though the tunes are far from bad, they're nothing more outstanding than what's been heard elsewhere. The same goes for the graphics. Digitisation and 256-colour backdrops are rapidly becoming the norm so, while they are perfectly reasonable and project the city of Lytton across well, there's nothing spectacular about any of it.

A nice cosmetic touch is the background noise which you hear in some scenes. It's a shame



At poignant moments in the story (usually when you die or screw up), game designer Jim Walls pops up in full uniform to tell you where you went wrong.



TWO MINUTES OF LEG WORK ...

The first call of the day. While patrolling the streets your radio crackles into life, "Disturbance at Aspen Falls Park". Arriving at the scene, your first task is to question any witnesses to find out what's going on.

It seems there's a half-naked lunatic causing trouble by the river. Babbling about aliens and landing sites, he promptly grabs your badge, throws it into the lake and jumps in after it. Short of pulling your gun on the perpetrator, you'll have to find some way of luring him out.

Searching through his clothes for some ID, you discover a set of keys. Hoping to enrage him, you hurl them into the lake after your badge. As he approaches, you pull out your nightstick and wrestle him to the ground. Time to handcuff him.

Walking him back to your patrol car, you read him his rights and strap him into the passenger seat. Your grateful public watch on.

Taking him back to the jailhouse, you go through the usual booking procedures, searching for weapons, reading the charges and sending him into the pound. Don't forget to remove your gun before you enter. Wouldn't do for him to grab it and escape now, would it?





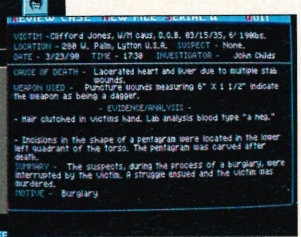
Your promotion from uniformed sergeant to homicide detective takes place after your wife is nearly killed. You swear to bring justice to the assailant.



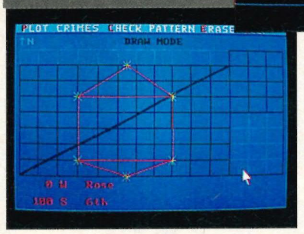
Every object you carry is represented by a small icon.

Quest 3





Your computer can perform a variety of functions, from identi-kit profiles to spotting crime patterns.



these sounds couldn't have been backed up with some graphics though. For the most part, you feel as though you're wondering around a ghost town. There are no other cars except when they're breaking the law and there are no pedestrians walking around the city's many locations. But when has realism ever been part of a good cop drama? The story is fair stuff, although not particularly original. No doubt some of the more routine incidents are based on Jim Walls' – the game's designer – own experiences as a cop, as he claims on the box.

Most of the puzzles wouldn't keep the average nine–year old stumped for long and, while there are one or two places that get you thinking, for the most part it's just a case of each new day presenting one or two further clues in the case. While it's not the toughest adventure ever known, it will probably keep your interest until the very end, despite being completely predictable.

HARDWARE REQUIREMENTS

Five disks and only 5.8Mb of disk space? I can almost hear the other 'interactive/virtual/role-playing/other technical buzzword' games laughing at it. Police Quest 3 is certainly one of the more user-friendly games of late. The installation procedure is quick and efficient and the technical manual provides solutions to most of the problems that may occur during play.

PAUL PRESLEY

There is some nice digitisation but the music by Jan Hammer is little better than most Roland creations.

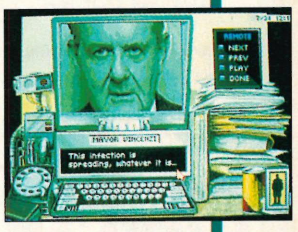
TECH SPEC

3½ ✓	5½ ✓	AD Lib ✓	Roland ✓
CGA ✗	EGA ✓	VGA ✓	Tandy ✓
Hercules ✗	✗	✓	✓

PC review ALTERNATIVELY...

Rather than focus on other 'police simulating' games (mainly because other than the Police Quest series, there are practically none on the market), I've focused on two of Sierra's biggest rivals.

Dynamix



Dynamix is more of a stable mate than a rival to Sierra. During mid-1990, Sierra bought controlling shares in the then up-and-coming development house and started to give its products a more professional look. Since then Dynamix has grown to become a major force in the American industry with titles such as Heart Of China and Red Baron.

Dynamix has always specialised in its use of digitisation, hiring actors to play the parts in its tales and using hand-painted backdrops for the scenery. If there is a flaw it's that the games tend to be on the easy side as more time is spent on making them look good rather than making them challenging (much the same thing has been happening to Sierra's games of late, Police Quest 3 included). Not so much mutton dressed up as lamb, more lamb dressed up as a full-course meal.

Lucasfilm



Owing much of its success to its close ties with the film world, Lucasfilm is the software side of George Lucas' highly successful career. Naturally it's going to get automatic licences to the Indiana Jones and Star Wars films etc, but it has had a fair - all right, huge - run of success with The Secret Of Monkey Island.

Whereas Sierra and Dynamix take a more film-like approach to their games, Lucasfilm games tend to play more like feature-length cartoons. The scenery and characters are always very colourful and the stories are (for the most part) extremely funny. Presently, Lucasfilm (like all the major American companies) is moving into CD-ROM technology and is starting to use the formidable talents of special effect experts Industrial Light And Magic.

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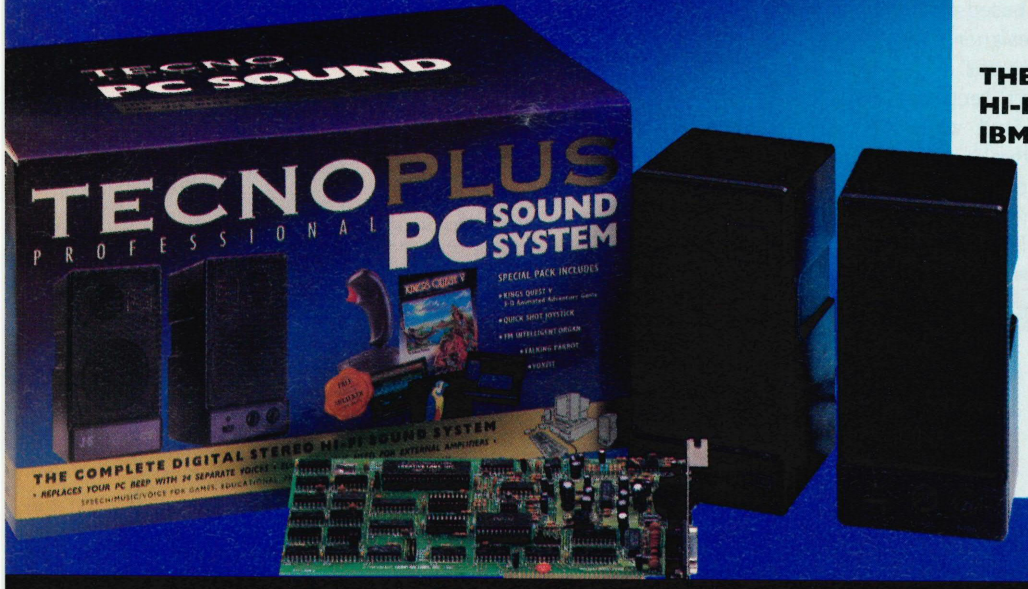
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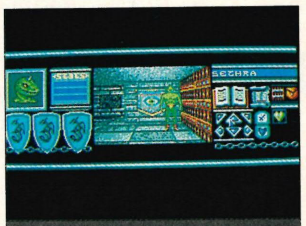


■ Bloodwych ■ Mirror Image/Mirrorsoft
■ (071) 928 1454 ■ £9.99

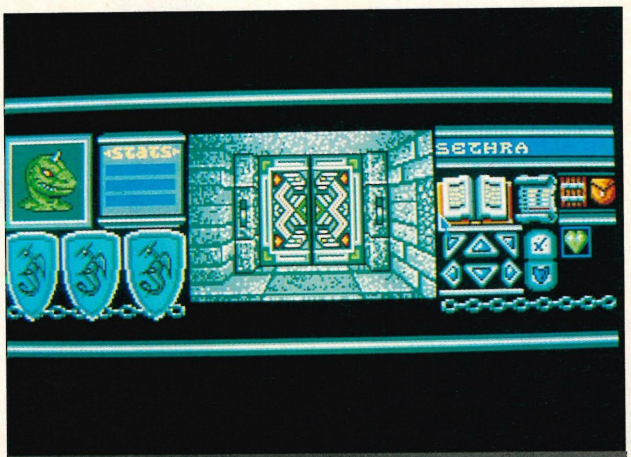
Bloodwych

Originally released for £35, Bloodwych was one of the first 3D RPGs to appear on the PC. Since then graphically superior games such as Eye of the Beholder have overshadowed it, making its re-release at a budget price appropriate.

You play one of the 16 Bloodwych, a secret order of psychic mages who used to rule the powerful city of Treihadwyl in the land of Trazere. This city is now in the grip of the evil Zendick and his eldritch agents, and it's your task to reclaim it and banish the dark forces to the realm of chaos.



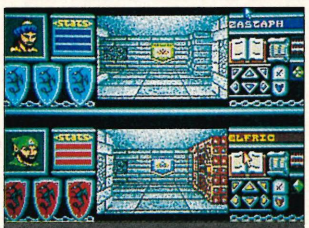
Encounters with other characters are the key to completing the game: not all of them are unfriendly.



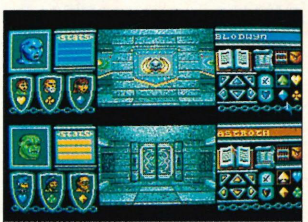
The one-player game uses half of the screen area to convey information about the characters (left), the 3D world (centre) and the magic, movement and combat controls.

As soon as loading is finished, there is a choice of one or two-player games, both with a 'quickstart' option. If you decide on the quickstart game, you're launched straight into the action with a full (computer-selected) complement of four heroes. If not, you choose your own leader from the group of 16 and have to explore Treihadwyl and recruit the other three.

There are four main elements to the game: exploration, recruitment, spell-casting and combat. Exploration involves five towers, four of which contain the crystals you need to destroy Zendick - but there are plenty of other objects to discover along the way, as well as the usual doors (locked or unlocked), stairways, rooms and passages. Recruitment uses an excellent communication system with 20 commands; spell-casting is similarly broad-ranging and is implemented using a spell-book. Combat, however, is a major disappointment: there is no on-screen action, the sound effects are very poor and the details are conveyed baldly as hit points.



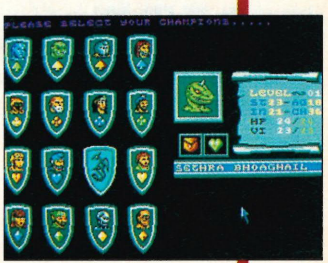
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When it comes to two-player mode the whole screen is used, and each group of four characters is able to explore independently.

CHARACTER CLASS

The Bloodwych divide into four psyche types: Fighters, Mages, Adventurers (all-rounders) and Archers/Assassins. The leader is chosen from this selection screen - by clicking the mouse on a portrait on the left you can access information about the character's experience, strength, agility, intelligence, charisma, vitality, hit points and food. The rest of your party can be coaxed into joining you during the game itself. Naturally enough, it's a good idea to include one from each of the classes in your party - but if you want a more challenging game, you can choose a less balanced group.



The problems with combat are relevant to the game as a whole: its crude medium resolution graphics and limited sound effects fail to convey a convincing atmosphere. Other faults are more minor - the mouse control is jerky enough to have you playing from the keyboard, and first impressions (particularly the small screen size in solo mode) will discourage many players.



On the other hand, presentation is enhanced by the absence of loading hassles and the fact you can save/load a game at any time. However, the game's major redeeming factors are its excellent maze designs and the innovative two-player mode which, if nothing else, should keep RPG fans interested.

GORDON HOUGHTON

HARDWARE REQUIREMENTS

Bloodwych comes on one 5.25" disk and can be installed onto a hard drive. Aside from the slight difference in loading times, it makes no difference whether you play from hard or floppy disk. If you do decide to install, it uses up a mere 380K.

TECH SPEC

The graphics disappoint and, with its added sound support, the game should have been more atmospheric.

3½ ✗	5½ ✓	AD Lib ✓	Roland ✓
CGA ✓	EGA ✓	VGA ✗	Tandy ✓
Hercules ✗	✗	✓	✓

PC review THE GAMES THAT GOT AWAY

Not every game released manages to make it on to PC Review's pages. Here we round up the latecomers, the ones that got away, and the also-rans. All these titles should be in the shops shortly.

CONAN THE CIMMERIAN

Virgin £34.99

Hack 'n slash exploration with a modicum of strategy starring the muscle-bound hero.



SPACE 1889

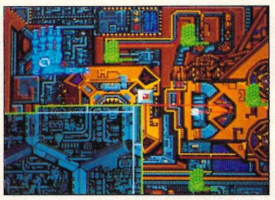
Empire £35.99

The system that spawned Megatraveller is used to atmospheric effect in the Jules Verne mould.

MEGATRAVELLER II

Empire £35.99

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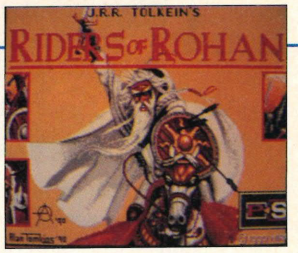
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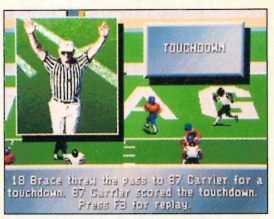
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REVIEWED THIS ISSUE

PATTON STRIKES BACK	8 RATED
PRO TENNIS TOUR II	8 RATED
FLOOR 13	7 RATED
MIG 29 SUPERFULCRUM	7 RATED
POLICE QUEST III	7 RATED
STRIKE II	7 RATED
EARL WEAVER'S	6 RATED
THE IMMORTAL	6 RATED
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TERMINATOR II	2 RATED

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WHATEVER HAPPENED TO? ...

You may have been expecting reviews this issue which aren't there, or to see games in the shops by now, so this section keeps you informed of delays and hitches. This month...

SECRET OF MONKEY ISLAND II

Lucasfilm is putting the final touches to this, with a reviewable copy expected within the next couple of weeks (at the time of going to press); therefore the game may well be on the shelves by the time you read this. If not, expect it before Christmas.

CAPTIVE

Tony Crowther's latest project - Knightmare – is due for imminent release on other formats, which means Captive will follow shortly. Mindscape hopes to release this within the next few weeks, so keep your eyes peeled on those shelves!

REACH FOR THE SKIES

Although this should make a Christmas release, Mirrorsoft is determined to make the manual perfect, and so these small touches are consuming time at the moment. The bulk of the game's finished though, so it shouldn't be too much longer.

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- SOFTWARE - SUPPLIED: GW-BASIC 3.22, MICROSOFT WORKS 2.0
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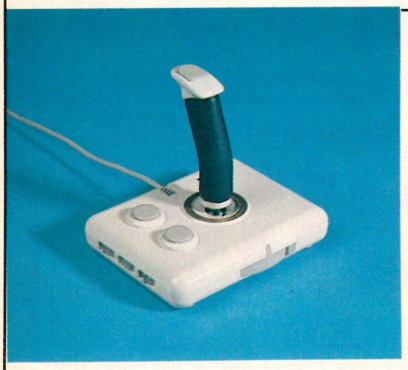
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QED

In this month's QED we bring you the second part of our guides to Eye of the Beholder and Heart of China plus Commander Keen and Railroad Tycoon - along with a host of small tips!



EYE OF THE BEHOLDER

Here's a guide to the important points of last month's maps. But beware, this isn't the complete solution. We've left some surprises for you to discover!

LEVEL 4

3. Pushing the west wall button opens the door to the south as well as the secret passage to the east, unleashing a spider which will attack the party.
6 and 7. These pressure plates close the door to the north of them.
20. The ring found here has no powers.
23. The stone sceptre is a portal key. Hang on to it.
25. This ring gives +3 protection!
29. The retreating blocks move anti-clockwise, so approach from east side.
34. Pull the gargoyle's arm and see what happens!
36. This chain locks and unlocks the moving blocks at 29.
39. Tagho is a good fighter, so consider letting him join.



43. Use a dwarven key to open the middle door, but close the other first.
60 and 61. Handy Cure Poison potions are here!
64. Place an Orb of Power here to identify all your items.
72. Go in and collect the items, then leave and close the door behind you. Walk around to the next door, go in, and leave by the same door, etc.
82. The +3 Drow Cleaver axe is here.
Pull the chain to open the passage at 50.
84. This opens a hidden pit in the middle of the room.

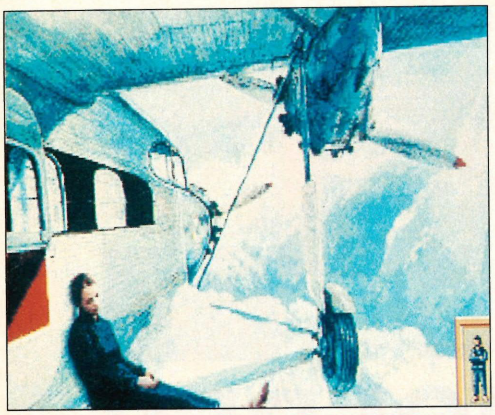
LEVEL 5

9. You cannot open the door from the south, only the north.
26. The stone necklace is a portal key.
30. The cleric will heal characters or resurrect NPCs. Use him to restore bones.
31. Whatever you do, don't drink the potion!
39. Pull the lever to open the south door, but when you move there pits open behind you. Watch out for dead ends.
41. The items here are cursed.
57. Watch the compass - you'll get turned around here.
58B. The northern and western walls are illusions, where you'll discover a Wand of Frost.

Thanks to SSI and US Gold for providing the information!







HEART OF CHINA PART TWO

We start the second part of Bruce Gilmour's solution where we left off, after the tank driving arcade section.

FLY TO KATMANDU

Show you trust Chi by allowing him to remain with Kate while Lucky goes off to find help. Once Lucky has gone, take the blankets from inside the aircraft and put them both on to Kate. Use one to wrap her in and the other to form a protective windbreak. Now administer the herbal medicine to relieve her suffering.

After being rescued leave the house and explore the village. Go to the telegraph office and send a message to Lomax in Hong Kong.

Pay a visit to the lama on top of the hill. Dupe his disciple by pretending to be a special envoy. Listen to the lama and leave when he finishes speaking.

Now visit the bar and contact the caravan driver. Offering him drinks is a good tactic.

Visit the forge and talk to the young boy, but on no account agree to him leaving with you. When he leaves in a temper pick up the small box on the ground.

Return to the lama and learn how to get the villagers on your side. Return to Oma's house and make up with the boy by building a toy for him using the box, Chi's chopsticks and the coins with holes in them.

After he's given the toy he will agree to give you the fuel. Now go back to the bar and talk to the caravan driver again. Convince him life isn't so great for him as things are and offer him your gun to help overthrow the dictator.

After the dictator has gone you can now return the scroll to the villagers and they will help to turn the plane around and get you airborne again.

Note it is worthwhile checking on Kate's progress during the quest to get airborne and away into the wide blue skies again.

FLY TO ISTANBUL – BUT NOT CONSTANTINOPLE

Go to town and find the British Officer's Club. There, Lucky must telephone Lomax and renegotiate his contract.

It's important to accept only the best deal which tallies with the outcome described in the game's manual.

..After leaving the club Lucky is arrested, so you must continue the mission in the role of Kate.

Now go to the merchant's shop and sell your locket. Do not be too greedy or you'll be sadly disappointed at the outcome!

Buy something which would be useful for jail-breaking. Take the rest of the money and play the game of skill with the man at the end of the alley.

Win several hundred shekels and go to the palace. Speak to the guard and find out about the prisoner being held inside. Speak to the old lady at the side of the palace who will ask you for a present before helping.

Return to the city gates and buy a camel from the camel merchant (quelle surprise!). Make contact with the little boy and get a flower from him. Give the flower to the old lady and she will help you free Lucky.

Make your escape on the camel and leave it with the young boy who will be most appreciative. Once the plane has been destroyed go directly to the railway station and buy two tickets for the Orient Express. Get on board the train.

THE ORIENT EXPRESS

Take on the identity of either Kate or Lucky but, whichever you choose, be nice to your partner.

Play or pass the arcade section and it's plain sailing to the finish of the game and a really slushy ending...

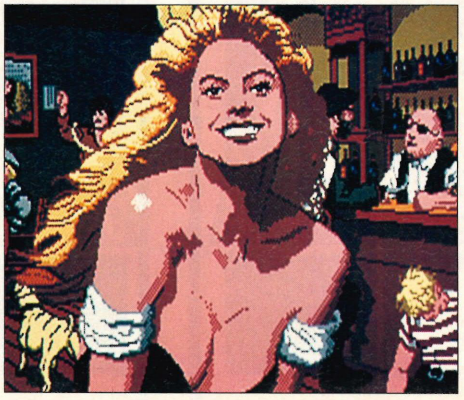


HELP! REQUESTED...

LARRY II

Mark Nicholson of Rowlands Gill, Tyne and Wear, is having a few problems with this raunchy Sierra adventure.

He's unable to get off the cruise ship without either being fried in a lifeboat or getting cut into tiny pieces by a remote-controlled helicopter with a laser beam. He also wants to know if there's anything of interest in Mama's cabin and, if so, how can he gain entry without being whipped to death by her?





SORCERERS GET ALL THE GIRLS

Higher education can be tough - especially when you can't unlock the Gateway to the Gods! Mr J Hall of Cranleigh, Surrey, is having trouble working out how to enter the elusive portal, and can't call the help line

COMMANDER KEEN

This superb shareware game is being played to death out there, and Robert Nielsen of Kununurra, Australia, (well, it had to be) has sent in a long list of hints and tips for the game.

Space restrictions prevent us from printing all the information Robert has sent, but here is a list of the fearsome enemies you will have to confront in Commander Keen:

YORPS: These are the irritating one-eyed green things, which are totally harmless– unless they push you over a cliff or into fire. Don't waste precious ammo on them.

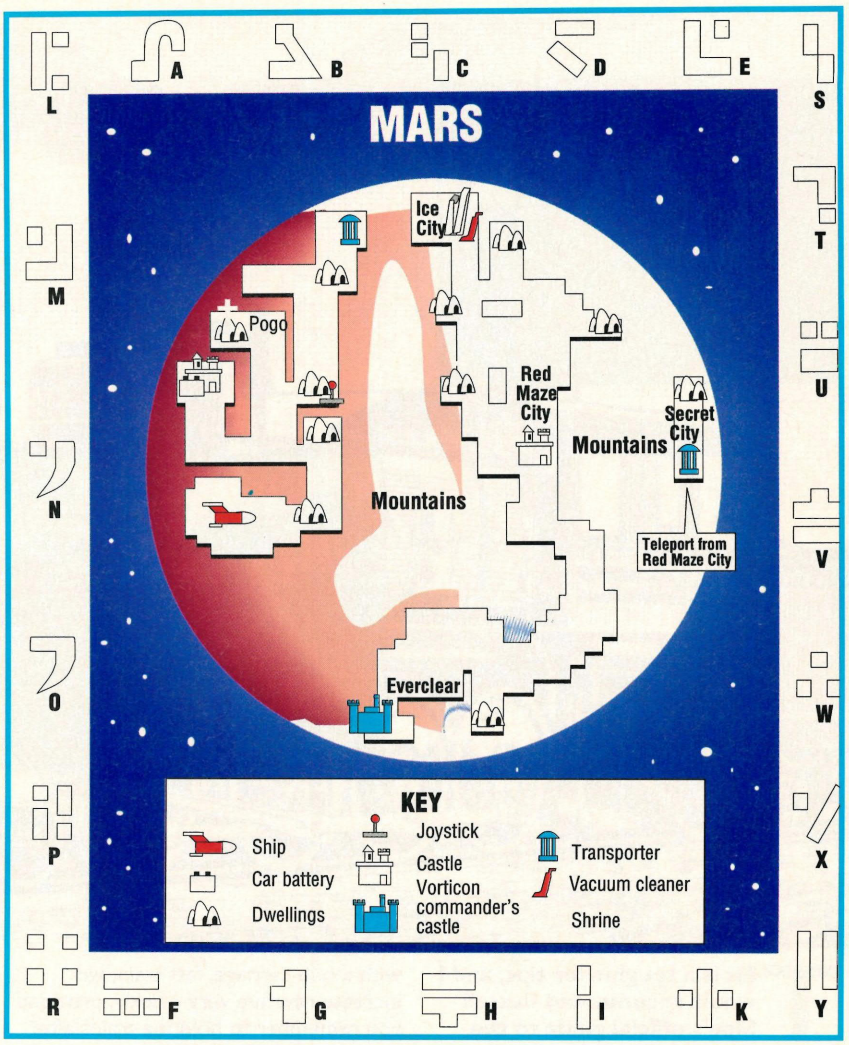
GARGS: A huge version of a yorp. They are deadly too. Commander Keen would be wise to shoot them on sight.

VORTICONS: Spasmodic wolves wearing uniforms, these take a few shots to kill, but will go down eventually. Watch out for their jumping, though.

BUTLER ROBOTS: These are harmless, like the yorps, but they can herd you into danger so ignore them at your peril.

TANK ROBOTS: Vicious. They shoot to kill, so be careful!

The map shows the layout of Mars, together with Robert's deciphering of the Vorticon alphabet (minus the letters Q, J and Z, which he hasn't been able to trace).



HELP! ...SUPPLIED

listed as it's an American (0898) equivalent.

KING'S QUEST V

Ric Bailey of Southampton, has responded to James Philips in Sevenoaks and his plea for aid. To use the Golden Needle, give it to the tailor in town. Throw the stick at the dog that is harassing the ants, then buy a custard pie from the baker with the coin. Throw the fish at the bear annoying the bees.

The snake is a little more tricky. Visit the gypsy, go to the desert and hide behind the rock in front of the temple, watch the thieves, go to the thieves' camp – also in the desert – and take the staff. Use it to get into the temple, go back to where the gypsy was and pick up the tambourine which has been left behind. The snake will be frightened by the tambourine. Thanks, Ric!

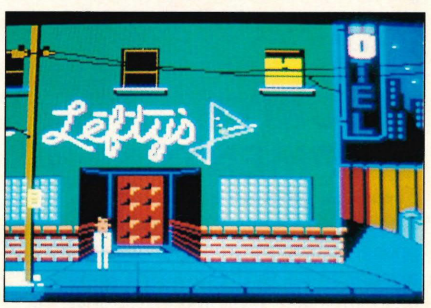


LARRY I

Back in issue eight of PC Leisure, Julian Cunliffe of Withington, Manchester, wrote begging for help in Al Lowe's first risque adventure. I hope he's patient, because someone's finally written in to provide the answers.

First of all take the candy from the hooker's apartment above Lefty's (the password is "Ken sent me"), the rose, the diamond ring and more than $100 cash along to the disco.

Enter using the disco pass – found in the Casino's ashtray – and sit down at the girl's table and start to talk to her. Give her the rose, the candy, and the diamond then ask her to dance. Step on to the dance floor and Larry will show off his considerable talents at dancing. When you return to the table,



the girl – that's Fawn – tells you she wishes to make wild passionate love with you. However, she won't perform unless she's married to the man, so it's off to the Little Chapel after giving her $100. Marry her and go to the honeymoon suite.

Fawn will want wine, so turn on the radio to get the number of an all–night liquor store. Use the phone outside the stores, and ask them to send some wine to the honeymoon suite. Return, drink with Fawn and go for it!

However, Fawn will tie you to the bed before running off with your money. Use the pocket knife obtained from the tramp outside the stores to free yourself, and collect the rope.

Thanks very much to Joseph Pepper of Radyr, Cardiff, for his detailed answer.

RAILROAD TYCOON



This is a toughie for tips, and I would recommend Russell Sipe's official guide to the game. However, here are some general pointers to explain some of the more complex features of the game.

PRIORITY SHIPMENTS

These can generate an enormous amount of revenue if approached properly. Don't bother trying to race existing trains to the locations, simply build an engine shop and locomotive - if the payment for the run is more than $200,000. On top of this, you'll soon develop engine shops on or near all the priority routes, thus making it easier to get things going.

Bear in mind you don't get another priority shipment until the current one has either been delivered or the time has expired, thus making it even more important to get those deliveries made. Getting to all the priority shipments, with a one-carriage, fast train, will increase revenue very quickly, provided you remember to hold the trains after they have delivered their goods.



HOSTILE TAKEOVERS

Buying the stock of other tycoons is a risky business, and it's best to watch the opposition's financial situation carefully.

If a Railroad looks like it's going to be profitable in the near future, buy stock. A good indication of this is when the line buys treasury stock late in the financial period, which indicates the computer player is expecting a large stock-price increase - which you can then be part of.

HOW THE COMPUTER CHOOSES A SITE

When a computer tycoon starts a rail route, it has two major criteria.

The first, which comes as no surprise, is to find two reasonably sized cities close to each other.The second is to locate these cities as close to your railway line as is.possible.

It won't choose really rubbish cities just to get near, nor will it look beyond these first two for long-term options. In other words, it's not unlikely to see the computer go for a couple of cities near you, despite being automatically boxed in by either the terrain or your line!

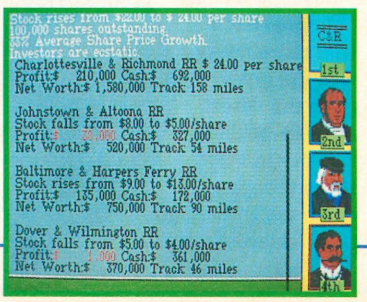
HOW TO BE PRESIDENT

The official aim of the game is to become President of the United States of Anerica (or Prime Minister in the UK and European scenarios).

This is only achievable by taking over two of the competition railways. Each extra additional railroads under your control increase your bonus on retirement by 25%.

It is the size of your bonus which determines the position you are offered. The difficulty factor is also a multiplier in the equation, so there's next to no chance of a top job if you have opted for friendly competition at investor level.

If you want to become President, you must be prepared to play at the most vicious and cut-throat level of the game.



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Each print example was produced by the printer it is shown with. Printer speeds are quoted as follows:
SD = Superdraft 15cpi, D = Draft 12cpi, NLQ = Near Letter Quality 12cpi, LQ = Letter Quality 12cpi.

9-PIN PRINTER



192 CPS **80** COLUMN
- Seikosha SP-1900AI - 9 pin - 80 col
- 192cps Draft, 48cps NLQ
- 1K Printer Buffer + 2 Fonts
- Parallel Interface
- Graphics Resolution: 144×72dpi
- Epson and IBM Emulation
- Paper Parking
- FREE Silica Printer Starter Kit

SP-1900AI RRP £179
STARTER KIT £25
TOTAL RRP: £204
SAVING: £105
SILICA PRICE (EXC VAT): £99

£99
+VAT= £116.33 Ref: PRI 8190

9-PIN PRINTERS



192 CPS **80** COLUMN
- Seikosha SP-2000AI - 9 pin - 80 col
- 192cps Draft, 48cps NLQ
- 21K Printer Buffer + 2 Fonts
- Parallel and Serial Interfaces
- Graphics Resolution: 144×72dpi
- Epson and IBM Emulation
- Optional Auto Sheet Feeder Unit
- FREE Silica Printer Starter Kit

RRP: £199
STARTER KIT £25
TOTAL RRP: £224
SAVING: £95
SILICA PRICE: £129
£129
+VAT=£151.58 ref: PRI 8200



240 CPS **136** COLUMN
- Seikosha SP-2415AI - 9 pin - 136 col
- 300cps SD, 240cps Draft, 50cps NLQ
- 17.5K Printer Buffer + 5 Fonts
- Parallel and Serial Interfaces
- Graphics Resolution: 240×144dpi
- Epson and IBM Emulation
- Superior Paper Handling
- FREE Silica Printer Starter Kit

RRP: £320
STARTER KIT £25
TOTAL RRP: £345
SAVING: £136
SILICA PRICE: £209
£209
+VAT=£245.58 ref: PRI 8215

24-PIN PRINTERS



240 CPS **80** COLUMN
- Seikosha SL-92AI - 24 pin - 80 col
- 240cps Draft, 80cps LQ
- 44K Printer Buffer + 2 Fonts
- Parallel Interface
- Graphics Resolution: 360×360dpi
- Epson Emulation
- Optional Font ROM - 7 Fonts
- FREE Silica Printer Starter Kit

RRP: £335
STARTER KIT £25
TOTAL RRP: £360
SAVING: £171
SILICA PRICE: £189
£189
+VAT=£222.08 ref: PRI 8292



- Includes Programmable ROM Card

324 CPS **80** COLUMN
- Seikosha SL-210AI - 24 pin - 80 col
- 324cps Draft, 108cps LQ
- 5K Printer Buffer + 9 Fonts
- Parallel and Serial Interfaces
- Graphics Resolution: 360×360dpi
- Epson and IBM Emulation
- Optional Auto Sheet Feeder
- FREE Silica Printer Starter Kit

RRP: £599
STARTER KIT £25
TOTAL RRP: £624
SAVING: £255
SILICA PRICE: £369
£369
+VAT=£433.58 ref: PRI 8321



- Handles 1+2 Multipart Forms
- Rechargeable Battery Pack Optional

144 CPS **80** COLUMN
- Seikosha LT-20 - 24 pin - 80 col
- 180cps SD, 144cps Draft, 60cps LQ
- 1K Printer Buffer + 9 Fonts
- Parallel Interface
- Graphics Resolution: 360×180dpi
- IBM Emulation
- Built-in 50 Sheet Auto Feeder
- FREE Silica Printer Starter Kit

RRP: £299
STARTER KIT £25
TOTAL RRP: £324
SAVING: £75
SILICA PRICE: £249
£249
+VAT=£292.58 ref: PRI 8820

BUSINESS PRINTERS (WIDE-BODY)



- Includes Programmable ROM Card

277 CPS **136** COLUMN
- Seikosha SL-230AI - 24 pin - 136 col
- 277cps Draft, 92cps LQ
- 5K Printer Buffer + 9 Fonts
- Parallel and Serial Interfaces
- Graphics Resolution: 360×360dpi
- Epson and IBM Emulation
- Optional Auto Sheet Feeder
- FREE Silica Printer Starter Kit

RRP: £699
STARTER KIT £25
TOTAL RRP: £724
SAVING: £275
SILICA PRICE: £449
£449
+VAT=£527.58 ref: PRI 8423



462 CPS **136** COLUMN
- Seikosha BP-5500AI - 8 pin - 136 col
- 462cps Draft, 106cps NLQ
- 18K Printer Buffer
- Parallel and Serial Interfaces
- Graphics Resolution: 240×144dpi
- Epson and IBM Emulation
- Optional Auto Sheet Feeder
- FREE Silica Printer Starter Kit

RRP: £1299
STARTER KIT £25
TOTAL RRP: £1324
SAVING: £325
SILICA PRICE: £999
£999
+VAT=£1173.83 ref: PRI 8755



- Low Form Tear-off

520 CPS **136** COLUMN
- Seikosha BP-5780AI - 18 pin - 136 col
- 780cps SD, 520cps Draft, 130cps NLQ
- 20K Printer Buffer + 2 Fonts
- Parallel and Serial Interfaces
- Graphics Resolution: 240×240dpi
- Epson and IBM Emulation
- Handles 1+6 Multipart Forms
- FREE Silica Printer Starter Kit

RRP: £1699
STARTER KIT £25
TOTAL RRP: £1724
SAVING: £325
SILICA PRICE: £1399
£1399
+VAT=£1643.83 ref: PRI 8780



800 CPS **136** COLUMN
- Seikosha SBP-10AI - 18 pin - 136 col
- 800cps Draft, 200cps NLQ
- 64K Printer Buffer + 2 Fonts
- Parallel and Serial Interfaces
- Graphics Resolution: 240×240dpi
- Epson and IBM Emulation
- Built-in Cut Sheet Feeder
- FREE Silica Printer Starter Kit

RRP: £2999
STARTER KIT £25
TOTAL RRP: £3024
SAVING: £525
SILICA PRICE: £2499
£2499
+VAT=£2936.33 ref: PRI 8810

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Which computer(s), if any, do you own? 58C

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THE WORLD'S FIRST COMPUTER GAMES MAGAZINE – ON VIDEO!

TOP 50 GAMES

In the last issue of PC Leisure we asked you to compile your own top five PC all-time great games. The response was overwhelming. So here PC Review proudly presents your TOP 50 Games.



Flying high. Wing Commander narrowly beat Xenon II to the top slot.

ROLE-PLAYING GAMES TOP 5



1 EYE OF THE BEHOLDER.
2 ULTIMA VI: THE FALSE PROPHET
3 MECHWARRIOR
4 QUEST FOR GLORY
5 ULTIMA V

There seems to be a general consensus of opinion over the best PC games of all time. Titles such as Eye of the Beholder, Populous and Tetris all have their places in PC history. More interesting are the placings for games such as Prince of Persia (in with a bullet at number 4), or SimEarth (raved about by reviewers, but obviously not striking quite the same chord with the people who buy the games).

Many thanks to everyone who wrote in and contributed to the Readers' Top 50. We'll be doing another one next year to see how trends and tastes in PC gaming are changing, so keep your eyes peeled.

ADVENTURES TOP 5



1 THE SECRET OF MONKEY ISLAND
2 HEART OF CHINA
3 RISE OF THE DRAGON
4 SPACE QUEST IV
5 WONDERLAND

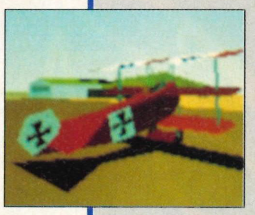
SOFTWARE WINNERS

As an added incentive to send in your top five games, we promised prizes would be given away to the first five names drawn at random. Here are the winners: Jonathan Purchase, Ash, Aldershot, Hants; Howard Whiting, Shepperton, Middx; Mark Licinio, Ealing, London; Philip Bower, Wokingham, Berks; G. Denton, Toton, Nottingham.

1. **WING COMMANDER** Origin/Mindscape
2. **XENON II MEGABLAST** Mirrorsoft
3. **LEMMINGS** Psygnosis
4. **PRINCE OF PERSIA** Domark
5. **EYE OF THE BEHOLDER** SSI/US Gold
6. **POPULOUS** Electronic Arts
7. **THE SECRET OF MONKEY ISLAND** Lucasfilm Games
8. **TETRIS** Infogrames
9. **LINKS** Access
10. **SPEEDBALL** Image Works
11. **RAILROAD TYCOON** MicroProse
12. **RED BARON** Dynamix
13. **SPACE QUEST IV** Sierra On-line
14. **FLIGHT SIM V4D** Microsoft
15. **SIMCITY** Infogrames
16. **HEART OF CHINA** Dynamix
17. **RISE OF THE DRAGON** Dynamix
18. **BUDOKAN** Electronic Arts
19. **ELITE PLUS** Rainbird
20. **F-15 STRIKE EAGLE** MicroProse
21. **F-19 STEALTH FIGHTER** MicroProse
22. **LEISURE SUIT LARRY I:** Sierra On-line
23. **WONDERLAND** Magnetic Scrolls
24. **PGA TOUR GOLF** Electronic Arts
25. **F-29 RETALIATOR** Ocean
26. **INDIANAPOLIS 500** Electronic Arts
27. **M1 TANK PLATOON** MicroProse
28. **GOLDEN AXE** Virgin
29. **IVAN IRONMAN STEWART'S SUPER OFF-ROAD RACER** Virgin
30. **ULTIMA VI: THE FALSE PROPHET** Origin
31. **SECRET WEAPONS OF THE LUFTWAFFE** Lucasfilm Games
32. **TEST DRIVE III: THE PASSION** Accolade
33. **TEST DRIVE II** Accolade
34. **SPEEDBALL II** Image Works
35. **RICK DANGEROUS II** Mirror Image
36. **JETFIGHTER II** Velocity/ US Gold
37. **CHUCK YEAGER'S AIR COMBAT.** Electronic Arts
38. **F-15 STRIKE EAGLE II** MicroProse
39. **QUEST FOR GLORY** Sierra On-Line
40. **KING'S QUEST V** Sierra On-Line
41. **ULTIMA V** Origin
42. **EMPIRE** Interstel
43. **SWORD OF ARAGON** SSI
44. **WESTERN FRONT** SSI
45. **ANCIENT ART OF WAR** Broderbund
46. **LEISURE SUIT LARRY V** Sierra On-line
47. **TV SPORTS BASKETBALL** Cinemaware
48. **SIM EARTH** Maxis
49. **SILENT SERVICE II** Microprose
50. **LOOM** Lucasfilm Games

FLIGHT SIMULATIONS TOP 5

1 RED BARON
2 FLIGHT SIM V4D
3 F-15 STRIKE EAGLE
4 F-19 STEALTH FIGHTER
5 F-29 RETALIATOR



SPORTS TOP 5



1 LINKS
2 SPEEDBALL
3 BUDOKAN
4 PGA TOUR GOLF
5 INDIANAPOLIS 500

ACTION GAMES TOP 5

1 WING COMMANDER
2 XENON 2 MEGABLAST
3 LEMMINGS
4 PRINCE OF PERSIA
5 GOLDEN AXE



STRATEGY TOP 5

1 POPULOUS
2 RAILROAD TYCOON
3 SIMCITY
4 ELITE PLUS
5 EMPIRE



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PGA Tour Golf
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Chuck Yeager's Air Combat
3.5"/5.25" - CGA, EGA, VGA

Mario Andretti's Racing Challenge
3.5"/5.35" - CGA, EGA, VGA

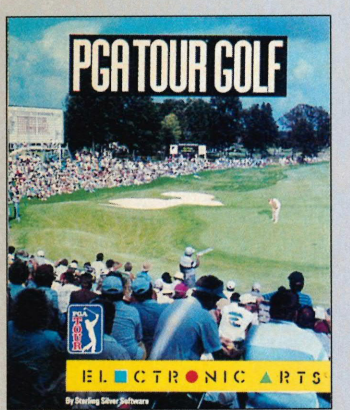
Battle Chess *3.5"/5.25" - CGA, EGA, VGA, Windows*

The Bard's Tale *3.5"/5.25" - CGA, EGA, VGA*



POPULOUS

Out of the darkness were born two nations, fanatical followers of their own beliefs, warriors by nature. Ultimately there can only be one survivor to claim victory over all! Design your own worlds and conquer them! Control the awesome power of nature and experience this classic, biggest selling 16 bit title ever!

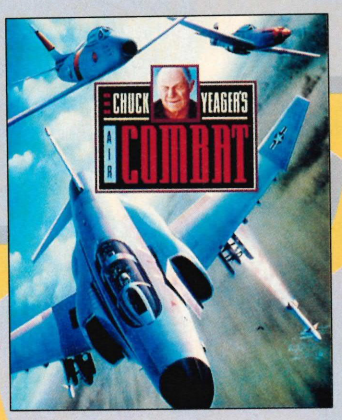


PGA TOUR GOLF

PGA Tour Golf is the only computer game ever licensed by the US PGA. Panoramic fly-by shots and look-back view let you play real tournaments on real courses. Instant replay lets you relive great shots as you compete against 60 PGA pros!

CHUCK YEAGER'S AIR COMBAT

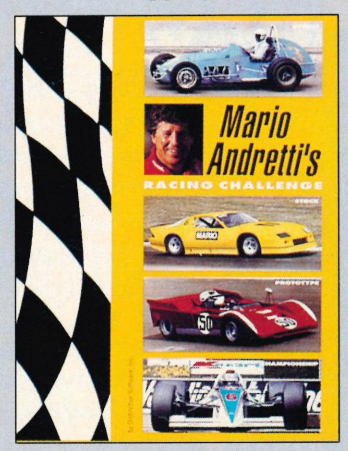
Choose from over 50 missions from World War II, Korea and Vietnam as you fly with the leading pioneer of modern air combat, General Chuck Yeager. Learn from the experience and guidance



from the man who has flown with them all. Will you have the right stuff?

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Prove your own racing prowess as you work your way up through 6 professional racing circuits. Players face all the heart-stopping race car



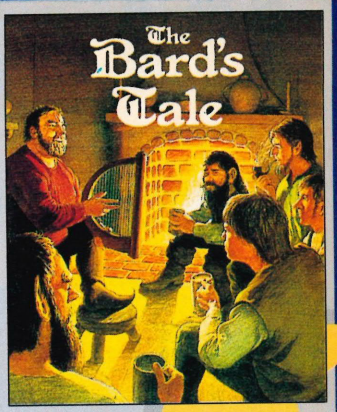
challenges in this brilliant professional racing simulation.

BATTLE CHESS

Battle Chess brings chess to life by combining a magnificent chess logic system with colourful and dramatic 3D animations and digitised sounds. Winner of the Software Publishers Association award for best graphics.



THE BARD'S TALE



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Mario Andretti's Racing Challenge	❑ 3.5"	❑ 5.25"	source code: 0015Y
Battle Chess	❑ 3.5"	❑ 5.25"	source code: 0016D
Battle Chess (Windows)	❑ 3.5"	❑ 5.25"	source code: 0017H
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NEXT MONTH IN PC review

SOMETHING FOR EVERYBODY

In next month's issue of PC Review, the complete guide to PC entertainment, we'll be packing a host of comprehensive features, mouth-watering reviews, life-saving tips, playable demos on disk, those essential reference guides, and much, much more.

HARD DISKS

No more tedious disk swapping - we show you how to fit a hard disk to your PC.



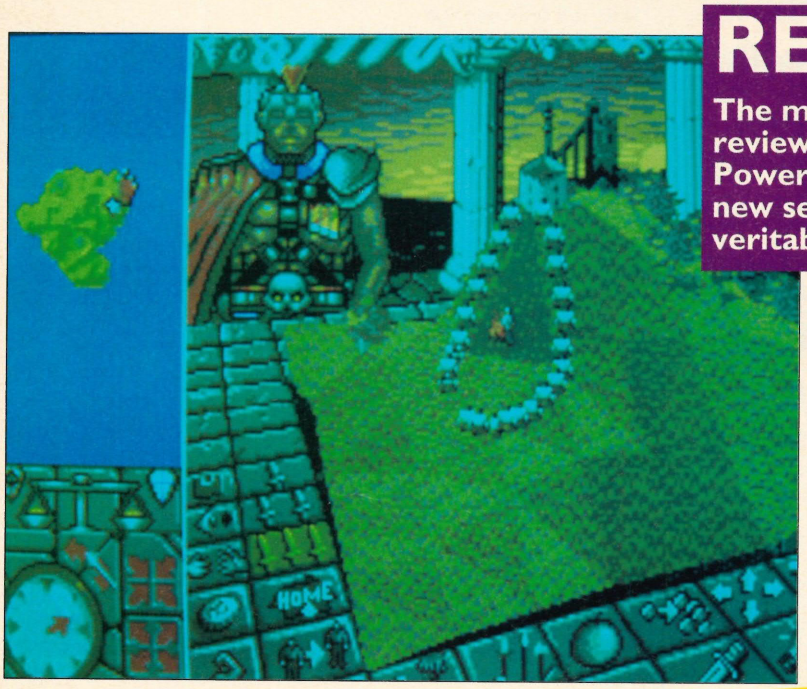
"The Stygian Abyss," says Corwin. "Your new home. Legend says that an innocent man may plunge its depths."

COMING SOON

Ultima Underworlds, a new way of looking at dungeons?

ON THE SPOT

Intrepid PC Review readers quiz leading publisher Electronic Arts on PC pricing, licences vs original titles and future EA products - a full report



REVIEWS

The most authoritative user-friendly reviews in the business, including Powermonger, Monkey Island 2 and a new series of games on CD-ROM in a veritable games feast

COVER DISK

The best playable demos, shareware games and utilities and that Gallery section, showcasing screens from games in development, will be up and running next month.

Don't forget: PC Review is available in both 5.25" and 3.5" disk editions.

THE JANUARY EDITION OF PC REVIEW WILL BE IN THE SHOPS ON DECEMBER 13. YOUR ONE-STOP GUIDE TO PC ENTERTAINMENT!

PC Review Buyers guide

Because all of us here at *PC Review* are PC users as well as reviewers we're perfectly placed to know that shopping for your PC can be a veritable nightmare, even if you're looking for something as simple as a joystick. The PC's open architecture has meant that expanding the machine is a fairly simple operation, but it's also meant that, during its 10 years of existence, the machine has attracted an enormous number of manufacturers of both hardware and software. The choice facing the potential buyer is awesome.

That's why we've set aside over twenty pages in each issue to guide you through the quagmire of hardware and software. Within this section you'll find up to date information on the very best hardware and software available. Not only will we tell you what you can buy, but where you can buy it from and how much it will dent your pocket.

We don't claim that the guide in a single issue is totally exhaustive, but over the course of a few months you'll find it builds up into an invaluable reference work for PC buyers.

Happy Browsing!

HOW TO USE THIS GUIDE

We've divided the guide into four easy to use sections: **Hardware** lists add-ons and upgrades that will improve your PC's performance or add features not available on the basic model; **Software** gives you a run-down of a wide-range of productivity software and utility programs; **Ancillary** is for those of you who want to invest in a new machine or simply keep your existing machine in tip-top condition; finally **Games** is a guide to all that's best in software for entertainment. You'll find all the product types covered in these sections listed in the index below.

Within each section you'll find that we've listed the basic capabilities of each product as well as any major plus or minus points. If you're a little confused by Technospeak (and aren't we all from time to time) just turn to our unique *Jargon Buster* panels for a simple explanation.

All of the prices given are inclusive of VAT at 17.5%, although where there is no recommended retail price for a particular product we've listed the average price, thus: c£550.

If you require further details on a product then simply look up the supplier in our directory where you'll find an appropriate telephone number and address.

What could be simpler?

INDEX

Hardware
Memory Upgrades 100
Hard Cards 100
Hard Disk Drives 101
Graphics Cards 101

Add-ons
Soundboards 101
Joysticks 102
Mice and Trackballs 102
Modems 103
Dot Matrix Printers Under £300 103
Ink Jet Printers 103
External Disk Drives 104
CD ROM Drives 104
Hand Scanners 104
Digitisers 104

Software
Graphics 105
Desktop Publishing 105
Communications 105
Composing Software 105
Anti-Viral Toolkits 106
Miscellaneous Utilities and Productivity Software 106

Ancillary
Portable Computers 106
Maintenance and Repair 107
Directory 107

Games
Flight Simulators 111
Other Simulators 112
Arcade 112
Puzzles 113
Board games 113
Sports Games 114
Role Playing Games 115
Graphic Adventures 116
Text Adventures 116
Strategy Games 117
God Sims 117
Directory 118

DISCLAIMER

We have done everything humanly possible to check the information in this guide. But prices do change, distribution switches from one company to another, even brand names can be updated. While we will update the information regularly to take account of this, we can't be held responsible for any errors contained herein.

Anyone – suppliers, publishers, readers – who knows of products suitable for inclusion but which have mysteriously been omitted can write in with details (write, please, don't phone) to the address at the front of the magazine.

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PC hardware

MEMORY UPGRADES

Most PCs will take extra memory chips, either on a slot-in card, or directly onto the motherboard – and just as well, given the latest crop of memory hungry games. The minimum RAM acceptable these days is 640K; some older PCs (such as the Amstrad PC1512) were sold with 512K.

However, an increasing number of games make use of extended or expanded memory above 640K, and you'll need a good 2Mb should you ever want to run Windows. The prices quoted here are for a selection of IBM and Amstrad machines. Prices for other clones may vary.

Size/Type	Price	Comments	Supplier
1Mb/Card	£94	For IBM XT	Memory Direct
2Mb/Card	£146.88	For IBM XT	Memory Direct
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2Mb/Card	£246.75	For IBM AT (LIM 4)	Memory Direct
4Mb/Card	£339.57	For IBM AT (LIM 4)	Memory Direct
640K/Chip Set	£29.95	For Amstrad PC1512	Evesham Micros
4Mb/Chip Set	£160	For Amstrad PC2286	Evesham Micros
16Mb/Chip Set	£815.45	For Amstrad PC2386	Memory Direct

TECHNICAL TERMS

The original XTs and ATs could only directly address a maximum of 640K of RAM, but there are two methods of extending the available RAM on these machines. The first is known as **Extended Memory** (memory located above the first megabyte which can be directly addressed by the 80286 and its successors), while the alternative is **Lotus Intel Microsoft Expanded memory Specification** (**LIM EMS**), named after the three companies that developed it. **LIM 4** is the latest version of this, designed to work with DOS version 4.0 and beyond. Most software that uses extended or expanded memory is configured to work with only one of these systems, so you should check which of them your applications support before you make a buying decision.

HARD CARDS

No room for a hard disk drive? Want a simple plug in, cheaper solution? Hard cards fit into a free expansion slot and can be used as a conventional hard drive.

Model	Type	Capacity	Speed	Width	Price	Supplier
Smartcard 30XL	XT/AT	32Mb	24ms	1 Slot	£205.62	Time
32MbXT	XT	32Mb	40ms	1.5 Slots	£186.83	RSC
Smartcard 40XL	XT/AT	40Mb	24ms	1 Slot	£229.13	Time
45MbXT	XT	45Mb	19ms	1 Slot	£233.83	RSC
45MbAT	AT	45Mb	19ms	1 Slot	£233.83	RSC
Smartcard 100XL	XT	100Mb	19ms	1 Slot	£417.13	Time
Smartcard 100XL	AT	100Mb	19ms	1 Slot	£534.63	Time

• The XL versions of Time's Smartcards are supplied without driving software. If you wish to buy the version with the software please add £47 to the listed price.

• RSC's cards are supplied with a free copy of Norton Utilities v.5 (RRP £139)

TECHNICAL TERMS

Cards which occupy **1.5 slots** will prevent you from plugging a full length card into the adjacent expansion slot, so check the arrangements of existing cards in your PC and plan carefully if you intend to utilise any unoccupied slots in the future. The **speed** of a card is an indication of its average **seek time** (the time it takes for the read/write heads to reach the appropriate location on the disk).

10 GAMES FROM BOOKS

1 **Flight Of The Intruder** (Spectrum Holobyte/Mirrorsoft) from *Flight Of The Intruder* by Steven R. Coonts.
2. **Lord Of The Rings** (Interplay/Electronic Arts)From *Lord Of The Rings* by J.R.R. Tolkein
3. **Team Yankee** (Empire)From *Team Yankee* by Harold Coyle
4. **Hitchhiker's Guide To The Galaxy** (Infocom/Virgin Games)From *Hitchhikers Guide To The Galaxy* by Douglas Adams
5. **Wonderland** (Magnetic Scrolls/Virgin Games)From *Alice In Wonderland* by Lewis Carroll
6. **The Neverending Story II** (Linel)From *The Neverending Story* by Michael Ende
7. **Riders Of Rohan** (Mirrorsoft)From *Lord Of The Rings* by J.R.R. Tolkein
8. **SimEarth** (Ocean/Maxis) From *Gaia* by James Lovelock
9. **Red Storm Rising** (MicroProse) From *Red Storm Rising* by Tom Clancy
10. **Neuromancer** (Interplay) From *Neuromancer* by William Gibson

HARD DISKS

If you're using a PC which has only floppy disk drives, then a hard drive could change your life. With capacities ranging from 20Mb to well over 100Mb (more in business heavyweight machines), you can store all your programs, all your data, on the one drive, and still access it far more quickly than on floppy. No more disk-swapping every five minutes, no more booting DOS from floppy every time you switch on. Also, more and more games these days actually require you to install them on a hard disk.

Model	Interface	Capacity	Speed	Size	Price	Supplier
Seagate ST325N	SCSI	32Mb	28ms	3.5" 1" high	£205.63	Dataplex
Seagate ST351A/X	AT/XT	42Mb	28ms	3.5" 1" high	£193.88	Dataplex
Seagate ST125A	IDE	21Mb	28ms	3.5" half height	£170.38	Corporate Upgrades Ltd
Seagate ST157A	IDE	44Mb	28ms	3.5" half height	£163.33	Corporate Upgrades Ltd
Seagate ST225	MFM	21Mb	65ms	5.25" half height	135.13	Dataplex
Conner CP3024	IDE	21Mb	27ms	3.5" 1" high	£176.25	Unimart Computers Ltd
Conner CP3044	IDE	42Mb	25ms	3.5" 1" high	£217.38	Unimart Computers Ltd

TECHNICAL TERMS

You can only fit an internal hard drive if you have a suitably sized spare drive port in your machine. If you are at all unsure you should first check with the supplier of your machine which size of hard drive you will be able to fit. There are a number of different hard drive interfaces in use so make sure that you buy the appropriate drive.

GRAPHICS CARDS

The PC has had a long and chequered history of different graphics standards, thanks to IBM's decision not to include graphics at all in the original machine. The current best standard now for games is VGA (Video Graphics Array): with a maximum of 256 colours on-screen, this really shows off the potential of PC games.

Type	RAM	Size	Resolution	Colours	Price	Supplier
Hercules	64 Kb	8-Bit	640x350	2	£28.20	Watford Electronics
CGA	64Kb	8 bit	320x200	4	£37.60	Watford Electronics
EGA	256Kb	8-Bit	640x350	16	£76.38	Watford Electronics
VGA	512K	16 bit	1024x768	256	£92.83	Dataplex
SVGA	1Mb	16 bit	1024x768	256	£92.83	DS Computers

• *Watford Electronics graphics cards are all supplied with a built-in parallel printer port.*

PC TRENDS

OUT*	IN
Amstrad PC1640	Amstrad Games Pack
PC Leisure	PC Review
286 PCs	486 PCs
Windows	Windows 3.0
Hewson Consultants	21st Century Entertainment
Joysticks	Yokes
DOS 4	DOS 5

PC add ons

SOUNDBOARDS

Until recently, the best the PC could produce in the way of sound was 'beep'. But the advent of soundboards has changed things dramatically. A soundboard will take up a single expansion slot and produce genuine music and background sound effects in the games which support it – which is an ever-increasing number these days. Below are the 'standard' soundboards catered for by most titles.

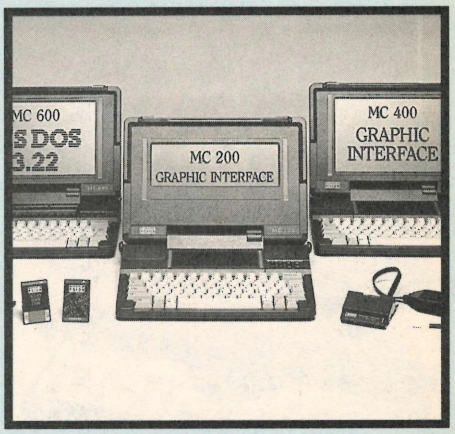
Name	Supplier	Price
AdLib	Mindscape	£89.99
Comment Currently the most popular system, and a good trade-off between price and performance.		
LAPC-1	Roland	£379.00
Comment Superb sound quality probably priced out of the reach of many games players. Non AdLib-compatible.		
SoundBlaster v2.0	WestPoint Creative	£139.95
Comment AdLib-compatible and capable of producing sampled sounds. Try it with Wing Commander 2 to hear what we mean!		
SoundBlaster Pro	WestPoint Creative	£249.95
Comment Has all the features of the original soundblaster, but is additionally compatible with many CD ROM games.		

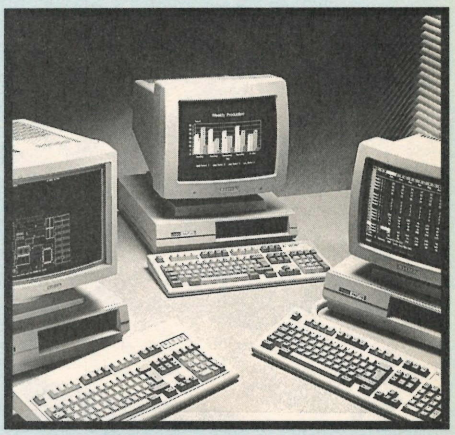
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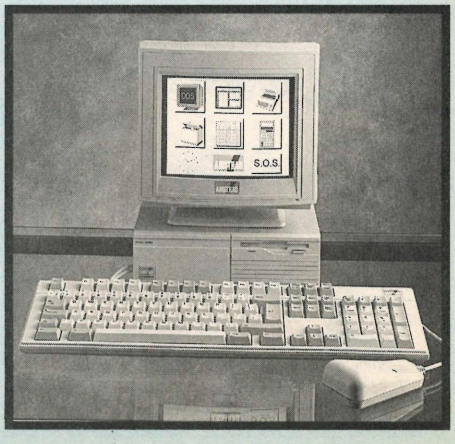
THE GAMES STORE

66 The Pallasades
City Centre
Birmingham
B24 XJ

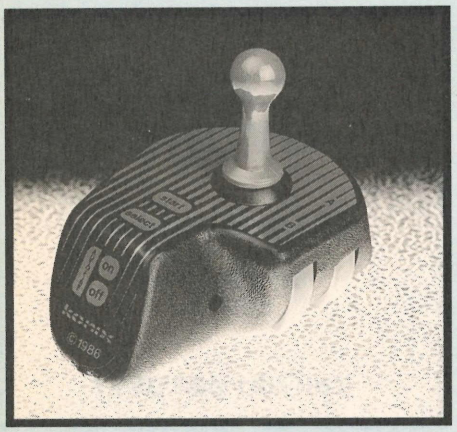
Tel: 021 633 3837





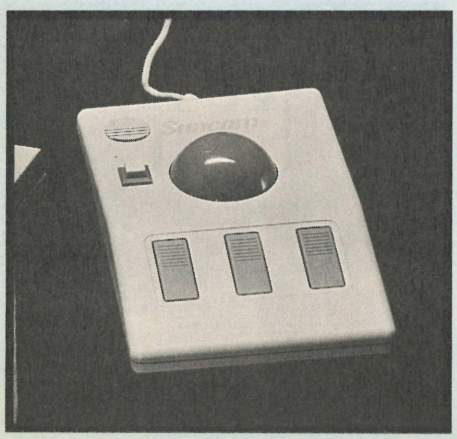


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JOYSTICKS

No provision is made in the design of the standard PC to plug a joystick in directly. You'll need a joystick card in one of your expansion slots which allows an analogue joystick to be plugged in. A number of manufacturers sell both cards and joysticks together. For flight sims and racing games, yoke and pedal style controllers are also available.

Product	Price	Supplier	Comments
Anko AK-GC27A	£19.95	ABS Computer Supplies	Auto-fire option
IBM Joystick	£19.95	Computer Mates Ltd	Includes games card
Powerport 2	£63.45	Power Mark	Self-adjusting PS/2 Twin Port
The Yoke	£57.58	Power Mark	Self-centring Yoke
Gravis Analogue Stick	£48.18	Power Mark	8 Tension adjusters!
Tecniche PC Power Stick	£23.49	RSC Ltd	Includes games card
Analog Edge	£29.99	Evesham Micros	Includes games card
Analog Xtra	£39.99	Evesham Micros	Includes games card
Gravis PC Mousestick	£89.95	RC Simulations	Includes games card

• The Tecniche stick is available without games card for £17.61
• The Analog sticks are both available without games cards for £12 and £15 lower than the marked prices respectively.

MICE AND TRACKBALLS

Many games are tailored to be easily controllable with a mouse, which is much more of a standard PC add-on than a joystick. Then again, there is the trackball, which in effect is an upside-down mouse, with you moving the ball directly to control on-screen movement – useful if your desk space is limited or you're using it with a portable machine.

Product	Price	Supplier	Comments
Genius GM6000	£28.95	ABS Computer Supplies	Includes pocket, pad and software
Genius GMF302	£37.95	ABS Computer Supplies	As above, higher resolution
Anko AKTB500	£49.95	ABS Computer Supplies	Trackball with 'drag button'
Logitech Mouseman	£62.28	Acolyte Services	
Cordless Mouseman	£116.33	Acolyte Services	Uses radio technology
Logitech Pilot	£45.83	Dataplex	
Tec-Mouse	£34.08	Dimension Computers Ltd	Includes paint software
Microsoft Ballpoint	£104.58	Dimension Computers Ltd	Trackball for portables
Amstrad Mouse	£22.33	Dimension Computers Ltd	Works with Amstrad PCs
Axelen Mouse	£21.15	DS Computers	
Truemouse	£22.99	Evesham Micros	Serial/ PS/2 /Amstrad versions
Cordless Truemouse	£49.95	Evesham Micros	As above but with infra-red link
Golden Image Mouse	£34.95	Evesham Micros	Optical Mouse
Mousepen	£116.33	KSI	Mouse shaped like a pen
Unmouse	£159.80	Picture Perfect UK Ltd	Tablet – use finger as mouse!
Nakasha Mouse	£41.13	RSC Ltd	Includes DPaint II
Squik Mouse	£19.98	RSC Ltd	Low cost serial mouse

TECHNICAL TERMS

A Mouse or Trackball requires a suitable **driver** to be installed before it will operate. Most devices are supplied with suitable software, but you should check first with the manufacturer. You should also note that there are different types of mice and trackballs designed to work with different systems (eg **Serial** and **Microsoft Compatible**), so make sure that you are buying the device that is correct for your model of PC.

ALPHABETICA PEECEEGAMUS EXTREMIS

Altered Destiny (Accolade)
ATF2 (Digital Integration)
BAT (Ubi Soft)
Battletech II (Activision)
Welltris (Infogrames)
Wing Commander I & II (Origin/Mindscape)
Wonderland (Magnetic Scrolls/Virgin Games)
Xenon I & II (Mirror Image)
Y aren't there any games beginning with Y?
Zany Golf (Electronic Arts)
Zork I, II, & III (Infocom/Virgin Games)

MODEMS

Get your PC to be more sociable. A modem will connect you to other PCs via the telephone lines, giving you access to bulletin boards, public database networks and multi-user games – or you can simply use it to send messages to friends.

Product	Price	Manufacturer
Biscom (internal)	£258.50	Dataflex
Biscom (external)	£323.13	Dataflex
Comfax (internal)	£387.75	Dataflex
Comfax (external)	£517.00	Dataflex
Courier 2400e Quad (internal)	£464.13	Miracom
Courier 2400e Quad (external)	£522.88	Miracom
Keycard 3000 V22	£346.63	Miracom
Keycard 3000 V22 BIS	£464.13	Miracom
PC Professional	£517.00	Dataflex
Quadcom (internal)	£387.75	Dataflex
Quadcom (external)	£517.00	Dataflex
Stradcom (internal)	£193.88	Dataflex
Stradcom (external)	£229.13	Dataflex
WS4000 (SB2422)	£186.83	Miracom
Quattro 2400	c£500.00	Dowty
Smartmodem 2400 Quad	£339.57	Hayes
SM2400	£222.08	Amstrad
Milgo Maxam IV	£468.83	Racal
2400 MNP Class 5	£468.83	Worldport

TECHNICAL TERMS

PC Modems come in two types: **Internal** and **External**. Internal versions require a spare expansion slot, but they are usually £50 to £100 cheaper than their external counterparts. External versions plug into a **Serial Port** instead. If you are going to use your modem mainly to communicate with one other party (e.g. a particular bulletin board) then you should first check which **protocol** is in use by them and buy the appropriate modem.

DOT-MATRIX PRINTERS UNDER £300

Dot matrix printers are coming down in price, but at the same time the quality is improving: letter quality modes are no longer dotty or lacking true descenders on letters such as 'g' or 'y'. This is particularly true of models with a 24-pin printhead. This is probably a good time to buy.

Company/model	Price	Speed	Buffer	Type
Amstrad DMP3160	£233.83	160/40	16K	9-Pin
Brother M-1209	£264.38	168/35	2K	9-Pin
Citizen 124D	£292.58	120/40	8-32K	24-Pin
Epson LX850	£269.08	200/30	4-32K	9-Pin
Mannesmann Tally MT81	£186.83	155/26	8K	9-Pin
Olivetti DM109	£257.33	240/36	21K	9-Pin
Panasonic KX-P1180	£252.63	192/38	2-K	9-Pin
Samsung SP 0930N	£222.08	300/50	3-11K	9-Pin
Seikosha SP2000	£233.83	160/40	6K	9-Pin
Victor VP10D	£210.33	175/30	None	9-Pin

TECHNICAL TERMS

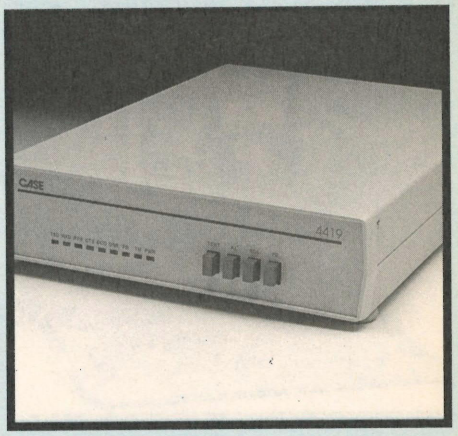
A printer's **speed** is a measurement of the number of characters it can print per second. The first figure is for **draft mode** and the second figure is for **Near Letter Quality (NLQ) mode**. The **Buffer Size** is an indication of the amount of internal memory the printer has. The higher this figure is, the quicker your PC will be released to perform other tasks.

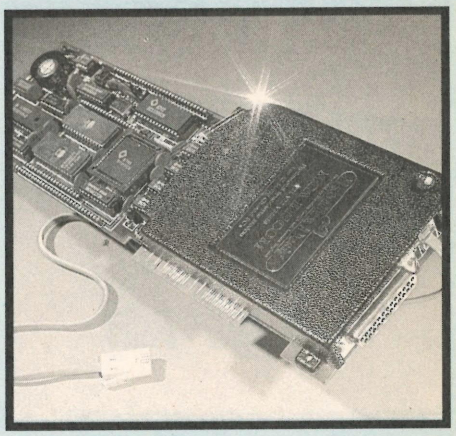
INK JET PRINTERS

Ink jets are the newly fashionable item for style-conscious PC owners: with distinctly better print quality than dot matrixes (although beware manufacturers' claims of "laser quality" print), the advantage of being virtually silent in operation, and prices falling all the time as they become more popular.

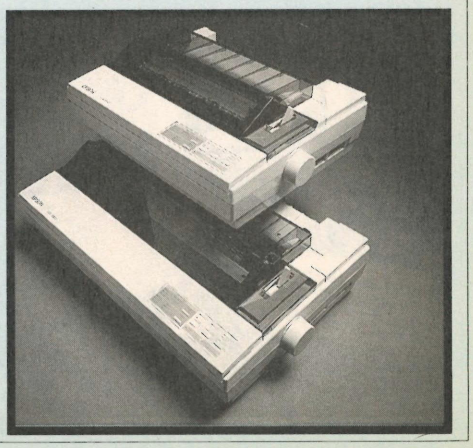
Company	Price	Speed	Buffer
Brother HJ100	£405.38	142/83	37K
Canon BJ300	£699.13	300/150	30-128K
Epson SQ850	£903.58	600/198	8K
Hewlett-Packard DeskJet 500	£586.33	240/120	16K
IBM 4072 ExecJet	£868.33	600/300	30K
Mannesmann Tally MT9	£938.83	220/110	32K
Olivetti JP350	£586.33	360/120	8K

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EXTERNAL DRIVES

If you don't have space for any more floppy disk drives – a problem with newer slimline models, you can always add an external model.

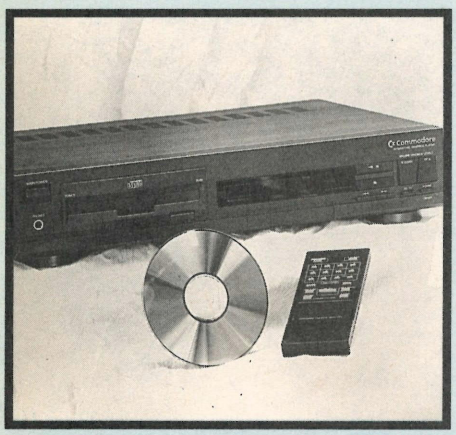
Model	Size	Capacity	Price	Supplier
IBM compatibles	3.5"	720Kb	£109.95	ABS Computer Supplies
IBM Compatibles	3.5"	1.44Mb	£119.95	ABS Computer Supplies
IBM Compatibles	5.25"	360Kb	£119.95	ABS Computer Supplies
IBM Compatibles	5.25"	1.2Mb	£129.95	ABS Computer Supplies
Amstrad 2000 range	5.25"	360K	£57.58	RSC Ltd
Amstrad 2000 range	5.25"	1.2Mb	£76.38	RSC Ltd
Olivetti/Amstrad 3000s	5.25"	1.2Mb	£175.08	RSC Ltd

CD ROM DRIVES

Are you looking to make your PC the ultimate games machine? Then a CD ROM drive is the perfect addition. CD ROMS offer a huge storage capacity, typically the equivalent of about 700 720Kb floppy disks! The only disadvantage is the slow access speed. There are not too many games or other CD ROM applications available at the moment, but the list is growing larger every month.

Model	Price	Supplier	Comments
Chinon CDS431	£351.33	SMC Computers	Internal
Goldstar GT2000	£398.33	SMC Computers	External
Philips CM50	£316.08	Diamond Computers	Portable

• *The Philips drive comes with a free copy of World Atlas and Audio Player*



HAND SCANNERS

If you use any sort of Desktop Publishing package, then a hand scanner is an invaluable addition to your PC. While most hand scanners can only read small images and at a relatively low resolution, they are considerably cheaper than flatbed scanners.

Model	Price	Colours	Supplier
AG-256	£164.50	256 grey shades	Watford Electronics
Genius GS-B105G	£176.25	256 grey shades	Reeves
PC Hand Scanner	£82.19	16 grey shades	UK Home Computers
Marstek M105	£81.08	64 grey shades	RSC Ltd
Marstek M105 Plus	£110.45	64 grey shades	RSC Ltd
Marstek M800 Plus	£169.20	64 grey shades	RSC Ltd
Marstek M-6000 CG Color Artist	£327.83	262,144 colours	RSC Ltd

• *The PC Hand Scanner comes with a free copy of Microsoft* Windows.

• *The Marstek M105 Plus and M800 Plus are also available in versions for Windows. Add the suffix W to the model number and read the price as £139.83 and £186.83 respectively.*



DIGITISERS

While not being quite so high up on the essential DTP buy list as a scanner, a rudimentary digitiser can transform the appearance of your documents. Digitisers will allow you to import line-based artwork by tracing it with a stylus or puck. They're also ideal for Computer Aided Design applications.

Model	Size	Software	Price	Supplier
GT 1812 Genitizer Tablet	18"x12"	CasCad II/Colour Maestro	£316.08	RSC Ltd
GT906 Tablet	9"x9"	CasCad II/Colour Maestro	£105.58	RSC Ltd
GT1212B	12"x12"	AutoCAD/Dr Genius	£182.13	Technomatic



NAUGHTY(ISH) GAMES

1. **Leisure Suit Larry I, II, III & V** (Sierra On-Line)
2. **Sorcerer's Get All The Girls** (MicroProse)
3. **The Sorcerer's Appliance** (Accolade)
4. **Geisha** (Electronic Zoo)
5. **Leather Goddesses Of Phobos** (Infocom/Virgin Games)

SOME SUGGESTIONS

1. **Mary Whitehouse Simulator**
2. **Benny Hill's Strip 'Em Up**
3. **Confessions Of A Window Cleaner** (novel platform game)!

PC software

GRAPHICS SOFTWARE

So you're the artistic type? If so then in the PC you have a potentially limitless canvas, not to mention a huge choice of software with which to realise your potential. Here's a selection of the best for budding Renoirs.

Product	Price	Supplier	Comments
VBase	£175.08	Highland Grafix	Full colour picture database
Clip Art	£5.88	Cybernetic Imagination	Range of disks containing 30 images each in PCX or IMG format
Deluxe Paint II Enhanced	£99.99	Electronic Arts	The standard cheap paint program for PCs
Deluxe Paint Animator	£99.99	Electronic Arts	One of a range of DPaint add-ons
Disney Animation Studio	£99.99	Empire	Cel animation package
Corel Draw v2	£270.25	Corel	Very popular and versatile

DTP SOFTWARE

The PC has always been a superb machine for DTP applications, and now that Windows 3 is firmly established this is even more the case. There are already a host of excellent DTP packages available for the PC at prices to suit every pocket. Here is just a small selection.

Product	Price	Supplier	Comments
Page Plus	£160.98	Serif	Budget priced page layout for Windows
Timeworks Lite	£41.13	GST	Simple DTP
Deskpress	£235.00	GST	Timeworks and more!
Pagemaker	£457.08	Aldus	Professional DTP package
Ventura Publisher	£587.50	Ventura	Professional DTP Package
Timeworks DTP 2	£116.33	GST	Improved version of the budget system

COMMUNICATIONS SOFTWARE

If you're one of those sociable types that likes to to link-up, go on-line, and download from time to time then you're going to need some suitable software to get in touch with your fellow PC owners. There are plenty of packages to choose from, especially in the Public Domain libraries. Here are a few we recommend you consider.

Product	Price	Supplier	Comments
Sage Chit-Chat	£66.98	Computers By Post	
Crosstalk	£71.68	Computers By Post	For Windows 3
Eazlink	Shareware	Various	Try before you buy!
Mirror 3	£121.03	Computers By Post	With teletext emulation
PC Anywhere IV	£101.05	Computers By Post	
Procomm Plus	Shareware	Various	Very Powerful System

COMPOSING SOFTWARE

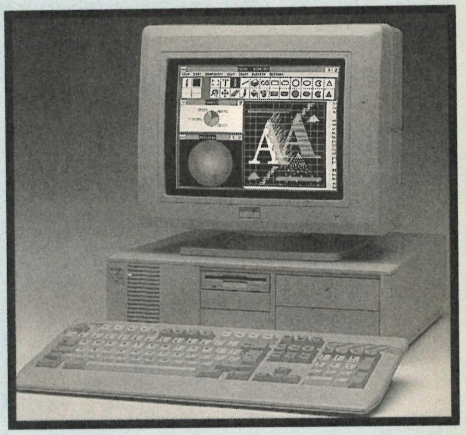
Gone are the days when you had to sit huddled over a second-hand Bontempi scratching notes onto a piece of torn manuscript. Most modern PC music packages make life a lot easier, some will even construct the score for you!

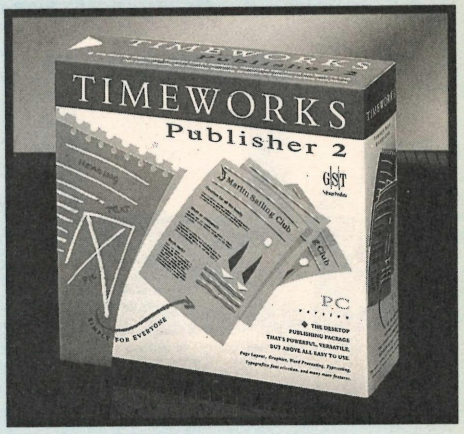
Product	Price	Supplier	Comments
Music Studio 3	£70.50	Datel	Sequencer, composer, score printing.
SPJunior	£163.325	Computer Music Systems	Music package
Sequencer plus Junior	£64.63	Computer Music Systems	64 track sequencer
Sequencer Plus Classic	£193.88	Computer Music Systems	500 track sequencer
Cadenza	£198.58	Digital Music	Sequencer with graphic editing
The Musicator	£368.95	Digital Music	Notation based sequencer
The Composer's Pen	£146.88	Composit Software	
Pianola	£29.38	Clockwork Software	

GAMES TO GET YOUR BLOOD CURDLING

1. **Elvira, Mistress Of The Dark** (Accolade)
2. **Life and Death I & II** (Software Toolworks/Mindscape)
3. **Mike Read's Pop Quiz** (Encore)
4. **Bad Blood** ho ho!(Origin/Mindscape)
5. **Murder In Space** (Infogrames)
6. **Predator 2** (Image Works)
7. **Arachnophobia** (Disney)
8. **Horror Zombies From The Crypt** (Millennium)
9. **Nightbreed** (Ocean)
10. **Barbarian** (Kixx)

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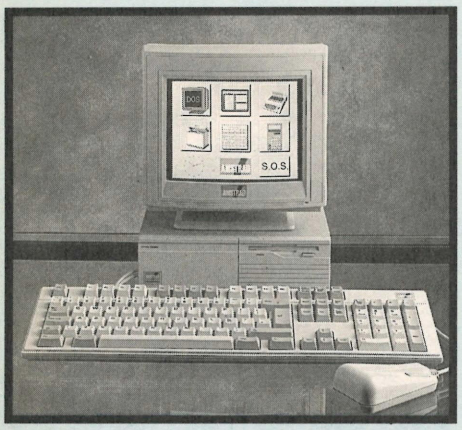








DEALER DIRECTORY



ANTI VIRAL

It's a sad state of affairs that Anti-Viral software is needed at all, but unfortunately there are still lots of people out there in computerland who haven't grown up and think it's funny to wreck other people's work and enjoyment of their machine. Naturally the same people don't think it's very funny when it happens to them. If you are one of these people then may we express complete contempt for your activities on behalf of the computing community. If you're one of the remaining 99.9% of decent, honest computer users, here are a few useful pieces of software to protect you from the aforementioned nerds.

Product	Price	Supplier
Dr Solomon's Anti-Virus Toolkit	£69.33	S&S International

Comments: £99 for 4 quarterly upgrades; £275 for upgrades, monthly newsletter and fax alerts. Complete kit of tools for identification, removal of and immunisation against the dreaded virus, with other disk goodies too.

The Computer Virus Protection Handbook (Colin Haynes) ISBN 0-89588-696-0	£27.00	Sybex

Comments: Includes 5.25" disk: The what, how and why of viruses including simulated ones on disk for quick recognition. Also covers disaster plans and industrial sabotage.

The Computer Virus Handbook (Richard B. Levin) ISBN 0-07-881647-5	£22.95	Osborne McGraw-Hill

Comments: Lots of advice and short programs to avoid virus attacks. Covers hard disks too.

PC Immunise II	£39.95	SA Software

Comments: Protects hard and floppy disks and files with three levels of detection and help screens.



MISCELLANEOUS UTILITIES AND PRODUCTIVITY SOFTWARE

Can't find what you're looking for in our other software sections? Then you'll probably find it here. Below we present a pot pourii of the very best of the rest.

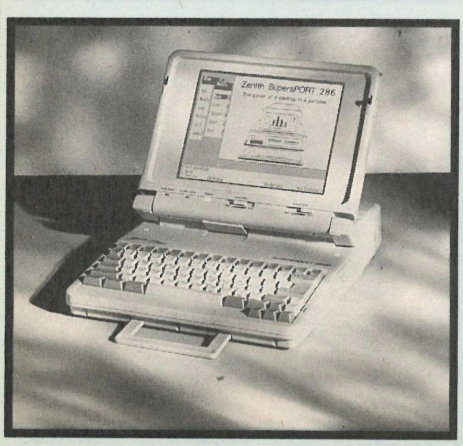
Product	Price	Supplier	Comment
Autoroute Express	£61.10	NextBase	First rate route planning software
Coursemaster	£29.38	IntraSet	Betting aid for flat & hunt racing
Eight In One Gold	£115.15	Logman Logotron	Integrated WP, spellchecker, outliner, spreadsheet, database etc.
Flexibak Plus	£35.25	Nildram	Hard disk back-up utility
Framework IV	£458.25	Ashton-Tate	One of the better integrated systems
LogoLink	£34.08	Locomotive	Transfer files PCW-PC
Microtext Adaptor	£198.58	Microtext	Half card adding teletext to your PC
Mini Office Personal	£29.38	Europress	Database, WP, spreadsheet, label printer and comms.
Money Manager	£58.75	Connect Software	Household Finance
PC2 Teletext	£176.25	Microboss	External teletext adaptor and software
Printing Press	£45.83	Power Up	Make letterheads, posters etc
ProBook	£52.88	BBHW	Database and address book
Scoredraw	£72.00	RDN	Comparative analysis system for football result prediction
Trackmaster	£20.00	Intraset	Greyhound racing tipster
Xtree Easy	£58.75	Softsel	DOS File manager



PC ancillary

PORTABLES

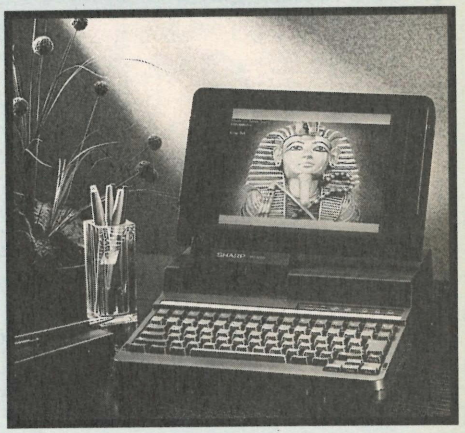
Whether for games or more serious use, a portable enables you to take your programs with you. Most are best used when you are able to plug into the mains on-site: battery power normally lasts between 1.5 to 3 hours. Portables are now becoming genuinely slim and light enough to carry around in comfort.

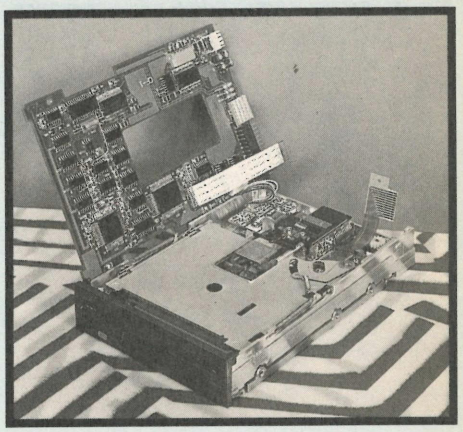


Company/Model	Price (ex. VAT)	Speed	Disk Size	RAM
Screen	Slots	Weight	Size (mm)	
Amstrad ACL-386SX	£3,999	20 Mhz	120 Mb	4 Mb
VGA LCD	Yes	8.0 Kg	320x400x113	
Compaq SLT 386S/20	£4,195	20 Mhz	60 Mb	2 Mb
VGA LCD	Yes	6.4 Kg	106x343x216	
Dell System 320LT	£1,999	20 Mhz	20 Mb	1 Mb
VGA LCD	Optional	6.8 Kg	318x89x360	
Epson AX 3/33	£5,999	33 Mhz	80 Mb	4 Mb

VGA LCD	Optional	7.8 Kg	360x325x110	
NEC Prospeed 286	£3,145	16 Mb	40 Mb	1 Mb
VGA LCD	No	6.8 Kg	330x376x89	
Olivetti A12	£1,199	12 Mhz	20 Mb	1 Mb
CGA LCD	No	2.95 Kg	297x210x52	
Panasonic CF-270	£2,195	16 Mhz	20 Mb	1 Mb
VGA LCD	No	3.1 Kg	310x245x44	
Philips PCL101	£799	10 Mhz	No	1 Mb
CGA LCD	No	1.6 Kg	220x280x28	
Samsung 386S/16	£2,220	16 Mhz	60 Mb	1 Mb
VGA LCD	No	3.2 Kg	297x213x51	
Sanyo MBC-17NB	£1,495	12.5 Mhz	20 Mb	1 Mb
VGA LCD	No	3.2 Kg	310x255x52	
Sharp PC-8501	£7,995	20 Mhz	100 Mb	2 Mb
VGA LCD	No	6.9 Kg	318x399x94	
Tandy 1500HD	£1,300	10 Mhz	20 Mb	1 Mb
CGA LCD	No	2.7 Kg	309x245x94	
Toshiba T3100SX	£3,850	16 Mhz	40 Mb	1 Mb
VGA Plasma	Optional	6.8 Kg	360x310x80	
Zenith Supersport SX	£2,795	16 Mhz	40 Mb	1 Mb
VGA LCD	No	7.7 Kg	380x310x85	

DEALER DIRECTORY





MAINTENANCE AND REPAIR

A variant of Parkinson's Law states that your computer probably won't go wrong while you still have that 12 month, on-site warranty intact. Once it expires, that's when the machine will start playing up. Below we list some of the companies which will provide you with a service contract and then come to your rescue.

Company	Price	Duration	Call Out
ACL Computers Data Recovery Service	Cost varies	na	na
AEM	10-12% value	5 years	24-48 hours
FMG	Up to £470 PA	5 years	Next day
Kalamazoo	9-12% of value	5 years	8 hours
Newbury Data	6-12% of value	Flexible	8 hours
Response	8-11% of value	Flexible	8 hours



PC directory

Below you'll find contact numbers and addresses for all the suppliers we've mentioned in the sections covering hardware and serious software.

ABS Computer Supplies 071 224 8320
4 Shouldham Street, London, W1H 5FG.

ACL Computers 081 341 3329
395 Archway Road, Highgate, London, N6 4ER

Acolyte Services 041 848 0055/0066
Victoria Buildings Business Centre, Violet Street, Paisley, PA1 1PA.

AEG 0753 630111

Agenda 081 681 7777

AKORE Shareware 0800 252221
Freepost, Akore, Nottingham, NG1 1BR

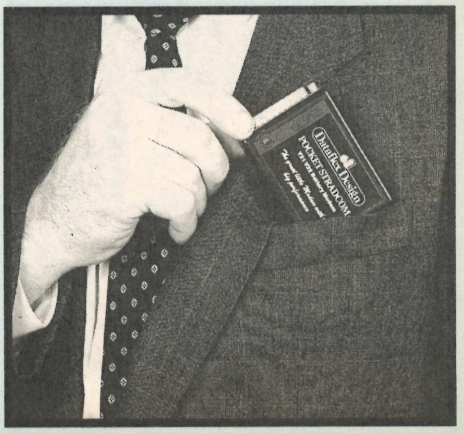
American Research Corporation 081 684 4144

Amstrad (Centresoft) 021 625 3302

Arche Technology 0602 862700

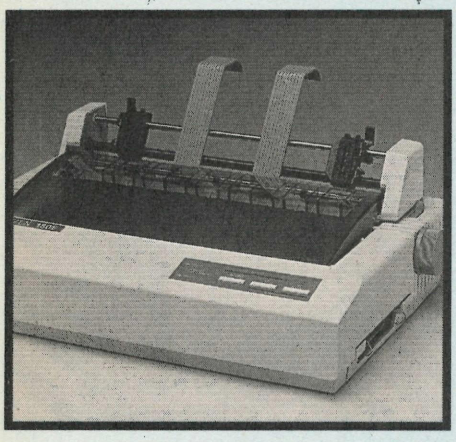
Arnor 0733 68909

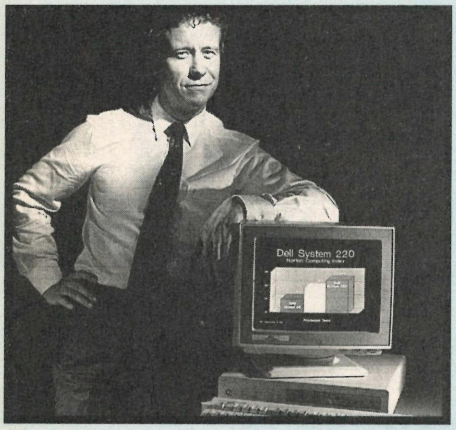
Brother 061 330 6531

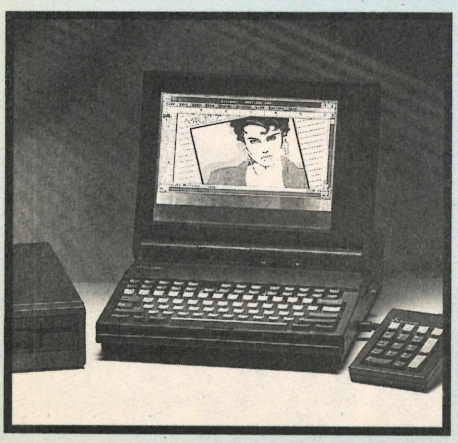


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Cambridge Computer	0223 312216
Canon	081 773 3173
Citizen Europe	0895 272621
Compaq	081 332 3000
Composit Software	0952 595436
10 Leasowe Green, Lightmoor, Telford, Shropshire, TF4 3BR	
Compuadd	0272 637488
Computer Bookshops	021-706 1250
Computer Mates	0753 631101
Pinewood Studios, Iver Heath, Bucks, SL0 0NH.	
Computer Music Systems Ltd	071 482 5224
5-7 Buck Street, London, NW1 8NJ	
Computers By Post	081 760 0014
12 Sutton Lane, Banstead, Surrey, SM7 3QP.	
Connect Software Ltd	081 743 9792
3 Flanchford Road, London, W12 9ND	
Corel	
PO Box 160, Southall, Middx, UB2 5BR	
Corporate Upgrades Ltd	081-893 8161
Cybernetic Imagination Systems Ltd	0923 52196
21A Church Road, Watford, Herts, WD1 3PY	
Dataflex	081 543 6417
Premier House, Gayton Road, Harrow, Middx, HA1 2XU	
Dataplex	0753 535557
129 Bath Road, Slough, Berks, SL1 3VW.	
Datel Electronics Ltd	0782 744324
Govan Road, Fenton Industrial Estate, Fenton, Stoke-on-Trent, ST4 2RS	
Dell	0800 414535
Diamond Computers	071 580 4355
232 Tottenham Court Road, London, W1.	
Digital Music	0703 25213127
Leven Close, Chandlers Ford, Hants, SO5 3SH	
Dimension Computers Ltd	0533 517479/621874
Dimension House, High Street, Leicester, LE1 4FP.	
Dowty	0635 33009
DS Computers	071-281 5096
Unit 206, Belgravia Workshops, 157 Marlborough Road, London, N19 4NF.	
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Hawaiian Odyssey	£15.99
Scenery Disk 7 (Washington)	£15.99
Scenery Disk 9 (Chicago)	£15.99
Scenery Disk 11 (Detroit)	£15.99
Scenery Disk 12 (NY/NH)	£15.99
Western Europe Scenery	£15.99
North West England 1*	£19.50
North East England 2*	£22.50

(*These require FS4,ASD,WE)

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Instrument Maker	£34.99
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Programmes Manual	£29.99
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Soundblaster V1.6 MCA	£189.99
Soundblaster V2 Starter Pack	£169.99
Roland LAPC-1	£275.00
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SP Midi Box and SpJr 1/5	£69.99
Soundblaster Pro	229.95

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Hilton Dorado Course	£13.99
Pinehurst Course	£13.99
Links + Any 3 Course Disks	£67.99

PC Titles	Our Sales
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Martian Dreams	£24.99
Mavis Beacon	£27.50
Megafortress	£24.99
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MIG-29 Super Fulcrum	£37.99
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Toptrak PS/2	£89.99	Naksha Series 3 (Amstrad Pc)			

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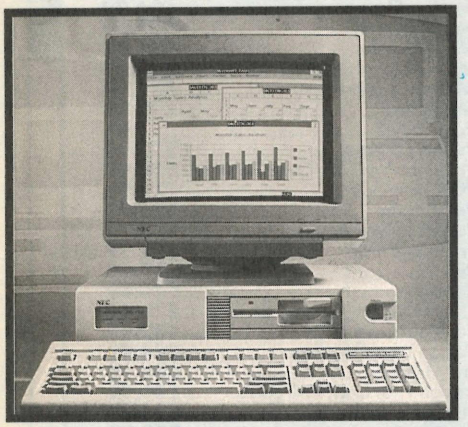
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Pace	0274 488211
Panasonic	0344 853496
Penny & Giles	0202 4851751
Philips	081 689 4444
Picture Perfect UK Ltd	0264 333643
Power Mark	081 951 3355
Premier House, 112 Station Road, Edgware, Middx, HA8 7AQ.	
Precision Software	081 330 7166
Prestige Network Ltd	0276 60073510
Reynolds Green, Camberley, Surrey, GU15 4FL	
Psion	071 262 5580
Racal	0256 763 911
RDN Datasystems Ltd	0424 752288
PO box 44, Hastings, East Sussex, TN34 2SY	
Reeves PLC	0604 766433
Units 1&2, Pennard Close, Brackmills, Northampton, NN4 0BE.	
Roland	0252 816181
RSC	0923 243301
75 Queens Road, Watford, Herts, England, WD1 2QN.	
Samsung	081 391 0168
Sanyo	0923 246363
SA Software	081 998 2351
Seikosha	0753 685873
Serif (Europe) Ltd	0602 421502
Sharp	061 205 2333
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Softsel UK	081 568 8866
Softsel House, 941 Great West Road, Brentford, Middx.	
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Time House, Devonport Road, Blackburn, Lancs, BB2 1EJ	
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Victor	0494 461600
Watford Electronics	0923 37774/240588
250 Lower High Street, Watford, WD1 2AN.	
Westpoint Creative	0743 248590
Zenith	0268 668588

10 PC PAINS

1 'Not enough memory to run game' errors
2. Installing *Wing Commander 2*
3. People with SVGA 486s and 130 Mb hard drives
4. Viruses
5. People who think Macintoshs are superior machines
6. Starting up a game then finding you haven't installed the mouse driver
7. Joystick calibration controls
8. Autoexec files
9. Software Pirates
10. Missing a copy of PC Review (of course)

PC games

FLIGHT SIMULATIONS

Ever since Microsoft released its first Flight Simulator way back in the 1980s they've been firm favourites with PC owners. Nowadays they're so realistic you need a parachute!

Chuck Yeager's Air Combat Electronic Arts £34.99
12MHz, Hard Drive
Latest, and probably the best, flight sim from programmer Brent Iverson at Electronic Arts. Light on ground targets and heavy on dogfighting and super-smooth graphics.

Elite Plus Firebird/Microprose £39.99
VGA
This space simulation has, frankly, never been bettered. No wonder Microprose preferred to upgrade the presentation (thus the plus) instead of completely reworking the game. Author David Braben is currently working on a sequel.

F-15 Strike Eagle II Microprose £35.75
12MHz, Hard Drive, VGA
Top quality sequel to one of most famous flight simulations ever released. Microprose recently brought out an accurate Desert Storm add-on scenario disk for gung-ho pilots.

F-117A Stealth Fighter Microprose £39.99
16MHz, Hard Drive, VGA
Can you handle the high-tech systems of this Bat-like plane? By the very nature of the radar-evading stealth fighter, don't expect much in the way of aerial dogfighting.

F-29 Retaliator Ocean £34.99
Hard Drive, EGA
All action cross between an arcade game and a flight sim which incorporates an exhilarating head-to-head mode for two players via modem link-up.

Flight Simulator 4 Microsoft £29.95
12MHz
Latest version of the one that started it all. Accurate and tough to fly simulation that has been used to train real-life Cessna 182 pilots in the past.

Gunship 2000 Microprose £39.99
16MHz, Hard Drive, VGA, AdLib, Roland
Feature-packed update of the best-selling helicopter game. Typical Microprose aircraft simulation: plenty of options, excellent graphics and a fair sprinkling of strategy.

Jet Fighter 2 Velocity/US Gold £39.99
16MHz, Hard Drive, VGA, AdLib
Laughable drug-busting scenario but, more importantly, extremely playable piece of entertainment set in the near-future. The built-in interactive hypertext help system is a neat idea.

LHX Attack Chopper Electronic Arts £39.99
Hard Drive
Good choice for novice and expert desktop pilots alike. Brent Iverson, creator of all the top Electronic Arts flight simulations, certainly knows how to put a great game together.

Red Baron Dynamix/Sierra On-Line £39.99
16MHz, Hard Drive, VGA
A refreshing opportunity to tackle the hardships of biplane dogfighting during World War One. Sorry, there are no air-to-air missiles to help you out! Highly recommended.

Secret Weapons of the Luftwaffe Lucasfilm Games/US Gold £40.99
16MHz, Hard Drive, Expanded Memory, VGA, Joystick, AdLib, Soundblaster
Worth every penny just for the superb manual. Players have the choice of flying experimental German jet fighters or heavy-weight American bombers during the later part of WWII.

Starglider II Rainbird/Mirror Image £9.99
EGA, Mouse
Similar game play to the old Star Wars arcade machine from Atari but with far superior solid-3D graphics. Fine value.

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Unit 250 Victoria Centre
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NG1 3QQ
Tel: 0602 410633

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COMPUTER MAGIC
24 Crown Street
Ipswich
Suffolk
Tel: 0473 214868

Their Finest Hour: Battle of Britain Lucasfilm Games/US Gold £39.99
16MHz, Hard Drive, Joystick
Relive the trials and turmoil of the bleak summer of 1940. Atmospheric simulation of the crucial air war between the RAF and Luftwaffe.

Wing Commander 2 Origin/Mindscape £39.99
16MHz, Hard Drive (uses 21 megabytes), DOS 5.0, Expanded Memory, VGA, Joystick, Soundblaster
Landmark PC game which comes closer to an 'interactive movie' than anything before. If you've got a powerful system, you simply must buy this game!

OTHER SIMULATIONS

If the PC is capable of simulating sophisticated aircraft then its certainly capable of simulating lots of other things as well. Here you'll find everything from tanks to futuristic robots.

Battletech II Activision £35.99
12MHz, Hard Drive, VGA
FASA Corporation's monstrous battle robots make another appearance on the PC. Hardly a moments rest as you tackle the role of an interplanetary mercenary.

Carrier Command Rainbird/Microprose £25.53
Control a complete fleet of military planes, boats and vehicles and go island hopping before the enemy takes over. Looks a little dated but still has plenty to offer.

Designasaurus II Britannica Software/Active Sales £24.99
EGA
Amusing and 'educational' Do-It-Yourself dinosaur construction kit. How long will your creation survive in the wild? Full of fun and facts.

Life and Death II Software Toolworks £30.99
12MHz, Hard Drive, VGA, Mouse
How about this for off-beat? Try your hand as a brain surgeon. Examine the patient, make your diagnosis, get 'em on the slab and reach for the scalpel and drill. Brilliant stuff.

M1 Tank Platoon Microprose £40.86
12MHz, EGA, Hard Drive
Almost everything one could ever demand from a tank game. Perhaps too accurate a simulation for arcade fans, though.

Team Yankee Empire £35.75
12MHz
Inspired by the eponymous novel by Harold Coyle. Take control of a company of Nato tanks as the powerful Soviet Union war machine strolls into West Germany. Thematically very much out of date now, but look out for *Team Yankee II*

ARCADE GAMES

Although the PC is a good machine for those who like their games on the cerebral side, it has plenty to offer to those seeking action too. Here is a very small selection of the huge list of games currently available.

Golden Axe Virgin Games £29.99
12MHz, Joystick
One of the few conversions that does justice to the original arcade video game. Conan the Barbarian has nothing on the antics of Death Adder and his axe-wielding chums.

Interphase Imageworks £30.64
Surreal shoot' em-up for cyberpunks who like to think before they fire. Keep an eye out for the frogs.

It Came from the Desert Cinemaware £35.75
EGA
Tribute to the black & white B-movie *Them!* about giant mutant ants invading Los Angeles

Prince of Persia Broderbund/Domark £30.64
Joystick
Sword-play in the Sultan's court. Main character is superbly animated as he runs, leaps and fights his

way out of danger. Errol Flynn would be proud.

Rick Dangerous 2 Microprose £25.53

Joystick

The British answer to Indiana Jones. Jump on platforms, dodge alien traps and solve the puzzles. If only it was that easy...

Virus Firebird/Microprose £24.99

12MHz, Mouse

Cruise over a full 3D landscape and blow everything to bits. A little tricky to control but well worth the effort. Technically superb shoot 'em up from the hand of David Braben.

Xenon 2 Imageworks £9.99

16MHz, Joystick

A fast blaster from the now legendary Bitmap Brothers that looks good and really tests your reflexes. Excellent value for money, too.

PUZZLE GAMES

Say the term 'Puzzle Games' nowadays and most people instantly think of Tetris, but you may be surprised to find out how many others there are, and all just as compulsive. Try these out for starters

Lemmings Psygnosis £34.99

Mouse

Original and addictive, the surprise hit of 1991. Organise the pathetic little death-wish creatures through increasingly difficult levels of brain-teasing traps.

Klax Domark £7.99

EGA

Cheap, cheerful and colourful variation on the Tetris falling blocks theme. Instant decision making keeps the tension high.

Pipemania Lucasfilm Games/Empire £25.53

Another infuriatingly addictive offering. Players attempt to construct pipelines before some disgusting ooze drips onto the screen. Can you handle the pressure?

Tetris Infogrames £24.99

Who would have believed a Russian programmer could program one of the most famous video games since Space Invaders! Tetris spawned a whole batch of arcade puzzlers, many of them by the original author!. (Well, we had to have it in, didn't we!)

8 POSSIBLE LICENCES

1 **DVLC Driving Simulator**
2 **Dame Edna Everage's Gladioli Game**
3 **The Bible Adventure Game**
4 **Populous III: Acts Of God (The Official Version)**
4 **The Royal Family's Speeding Simulator**
5 **The Rupert Murdoch Desktop Publisher**
6 **Prince Charles' 3D Architecture Kit**
7 **The Sunday Sport Database of Big Fibs**
8 **The Robert Maxwell Bigger Desktop Publisher**

BOARD GAMES

Why bother to use a computer to play a board game? Well, for one thing there are no pieces to lose, and for another, it's so much more difficult to cheat!

Battlechess Interplay/Electronic Arts £24.99

Hard Drive, VGA, Mouse

This is no ordinary adaption of chess. Watch the Rook transform into a rock monster and crush a cowering pawn or the Queen zap a knight. Unbeaten animation and a great sense of humour.

Cluedo, Scrabble, Risk, Diplomacy Leisure Genius £24.99

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TOPSOFT

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Stockton-on-Tees
Cleveland
TS18 1BB

Tel: 0642 670503

These four successful board-games cost £24.99 each, a lot more than the original board versions!

Laptop Chess Software Toolworks £25.99
One of the few games suitable for PC players on the move. Take a welcome break from that spreadsheet number-crunching.

Shanghai II Activision £35.99
Ancient Chinese game of Mah Jong will keep you glued to the PC for hours on end.

Trivial Pursuit Domark £24.99
The game that launched thousands of trivia bores comes to your micro. How many games were released for the PC in 1989? Answers on a postcard to…

10 SEQUELS

1 **Flames Of Freedom:Midwinter II** (MicroProse)
2 **The Sorcerer's Appliance** after *Sorcerer's Get All The Girls* (MicroProse)
3 **Vaxine** after *E.Motion* (US Gold)
4 **Life and Death II: The Brain** (Software Toolworks/Mindscape)
5 **Hard Drivin' 2: Drive Harder** (Domark)
6 **Welltris** after *Tetris* (Infogrames)
7 **Nova 9** after *Stellar 7* (Dynamix)
8 **DOS 5** after *DOS 4* (Microsoft)
9 **Indiana Jones And The Last Crusade** after *Temple Of Doom (Lucasfilm)*
10. **Dragons Lair II: Time Warp** (Readysoft)

SPORTS GAMES

4D Sports Boxing Mindscape £30.99
Hard Drive
Not really a journey into the fourth dimension, just a damn fine game of fisticuffs. Make sure you train your boxer in the gym before the big one.

4D Sports Driving Mindscape £30.99
12MHz, Hard Drive, VGA
A better *Hard Drivin'* game than the official conversion. Fill the racetrack with all sorts of high-bends and loop-the-loops in the built-in construction set, then burn rubber.

4D Sports Tennis Mindscape £30.99
Hard Drive
This playable piece of simulation software completes the 4D Sports series developed by Canadian coders DSI for Mindscape. Use the impressive replay options to relive your best moves.

Budokan Electronic Arts £10.99
Hard Drive, EGA
Slightly more high-brow martial arts mayhem than the Bruce Lee competition from Software Toolworks. The definitive PC beat 'em-up has yet to appear. Still, you can't beat the price.

Indianapolis 500 Electronic Arts £24.99
12MHz, Hard Drive
Incredibly realistic 3D polygon-based graphics help to recreate the excitement of the real high-powered race.

PGA Tour Golf Electronic Arts £29.99
Mouse
Easily the best golf game available.

Mario Andretti's Racing Challenge Electronic Arts £29.99
12MHz, Hard Drive, EGA
Successor to EA's Indianapolis 500 which follows the career of this famous driver. Jump behind the steering wheel of just about every style of racing car around.

Speedball 2 Imageworks £35.99
16MHz, VGA, Joystick
Remember the cult 1970s movie *Rollerball* starring James Caan? *Speedball 2* is an equally violent and compelling futuristic sport. The original Speedball is now available for £9.99 from Mirror Image.

TV Sports Football Mirror Image £9.99
EGA
Possibly the most popular title in the Mirror Image budget line so far. Takes a more arcadey tone than the strategy-heavy John Madden's American Football from Electronic Arts.

ROLE PLAYING GAMES

The nice thing about computer RPGs is that you get the machine to do all those horribly boring things like calculate the results of combat and how long torches burn for, and who's got what spells, that make traditional table-top RPGs such a chore. To top it all you get some pretty graphics too.

Corporation Core Design £34.99
Hard Drive, EGA
Premier release from Derby-based developer turned publisher Core Design shows veteran developers a thing or two. Players try to steal laboratory secrets from a sinister corporation. Beware of the peculiar security guards.

Eye of the Beholder SSI/US Gold £29.99
12MHz, Hard Drive
One of the best-selling games of 1991. You may just get a felling of deja vu if you've ever played *Dungeon Master* from FTL/Mirrorsoft. Superior graphics to the average SSI release.

Megatraveller 1 Paragon/Empire £34.99
Hard Drive
Based on the popular sci-fi gaming system from the Game Designer's Workshop. Enormous amount of depth but don't expect any fancy graphics and beware the idiosyncratic combat system.

Martian Dreams Origin/Mindscape £36.99
16MHz, Hard Drive, Expanded Memory, VGA, AdLib, Roland
Inventive mix of fact and fiction, as famous Victorian personalities like HG Wells and Rasputin go to Mars. All-round winner with pretty 'steampunk' visuals.

Might and Magic III New World Computing/US Gold 0£40.99
12MHz, Hard Drive, VGA, Soundblaster
After the success of *Ultima VI* and *Eye of the Beholder*, everybody is improving the audio visual presentation of their role-playing games. Hurrah!

Savage Empire Origin/Mindscape £35.99
12MHz, Hard Drive, Expanded Memory, VGA, AdLib, Roland
The first 'Worlds of Ultima' game to use the *Ultima VI* game engine. Reminiscent of classic pulp fiction, with a lost land occupied by dinosaurs and other malevolent forces.

Ultima VI Origin/Mindscape £35.99
12MHz, Hard Drive, AdLib, Roland
Latest in the highly-regarded series of fantasy role-playing adventures. Every Ultima is a new experience not to be missed.

10 GAMES THAT SUPPORT HERCULES

1 **Prince Of Persia** (Broderbund)
2 **4D Sports Driving** (Mindscape)
3 **Leisure Suit Larry** (Sierra On-Line)
4 **Puzznic** (Ocean)
5 **Das Boot** (Minsdcape)
6 **Sinbad** (Cinemaware)
7 **3D Pool** (MicroProse)
8 **Shufflepuck Cafe** (Broderbund)
9 **F-15 Strike Eagle II** (MicroProse)
10. **Red Storm Rising** (MicroProse)

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Norfolk

GRAPHIC ADVENTURES

While there are those who lament the demise of the traditional *Colossal Caves* style text adventure, the new breed of all-singing all-dancing graphic adventures have won new converts to the genre.

Future Wars Delphine/US Gold £25.99
EGA
This was the premier Cinematique game from French software house, Delphine Software. Impressive game engine coupled with ingenious puzzles to solve.

Leisure Suit Larry V Sierra On-Line £44.99
12MHz, Hard Drive, VGA, Mouse, AdLib, Roland
That infamous pervie is back in an all-new adventure. This is the first release to use the refined game system from Sierra On-Line. Unsuitable for younger players or those of a stern moral character.

Heart of China Dynamix/Sierra On-Line £39.99
12MHz, Hard Drive, VGA, Mouse, AdLib, Roland
From the team that brought us *Rise of the Dragon*. The graphics are stunning, they truly have to be seen to be believed.

King's Quest V Sierra On-Line £44.99
12MHz, Hard Drive, VGA, Mouse, AdLib, Roland
Prime example of the new breed of ground-breaking games from Sierra On-Line. Fantastic visuals, superior music score and lots to explore.

Rise of the Dragon Dynamix/Sierra On-Line £39.99
16MHz, Hard Drive, VGA, Mouse, AdLib, Roland
Another startling example of an 'interactive movie'. Players get the chance to play detective against a cyberpunk setting straight out of the film *Blade Runner*.

Secret of Monkey Island Lucasfilm Games/US Gold £29.99
12MHz, Hard Drive, VGA, AdLib, Roland
Lucasfilm Games recently updated this entertaining swashbuckling yarn with beautiful 256-colour backdrops. Employs innovative point 'n' click interface and movie-like presentation.

5 GAMES WITH DIGITISED SPEECH

1 **Wing Commander II** (Origin/Mindscape)
2 **Martian Memorandum** (Access)
3 **Mean Streets** (Access)
4 **Battletech II** (Activision)
5 **Stellar 7** (Dynamix)

TEXT ADVENTURES

Whoever said the text adventure was dead? Well, Okay, it may have disappeared in its original form, and the offerings here may have all sorts of souped-up static graphics and sophisticated parsers, but they're essentially text adventures nonetheless.

The Magnetic Scrolls Collection Magnetic Scrolls/Virgin Games £34.99
Value for money compilation of some of the best text adventures ever devised. Pack includes *Fish!*, *Corruption* and *Guild Of Thieves*.

Hitchhiker's Guide to the Galaxy Infocom/Virgin Mastertronic £9.99
Based on the popular Douglas Adams novel, radio series and T-shirts. A computing enthusiast himself, Douglas helped in the design of the game.

Leather Goddesses of Phobos Infocom/Virgin Mastertronic £9.99
Strange, whip-tickling sci-fi adventure. Originally sold with a disgusting scratch 'n' sniff card.

Wonderland Magnetic Scrolls/Virgin Games £34.99
Interactive adaption of the classic Lewis Carrol book. Incorporates many innovative features and shows there is still life in the text-based adventure.

Zork I, II & III Infocom/Virgin Mastertronic £9.99
Classic text adventuring trilogy from the microcomputer pioneers of the genre.

STRATEGY GAMES

If you think that computer strategy games are boring then it's probably true that either (a) you've never played one, or (b) you haven't played one in the last half a decade. (My slightly reserved apologies to those of you who genuinely can't stand anything but shoot 'em ups). If that is the case, try some of these – you'll be pleasantly surprised.

Balance of Power 1990 Mindscape £25.99
The power of economic politics and strategic diplomacy are evident in what is perhaps the best example of a Chris Crawford game.

Centurion: Defender of Rome Electronic Arts £24.99
Hard Drive, EGA
Meet Cleopatra, enter a chariot race, fight a sea battle or conquer foreign lands. Bet you never knew life in Ancient Rome could be so much fun!

Railroad Tycoon Microprose £35.75
Hard Drive
Build yourself a railroad empire during the golden years of locomotion in the USA or Europe. This off-beat computerised train-set deservedly attracted loads of accolades.

Sentinel Firebird/Microprose £24.99
Mouse
Classic game that defies description. Simple, surreal and completely captivating.

Silent Service II Microprose £39.99
Hard Drive
Absorbing Second World War submarine simulation from the designer of *Gunship, F-19* and *M1 Tank Platoon*. Historically and technically accurate but still fun to play.

Supremacy Virgin Games £34.99
First-rate introduction into the complex world of strategy gaming.

Tracon II Wesson International/Mindscape £45.99
EGA
Another unusual release from Mindscape. This time you're in the role of an air-traffic controller. Bit expensive but worth a look.

Universal Military Simulator 2 Microprose £40.87
Hard Drive, EGA
No dedicated strategist should be without this one. Flexible program where the wargamer can alter just about every battlefield factor. Up to 50 players can take part in a single game.

10 COIN-OP CONVERSIONS

1 **Exterminator** (Audiogenic)
2 **Ivan 'Iron Man' Stewart's Super Off-Road Racer** (Virgin Games)
3 **Golden Axe** (Virgin Games)
4 **Hard Drivin'** (Domark)
5 **Klax** (Domark)
6 **Escape From The Planet Of The Robot Monsters** (Domark)
7 **Double Dragon** (16 Blitz)
8 **Forgotten Worlds** (Kixx)
9 **Skull and Crossbones** (Domark)
10 **STUN Runner** (Domark)

GOD SIMS

Everyone likes to exercise their ego once in a while and your computer is the perfect object to carry out your plans for world domination. These programs represent the closest you'll get to being God without becoming a magazine publisher.

Castles Interplay/Electronic Arts £34.99
12MHz, Hard Drive, EGA
Another hybrid, influenced by SimCity and more traditional role-playing games, has you fending off medieval hordes by constructing castles, raising a few armies and keeping the local peasants happy.

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Brockley
London
Tel: 081 314 0303

THE COMPUTER STORE
41A Broadwalk
Broadmarsh Shopping Centre
Nottingham
Tel: 0302 890000

Moonbase Wesson International/Mindscape £45.99
EGA
Sort of SimCity in space but not quite in the same league as the influential Maxis game.

Populous Electronic Arts £10.99
EGA, Mouse
Very original game placing you in the role of a digital deity with almost total control over your little people. An essential purchase at this price. If you like it look out for *Populous II.*

SimCity Maxis/Infogrames £30.64
EGA, Mouse
Best-selling urban management game. Will you build your city with rock 'n' roll? Now sold with *Populous* as the ultimate megalomaniac compilation.

SimEarth Maxis/Ocean £39.99
12MHz, Hard Drive, EGA, Mouse
Not so much a game as a science project. Based on the Gaia Hypothesis developed by James Lovelock, it lets you take control of our planet and guide its evolution or even form more hostile worlds.

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THE ULTIMATE GAMES PC

80486 Based Motherboard
Maths Co-processor (for all those 3D games)
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Remote Mouse
SVGA Card and Monitor
Soundblaster Pro Sound Card
4 Megabytes of Expanded RAM
CD ROM Drive
Copy of Wing Commander II

PC directory

Here are all those essential contact numbers for the publishers of the games software we've mentioned in the previous pages.

Active Sales and Marketing	081 752 0260
Activision	010 331 49109995
Britannica Software	081 752 0260
Broderbund	081 780 2222
Cinemaware	071 928 1454
Core Design	0332 297797
Delphine	021 625 3366
Domark	081 780 2222
Dynamix	0734 303322
Electronic Arts	0753 549442
Empire	0268 541126
Firebird	0666 504326
Imageworks	071 928 1454
Infocom	081 960 2255
Infogrames	071 738 8199
Interplay	0753 549442
Leisure Genius	081 960 2255
Lucasfilm Games	021 625 3366
Magnetic Scrolls	081 960 2255
MicroProse	0666 504326

Microsoft	0734 500741
Mindscape	0444 831545
Mirror Image	071 928 1454
New World Computing	021 625 3366
Ocean	061 832 6633
Origin	0444 831545
Paragon	0268 541126
Psygnosis	051 709 5755
Rainbird	0666 504326
Sierra On-Line	0734 303322
Software Toolworks	0444 831545
SSI	021 625 3366
US Gold	021 625 3366
Velocity	021 625 3366
Virgin Games	081 960 2255
Wesson International	0444 831545

HANDY HINTS

If a game runs on the PC without destroying DOS then you should be able to pause it by pressing the Pause key on the top right of the keyboard. This may work even if the game does not have its own pause mode. Press any other key to restart the game. Try this first before you do it in the middle of a six hour session of *Wing Commander II*, crash the game and lose your place!

On some text based games the Print Screen key will also work, but once again experiment before you try it with a valuable saved position!

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While we aim to make the buyer's guide as comprehensive possible we need your help to keep our readers informed of all your special offers and promotional deals. If you have any forthcoming promotions or special offers which would be of interest to PC owners, let us know and we'll tell our readers.

ATTENTION: READERS

We hope that you've found the buyer's guide useful and entertaining, but we also want to keep improving it to meet your needs. The only way we can do that is if you let us know what you think. Tell us what you like or dislike, what sections you'd like to see added or changed, and we'll do our best to accommodate the most popular suggestions. Please write to us at the address at the front of the magazine. We're sorry that we can't listen to your suggestions by phone but we're all far to busy putting together the best magazine for leisure activities on the PC.

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Access

PC SELLERS

	51/4"	31/2"
3D Construction Kit	34.99	34.99
3D Pool	9.99	9.99
4D Boxing	21.50	21.50
A-10 Tank Killer enhanced version	27.99	27.99
ATP (Airline Transport Pilot)	27.99	27.99
American Civil War 2 & 3	17.50	17.50
Ancient War at Sea	24.99	24.99
Backgammon	17.50	17.50
Barbarian	7.99	7.99
Bards Tale 3	21.50	21.50
Battle Chess 2	17.50	17.50
Battle Chess 2 Windows	24.99	24.99
Battlemaster	21.50	21.50
Blood Money	9.99	9.99
Blue max	24.99	24.99
Boulderdash Cons Kit	4.99	4.99
Breach 2 Enhanced **(New)**	21.50	21.50
Brain Cloughs Football Fortubes	10.99	N.A
Bridge Player 2150	21.50	21.50
Budokan	9.99	9.99
California Games	7.99	7.99
Carrier Command	9.99	9.99
Castles	24.99	24.99
Centrefold Squares	13.99	N.A
Champions of Krynn	21.50	21.50
Chuck Yeager Air Combat	24.99	24.99
Colossus Bridge 4	13.99	N.A
Colossus Chess 10	17.50	N.A
Colossus Mah Jomg	13.99	N.A
Command HQ	24.99	24.99
Conflict Europe	9.99	9.99
Conflict Middle East	24.99	24.99
Conqueror	7.99	7.99
Corportaion	24.99	24.99
Curse of Azure Bonds	21.50	21.50
Daily Double Horse Racing	9.99	N.A
Deadline (Infocom)	9.99	9.99
Death Knights of Krynn	21.50	21.50
Defender of the Crown	9.99	9.99
Deluxe Srabble	17.50	N.A
Deluxe Strip Poker	13.99	N.A
Elite Plus	27.99	27.99
Enchanter (Infocom)	9.99	9.99
European Super League	17.50	17.50
Eyeof Horus	4.99	4.99
Eyeof Beholder	21.50	21.50
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F29 Retaliator	24.99	24.99
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Flight Sim 4	36.99	36.99
Flight Sim 4 Add on Package Design Scenery & Extra Planes	21.50	21.50
Football Manager 2 + Expansion Pack	9.99	9.99
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Fun Schoo 3 (7+)	17.50	17.50
Gateway to the Savage Frontiers (HD)	21.50	21.50
Geisha	17.50	17.50
Ghengis Khan	N.A	27.99
Golden Axe	21.50	21.50
Gunship	24.99	24.99
Gunship 2000	27.99	27.99
Hard Drivin'	7.99	7.99
Hard Drivin' 2	21.50	21.50
Heart of China (EGA or VGA)	27.99	27.99
Heroes of the Lance	17.50	17.50
Heroes Quest	27.99	27.99
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Indiana Jones Last Crusade (Action)	7.99	7.99
Indianapolis 500	17.50	17.50
Jack Nichlaus Golf and Course Design	27.99	27.99
Jack Nichlaus Clip Art	10.99	10.99
Jet Fighter 2	27.99	27.99
Joe Montanas American Football	24.99	24.99
Kick Off 2	17.50	17.50
Killing Cloud **(New)**	24.99	24.99
Kings Quest 5 (EGA or VGA)	27.99	27.99
Kings Quest 5 HD (VGA)	31.99	31.99
Klax **(New Price)**	7.99	7.99
Kult	7.99	7.99
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Leisuresuit Larry (VGA) **(New Version)**	27.99	27.99
Leisuresuit Larry looks for Love	27.99	27.99
Leisuresuit Larry 3	27.99	27.99
Leisuresuit Larry 5 (EGAorVGA) **(New)**	27.99	27.99
Lemmings	24.99	24.99
LHX ttack Chopper	27.99	27.99
Links	27.99	27.99
Links Bayhill Additional Course	11.99	11.99
Links Bountiful Additional Course	11.99	11.99
Links Firestone Additional Course	11.99	11.99
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M1 Tank Platoon	27.99	27.99
Macarthurs War **(New)**	21.50	21.50
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Medieval Lords	21.50	21.50
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Mig 29 Super Falcrum **(New)**	31.99	31.99
Might and Magic 3 (HD or LD) **(New)**	27.99	27.99
Moonwalker	7.99	7.99
No Greater Glory **(New)**	24.99	24.99
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Outrun	7.99	7.99
PGA Tour Golf	21.50	21.50
Penthouse Jigsaw (Adults)	24.99	24.99
Pool of Radiance	21.50	21.50
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Introducing PC Review shareware

Although shareware has been in existence for several years, many PC users are unclear as to exactly what itis.

There is such a wide choice of software these days that it can be very difficult and costly to choose the right program for an application. The only realistic way to know whether a program is suitable is to try it out first. With shareware you can do just that.

The basic principle of shareware is that users can obtain the software at very low cost. If they find it useful, they are asked to make a payment, directly to the author. In return they can expect printed manuals, updates and technical support. Programs will contain details of how to register, usually in a READ.ME file on the disk.

The amount required and the level of support and documentation depends upon the complexity of a program. A game for example may be just £5 but a full business finance package could be £125 or so.

However in most cases, the registered version is likely to be considerably cheaper than an equivalent commercial program. Shareware software is NOT public domain. It is copyright software in the same way as any regular commercial program is - it's the method of promotion and distribution that differs. Public domain software is where the author has relinquished his or her copyright permitting others to distribute the software. There is no request for payment from the author.

ABOUT THIS REVIEW SECTION

The purpose of this section of PC Review is to offer concise but informative reviews of what we believe to be the best programs in each respective category.

We offer a points out of ten score based on three criteria:

1. How well does it perform the task?
2. How easy is it to use, particularly in terms of getting started?
3. Understandable documentation and help files.

Each review identifies the name of the program, author and the registration fee, where known.

In popular fields there are often many different programs available. In these cases the standards are very high and consequently the rating is higher. There would be no point in offering you a sub-standard program in a well-served category.

However, in more specialised fields, there will be relatively few programs available so there may be cases when a lower rating will have to be tolerated as there is no better alternative.

Shareware programs may be obtained from a variety of sources. However, for your convenience, we have arranged that all programs featured may be obtained from one source. Advantage, a well-established, authorised shareware mail order company, based in Cheltenham.

PC Review readers can order disks directly from Advantage by phone, fax or post and can expect fast delivery. Advantage also provides getting started support and advice.

As a special offer to PC Review readers, Advantage is offering a 25% discount on its regular price of £3 a disk. Please quote PC Review when calling or use the special priority order form at the end of this section and get your disks for just £2.25 each (both 5.25" and 3.5") including VAT.

WHICH COMPUTER?

There are so many varieties of computer and operating system (DOS) around today that we cannot guarantee all programs will work on all computers. However most programs run on a 512k RAM PC-compatible running MS-DOS version 2.0 or above. A single floppy drive is usually acceptable but a dual drive or hard disk is more beneficial - not just for these programs but for most work.

A code is placed by each program if the MINIMUM requirement is MORE than a basic PC compatible with a Hercules Mono Monitor:

CGA: Colour Graphics Adaptor required with Colour Monitor:

EGA: Enhanced Graphics Adaptor required with high resolution monitor.

VGA: Video Graphics Adaptor required with high resolution monitor.

HD: Hard Disk Drive required.

Mono and CGA programs will run on an EGA or VGA monitor. Also, many CGA programs will run on a mono monitor if you load a CGA emulator program (also available as shareware).

Programs are written by a USA author unless otherwise stated. Those programs which make use of a printer expect to find an IBM or Epson-compatible. Most modern printers are.

If you have any questions about shareware or wish to discuss your requirements please call Advantage (not PC Review) on (0242) 224340.

SHAREWARE REVIEWS

Desktop Publishing

Rubicon (two disks)
Author: Rubicon Computer Labs Inc
Registration: $89
Performance: 9/10
Ease of Use: 7/10

The Rubicon Publisher is a professional standard system which can be used to publish high quality documents from text files which have been previously prepared in plain ASCII format using any suitable word processor or text editor.

It is a serious desk-top publishing program, not really designed for beginners. But if you can use a word processor, you can install and use the Publisher successfully, provided you read and follow the instructions, and pay reasonable attention to detail when preparing text files for publication.

It will enable you to produce a wide variety of documents - forms, notices, advertisements, newsletters, reports, financial statements, leaflets, brochures, book-length projects, etc - with typesetting of professional quality.

In short, it's a very useful program and also more fun than most computer games, because its creative possibilities are limited only by your imagination.

Rubicon, however, does not offer any graphic imageimporting or editing functions. These are best done as a separate activity using, for example, Desktop Paint and incorporated into documents by manual methods if required.

SignSmith (one disk)
Author: Brian Smith
Registration: None
Performance: 6/10
Ease of Use: 7/10

SignSmith is not particularly sophisticated but, on the other hand, it is not difficult to get it working. If you want to just produce a simple A4 poster or a letterhead for your business, then it is eminently suitable. There is plenty of on-disc documentation and technical details for those who need it.

SignSmith works on any piece of text which has been created on a word processor - as long as it is in regular ASCII text format (ie no control codes). You then add text and numerical codes in your document each time you require a change of font or size of lettering.

Then you just run the SignSmith program and it will print out the final document on your dot matrix printer. It uses graphics mode as do all other DTP programs, so will take longer than ordinary text.

The program has four fonts available, font 1, 2, 3, and 4 which are progressively more fully-formed. Normally you will prefer fonts 3 or 4. Font 4 is the best, but the basic height of font 3 is only half of that of font 4, so you have more choice in the size of font 3 (and font 2). Font 1 is really of use only if you are deliberately after a chunky 'computer-like' effect.

Two configurations are catered for. Portrait format is the default, tall and narrow, the way your printer normally works. That means x goes from 1 to 1600, and y from 1 to 1280.

In landscape format, the printout is rotated so the lines of text are parallel to the left edge of the sheet, and we get a short wide sign. In this case the range of x is from 1 to 1280 and y goes from 1 to 1600.

The basic font 1 is 8 dots high by 8 dots wide, font 2 is 14 dots high and 9 dots wide, font 3 is 14 dots high by 18 dots wide, and font 4 is 28 dots high by 18 dots wide. You can enlarge the letters by expanding each dot to be several dots high (rows) by several dots wide (columns).

Personal Organisers



PC Deskteam (one disk)
Author: Alternative Decision Software
Registration: $29.95
Performance: 7/10
Ease of Use: 8/10

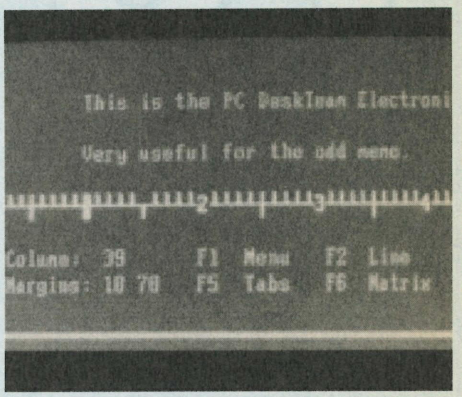
There are several programs which offer a practical computer-based alternative to desk diaries, calculators, notepads, phone books and alarm clocks. Their main strength is that they stay 'memory-resident' while the computer is being used for other applications (eg your word processor).

They will stay out of the way until you need them - at the touch of a key (you can usually choose which one) they will 'pop-up' ready to use.

At least this will save hunting through your pockets for a calculator or rummaging round your desk for your appointments diary!

PC Deskteam is a good example of these desktop organisers. It is very easy to install, simple to use, with menu-selection of all options. These include permanent on-screen clock with alarm facility, calendar, notepad/ text editor and appointments diary.

It also allows you to use your computer as an electronic typewriter for printing - say an address on an envelope - while editing a letter on your WP, offers printer control to set it in its various modes from your PC



keyboard, plus access to DOS for copying discs, formatting discs etc. The latter is particularly useful if, in the middle of a great database update, you realise you have not any formatted discs on which to save your work!

File O'Facts (two disks)
Author: A P Cope Centrox Software Registration: £30 UK
Performance: 7/10
Ease of Use: 8/10

This is a very useful computer-version of the popular manual system. It features a powerful database system for names, addresses and personal details of business clients, customers, friends plus a full feature calendar, diary and appointments log.

The menu system works in a fairly standard fashion and can be controlled by keyboard or mouse.

There are two types of Command Menu. The first is a standard vertical menu. Items are selected by tapping the highlighted letter or moving the selection bar and tapping. The second menu is a command bar. This appears immediately beneath the Title Line. Selection is by tapping the highlighted key while holding down the [ALT] key. Again, mouse users can simply click on the item they require.

Data entry is by use of input forms. Each of these consist of several fields into which data should be placed. The user is free to cursor around the forms entering data into the field in any order. Completion is usually indicated by pressing [F10]. [ESC] as you might expect-aborts form entry and cancels the current command.

There is plenty of flexibility in the applications for File O'Facts and it has the added advantage that it is by a UK author.

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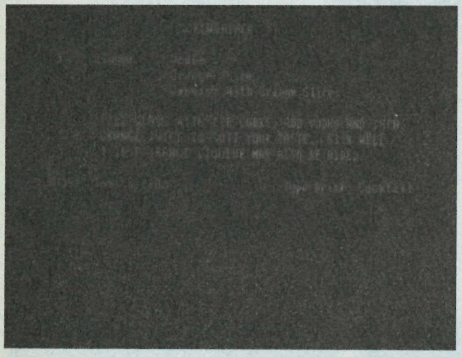
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Publisher: Dinosaur Distributors
Registration: $15.00
Performance: 7/10
Ease of Use: 8/10

One of the unique features of shareware is that it encourages the availability of often unique but highly useful speciality programs which would not be commercially viable. Bartender is a good example.

It is a computer-based recipe book which tells you how to mix all those fascinating international cocktails you hear about and see listed in bars at extortionate prices. Now you can see exactly what is supposed to go



in them and how to mix them.

Bartender is driven from on-screen menus and selection is via the function keys. Selections are from the menu are made from the function keys.

You can search for a drink recipe, see the inventory section and examine definitions; search the recipe files for all drinks for cocktails or mocktails (no alcohol); or you can add a drink to the recipe file.

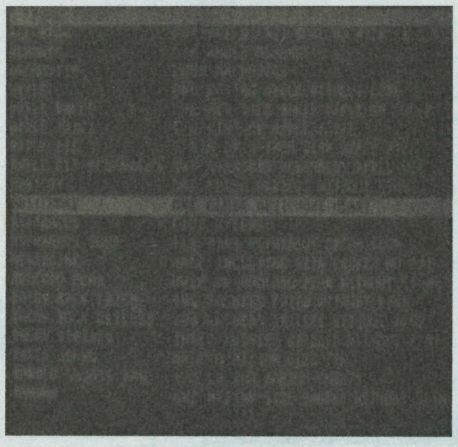
You can also search for the drink by name, ingredient, type or based on your inventory. If you do a search based on the inventory only those drinks that can be made with just the ingredients in your inventory will be identified.

If you search for a name - Brandy Alexander, Flying Grasshopper, Gin Buck, for example - or ingredient - gin, scotch, tequila etc - any recipe whose name or ingredient list contains what you enter will be identified as a match.

It's an interesting and useful program.

Diet Analyser and Planner
Author: Bob Eggleton
Registration: £10
Performance: 8/10
Ease of Use: 8/10

The Dietplan program comprises two files - a Foodfile, which contains the food data, and a Dietfile, into which the user enters selected foods from the Foodfile to make an individual diet. Many Dietfiles may be created and saved to disc or printed out. Data in the Foodfile is related to normal portions of food such as one apple or three rashers of bacon to allow easy selection, the user may add extra foods to the Foodfile and save to disc at any time. Help screens are available through the F1 function key and during functions explanatory messages



are displayed to enable full operation without the manual.

The Foodfile screen shows a list of the foods available to select for entry into the diet created on the Dietfile screen. Foods are selected by moving the highlighted bar up and down the alphabetically sorted list of foods using the cursor control keys as detailed below:

Diet Analysis provides nutritional details on the following nutrients: proteins, carbohydrates, kilocalories, saturated and non-saturated fats, calcium and fibre. For comparison, it also displays the recommended nutritional intake for groups of the population. All figures are based on a one day food intake.

Diet Analysis has an updatable database. The File section offers user friendly facilities for adding new food products; most food producing companies now provide nutritional details on food packaging, therefore inputting these details should be quick and straight forward.

As well as displaying the actual and recommended totals for the intake of the above mentioned nutrients, Diet Analysis will display the balance of your diet, that is the percentages of protein, carbohydrates, fats and alcohol in the diet. This also is compared with a recommended balance.

The Dietfile screen shows the list of foods selected for the diet being created. Foods are selected from the Foodfile screen then the screen changes to the Dietfile screen for entry of the quantity. After entering the quantity the screen returns to the Foodfile screen for further selection.

The Dietfile allows storage of up to 20 food items thus may be used to plan meals or a whole days dieting. To save time when compiling diets enter complete meals in the Foodfile such as breakfast where the same foods are consumed regularly.

Health and Lifestyle

Gift Ideas Generator (one disc)
Author: Hulen and Associates
Registration: $10
Performance: 6/10
Ease of Use: 9/10

Deciding what to buy Auntie Mavis or Cousin Jack for Christmas is a perennial problem for most of us. Wandering aimlessly round the crowded stores doesn't always come up with a solution either.

The authors of this program offer an opportunity to generate ideas, work out the costs and plan your present giving in the quiet of your own home, using your PC.

The G.I.F.T.S. data base was created using a product from Hulen and Associates called KeyBASE. This is a contraction of 'Key word data BASE', and is a fast, easy-to-use cross reference indexing system.

KeyBASE is more of an 'information storage and retrieval' system than a generalised data base system. Generalised data base systems were originally designed to organise data records in such a way as to allow 'other programs' to retrieve all or part of a record. Each part of a record, a field, had to be defined, with records containing many fields.

In an information storage and retrieval system the main objective is to allow people, not other programs, easy access to the information. Since KeyBASE is always 'talking' to a person, namely you, it should be responsive and should interact with you.

G.I.F.T.S. is a good example of this application and the user can quickly enter in the relevant data and obtain the information required. The only drawback is that prices are in dollars and so may not be exactly right for the UK market.

Biorhythm Plotter (one disc)
Author: Bill McGinnis, Bill McGinnis Publications and Software P. O.
Performance: 7/10
Ease of Use: 8/10

Biorhythm theory states each of us is influenced by three biological cycles which begin at birth and continue throughout our lives.

The physical cycle is 23 days and influences factors such as eye-hand co-ordination, strength, endurance, and resistance to disease.

The emotional cycle is 28 days long and influences love/hate, optimism/pessimism, passion/coldness, depression/elation.

The intellectual cycle is 33 days long and influences our memory, alertness, speed of

learning, reasoning ability, accuracy of computation.

At the moment of birth, according to biorhythm theory, each cycle starts at a zero point and begins to rise in a positive phase during which the energies and abilities are high. Engineers will recognise the cycles as 'sine waves' in their form. After reaching a positive peak, each cycle then gradually declines, crossing its zero point midway through its period. . . 11 1/2 days for the physical, 14 days for the emotional, and 16 1/2 days for the intellectual. The remainder of each cycle is a negative phase, during which our energies and capabilities are reduced.

The most unstable times are the 'critical days' in each cycle, when the cycle crosses its zero point, changing from positive to negative or from negative to positive. During these critical days, the abilities vary wildly, from extremely high to extremely low. You may make brilliant discoveries or tragic logical errors on intellectually critical days. You may win the Super Bowl or throw ten interceptions on a physically critical day. You may impulsively propose marriage or impulsively quit your job on emotionally critical days.

The program asks you for your name, date of birth and current date and from this information will plot on your printer your personal biorhythm chart.

The documentation supplied on the disk tells you the significance of the charts and tells you how to interpret the results. It also makes suggestions about your behaviour and activities during the 'difficult' times.

Sports and Betting

Football Forecast (one disk)
Author: W.A.Hunter
Registration: £12.95
Performance: Who can tell?
Ease of Use: 8/10

This program does not claim to win you a fortune - if it did, the author would be unlikely to share his secret and certainly wouldn't need your registration fees. No, like many such programs it is designed to improve the chances by performing logical, statistical analyses of past games in order to offer the best prediction for the future. To do this it studies the following criteria:

Predictions: Forecasts draws, plus home and away wins for matches on pools and fixed odds coupons.

Permutations: Provides perm lists of selected predictions.

Form guide: Displays and compares the form of each the home and away teams for every fixture.

Fixed odds: Estimates odds for all possible results. Input bookies' odds and know your pay out.

Prediction: Many variables are considered. These may be formula 'weighted' at a level set by the user.

Results: Simple and rapid data entry. Use mouse or update keyboard to select from the displayed teams.

League: Facility to input end of season promotions changes and relegations. Also introduces new teams.

Statistics: Statistically analyse success of forecasts. Program, data file and team details given.

Throughout the program the user is prompted for the information required and all activities are menu-driven.

Punters Pal (one disk)
Author: R Lyne
Registration: £19.99
Performance: 8/10
Ease of Use: 8/10

This program will be of greatest help to anybody who fancies a flutter on the horses. It uses your input to calculate the 'performance coefficient' of each horse.

When the program is run it asks you how many horses in the race. The maximum is 25 as you could start making mistakes if you put in any more than this.

Then you are asked the jockey rating. If you are not sure how good a jockey is then type 0. You are then asked to type in the weight in stone and the pounds. You can type in more than 14 pounds so that if you make a mistake typing in the number of stones then you can compensate by adjusting the number of pounds. This saves you having to start again.

Finally you are asked to enter the form list. This can be typed in exactly as seen in the newspaper for example, 331211-f1.

You carry on typing in this data until you reach the number of horses specified at the beginning. You are then given the 'performance coefficient' value. This is simply a number the computer has calculated for you to compare the horses a lot more easily. The higher the number then the better its chances of winning.

Of course, the author can't guarantee that you will win, but it should give you a fighting chance. For casual or regular racegoers this program has got to be worth a try.

Music

Pianoman (one disk)
Author: Neil J. Rubenking
Registration: $25
Performance: 7/10
Ease of Use: 9/10

Pianoman at its most basic is a program that allows you to play the keyboard of a PC like a piano. Since the keys are in two banks, it's more like an organ, but Organman just doesn't sound right. The keys sound a tone as long as you hold them down, and stop when you release them. If you press the 'record' key, the tune you play gets saved in memory, and you can play it back at will.

Big deal, you say. A CASIO toy keyboard can do that. True, but there's more. Once you've recorded a tune, hit F1 to go into editing mode. Now you have a variety of editing commands, much like those of a word processor. You can insert and delete notes, adjust pitch and length, make global changes, and save/retrieve files. You can even mark blocks of notes to delete, copy, or move. Four small help screens and four larger, more detailed screens are available at all times, to remind you of the editing commands. You may also want to print out the quick reference chart at the end of this document.

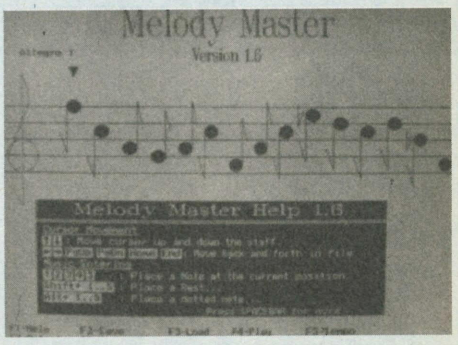
Playing a tune with Pianoman is simple. You'll see a picture of the keyboard on your monitor, with the notes written on the keytops, instead of the normal letters. There are three octaves available at a time, and you can shift those octaves up or down using the up and down arrows — note that the current octave number shows right between the arrows. The A#, B, and C notes at the right of the lower row are the same notes as those at the left of the upper row. If the piece you want to play has flats instead of sharps, just remembering an 'even tempered' scale like that of Pianoman, one note flat is the same as the note below it sharp.

A series of pre-recorded tunes is also available for Beethoven, Bach and Baroque styles - each on a separate disc.

Melody Master (one disk)
Author: A.A.Efros
Registration: $20
Performance: 8/10
Ease of Use 8/10

Melody Master is a music system for writing, editing and playing one-voice music tunes. It uses a graphics interface which lets you see and edit the music in sheet form.

Melody Master is very useful in many ways.



You can use it just to listen to and play around with some of included tunes. It will also help you teach yourself (or your children) the beginnings of 'music grammar'.

At last, if you are a programmer or a person who just likes to write Batch Files, this is a great tool for making your own programs 'sing'. Whatever way you are going to use it, I am sure you will have a lot of fun.

It supports five note-lengths, five rests, around seven octaves, repeats, sharps, flats, dotted notes, and six tempos. The melodies can be saved in special *.MEL files. Melodies can also be transferred into different forms of output files such as BASIC programs, Pascal procedures, C functions, ANSI Music, etc. This package also contains the utility 'Convert' which lets you convert BASIC's play-like strings of music into Melody Master *.MEL files. This makes Melody Master compatible with many other music systems. This version also contain Configuration Utility which lets you set your own colours, tempos, note-lengths etc.

Genealogy

Gene Genie (two discs)
Author: Mike Allen (UK)
Registration: $39.95
Rating: 8/10
Performance: 8/10
Ease of Use: 7/10

Interest in one's personal family history has always been a fascination and it continues to be a popular hobby. Before the advent of computers it was a very time consuming and repetitive task particularly when alterations and amendments had to be made.

Computers are ideal tools for the entry and re-organisation of information and so several programs have been specially written on genealogy and family history.

Gene Genie is a good example and it is written and supported by a UK author. It is more of a family history program in that it offers more space for text descriptions of each subject but it does not produce graphic family tree pictures.

Gene Genie includes facilities to enter in all the standard genealogical details of the family: a unique record number, surname, forenames, maiden name (if applicable), sex, identity of father, identity of mother, date and place of birth, date and place of baptism, date and place of marriage(s), date of divorce (if applicable), date and place of death, whether buried or cremated, date and place of burial/cremation.

Other features include addresses, occupations, sources, navigation tree, personal notepad. On the registered version you get hard copy printouts for either an individual or the complete database.

A detailed tutorial is supplied on-disc to help newcomers to this popular hobby. The shareware version limits the number of entries.

Family History (three disks)
Author: Philip E. Brown
Registration: $35
Performance: 8/10
Ease of Use: 7/10

The Family History System has been developed over several years and this 1991 version represents the very best in the genre.

These programs were written to provide a simple means for maintaining files of information concerning related individuals and for producing standard types of genealogical reports from information in those files.

Reports produced by the system include: ancestor, descendant and relative lists, family group reports, descendant charts, and complete sets of ancestor (tree) charts.

No limits are placed on the numbers of generations or relationships stored in the files and information for up to 3,500 individuals may be stored on a 360K diskette (or up to 9,999 individuals on a high density diskette or hard disk).

This three-disk set includes a massive 80 page manual which can be viewed on screen or, better still, printed out. It covers not only the operational details of the program but also a thorough discussion on the principles and methods of building up your personal family history system.

Hobbies & Pastimes

Landscape Plants (one disk)
Author: Jean E. Olson
Registration: $50.00
Performance: 6/10
Ease of Use: 8/10

The Landscape Plant Manager is a plant selection oriented computer program developed for use by students in ornamental horticulture curriculums and members of the landscape industry.

The program describes different plant types and takes into account soil types, location and prevailing weather conditions.

Through various menus within the program, one can store and retrieve information on plants used in the landscape.

The main feature of the Landscape Plant Manager is the ability to find plants in a data file based on from one to 24 different criteria including such characteristics as form, height, spread and hardiness zone.

Depending on computer memory and disk storage capacity, a Landscape Plant Manager data file can hold from 500 to 5,000 different landscape plants.

The shareware version of Landscape Plants comes with a database of 50 plants and shrubs. A very useful computer-based reference source for anyone interested in the subject.

Knit-Wit (one disk)
Author: Cresby UK
Registration: £49
Performance: 7/10
Ease of Use: 6/10

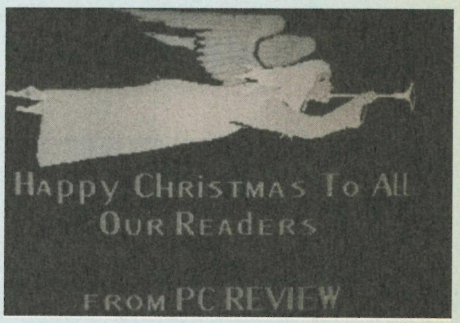
The author describes this as the swearware knitting pattern generator and although the program has a serious function which it performs well, users will find the author's offbeat sense of humour creeping in from time to time.

This program is fully operational and allows any home knitter to produce professional quality knitted pictures on his or her garments.

The pictures are created to your drawing and when finished the program will convert the design into a conventional knitting pattern. You can be sure that the knitting pattern will conform exactly to your original drawing - no more frustrating and time consuming counting of rows and stitches!

Stitch is the paint package to draw and edit the design. Knit generates the actual knitting pattern. The sizes are optimised for double knitting. Gener generates jumper .GAR files to your sizes.

Amusements & Diversions



Greetingware (one disk)
Author: Roxbury Research and
Performance: 6/10
Ease of Use: 9/10

Instead of sending friends and family a regular Christmas Card this year - why not send them a disk! (Assuming of course they have a computer!)

It would certainly have a novelty value and, with the price of cards these days, could actually work out cheaper.

The Greetingware Do-It-Yourself Promo Kit enables the user to create the following disks:

1. Christmas Medley, interactive/continuous
2. Birthday Medley, interactive.

Each disc can be used on CGA displays and



offers a series of appropriately seasonal pictures combined with little messages customised to your own choice.

Greetingware disks can be created with standard greeting messages or each can be personalised through the use of the kit's character processing message inserter (CHGMSG). The latter can also be used to create new messages which can be saved for repeated use.

Love Fire (one disk)
Author: Pinnacle Software
Registration: Nil
Performance: N/A
Ease of Use: 9/10

Imagine a cross between a romantic love story and an adventure game and you get some idea of the flavour of Love Fire.

Basically it is a novel-on-a-disc in which you are able to decide how the story develops. Every so often a decision has to be made by one of the characters or you are offered alternative outcomes to a particular event.

You have to type in what you want to happen and the storyline proceeds from there.

Written in the style of Mills and Boon, the author maintains this program is for women only but I'm sure men would find it quite amusing!

Early Learning

Amy's First Primer (one disk)
Author: Rob Robinson
Registration: $10
Performance: 9/10
Ease of Use: 9/10
PC 1 DISC Requires CGA

It makes sense to get youngsters used to computers at an early age. They don't suffer from the same techno-fear as adults and of course they enjoy pushing keys and seeing things happen on the screen.

This disc features six delightful programs will give your child a head start in school with the alphabet, numbers, counting, shapes, matching, problem solving, and pattern recognition.

The program was written by Amy's father to help her work with things her kindergarten friends were doing at school. Much care has been taken to ensure the programs have no negative rewards or traps that might make a young child shy away from the computer. All the programs wait patiently for the answer and celebrate with obvious glee.

Creative use of the ABC Song helps your child associate letters with pictures like apple, boat, car etc.

Beary Fun Counting lets your child count sets of pictures and build a boarder full of happy bears.

Beary Fun Letters displays a picture and helps your child find the starting letter on the keyboard.

Bunny Letters lets your child connect pictures with their starting letter by guiding bunny round the screen

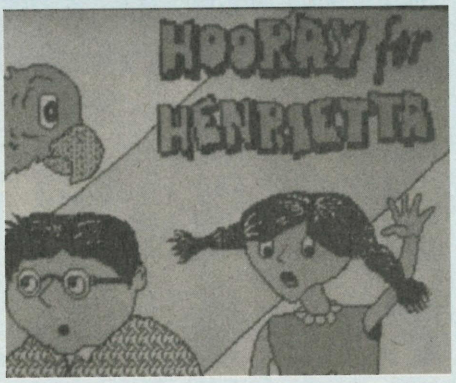
Help the Froggy provides a simple maze. Your child uses the cursor keys to guide the frog to the lily pad where flies are buzzing for dinner.

Load the Truck gives your child an order form - a colourful shape which has to be selected from a range of shapes and loaded on to the truck. The tractor backs up and hauls the load away when correct.

The recommended age range for this selection is three to six.

Hooray for Henrietta
Author: Scetlander
Registration: £24.95
Performance: 9/10
Ease of Use: 9/10

Henrietta and Hopeless Henry are getting married in the morning. But all is not well. That mischievous bird, John the Parrot, appears at the last moment and is determined to create havoc. He steals the groom's wedding



clothes and kidnaps the groom himself. If Henry isn't rescued in time, John will cover him in cold custard! You must help Henrietta collect Henry's coat, hat, boots and trousers, otherwise the wedding will be cancelled! Can you get Henry to the church on time?

Hooray for Henrietta links mathematical exercises to an absorbing storyline featuring Henrietta, Hopeless Henry and John the Parrot. An endless supply of randomly generated problems at all levels guarantees boredom-free practice. It improves everyone's mathematical ability and makes the process stimulating and entertaining.

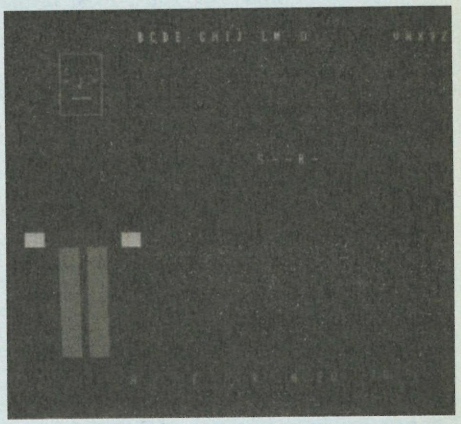
Hooray for Henrietta provides practice in addition, subtraction, multiplication and division over a wide range of ability levels.

A major feature of the program is the extensive parent/teacher's control section which enables easy adjustment to suit every user. Careful study of this section should be made to ensure a comfortable starting point for each student.

The registered version incorporates eight levels of difficulty - only one is available on the shareware version.

Exploring

Exploring Words (one disk)
Author: Various.
Public Domain
Performance: 6/10
Ease of Use: 8/10



Here is a selection of shorter programs which all fall under the disk's title category.

First off is a neat word processor designed specifically for youngsters. It brings up the text on the screen in double-normal size characters on a pleasant blue background. It can be used as a regular word processor and features erase, edit, overstrike, insert, word wrap etc. Text can be printed out in large size too. Sample files of rhymes are supplied and the program makes a friendly introduction to the subject.

Hangman is based on the classic pencil and paper game where letter-by-letter you have to guess the hidden word. Each time you fail another part of the little man is drawn on the screen. There are several variations on the theme and the opportunity for parents to enter in their own set of words, tailored to the age range of the child.

Letterfall is a good exercise in learning the position of letters on the keyboard. A letter literally 'falls' down the screen and has to be typed in before it reaches the bottom.

Spelling Bee is a nicely presented spelling game with a little bee flitting around the screen. The set of words supplied can be amended or replaced if required.

Exploring Maths (one disk)
Author: Various
Performance: 7/10
Ease of Use: 7/10

Another selection of shorter programs gathered up under the subject of maths.

Funnels and Buckets is a learning game. Playing it improves your skill in adding, subtracting, multiplying, and dividing. The object of the game is to 'pop' equations by solving them as they fall from a funnel, which glides across the ceiling.

As a player, your job is to type in the correct answers to the equations before they reach the buckets. That will pop them, and the more you pop, the higher your score. At fast speeds popping will challenge even an adult.You have to watch out for the dastardly villain and the benevolent cleaning lady.

Prime-It introduces the magic world of prime numbers, which have fascinated mathematicians and others for centuries. Prime numbers have some characteristics unlike their non-prime friends.

What do the numbers 30030, 210, 30, 6, and 2310 have in common? Do prime numbers ever end, ie, do numbers ever get big enough that they have to be divisible by some number smaller than themselves? Why don't they behave neatly and occur in some pattern?

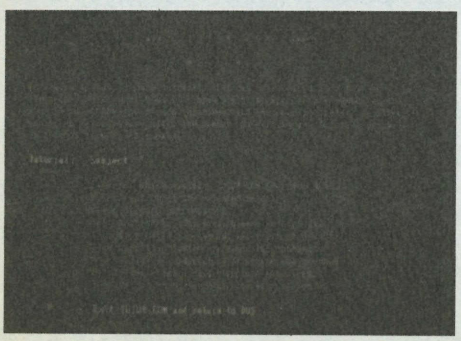
This program allows you to do your own investigations over a limited range of numbers. Here you can generate prime numbers in any part of the region from 1 to 64500. It also allows you to check individual numbers up to 262144.

Maths is useful in drilling children in computations such as addition, subtraction, multiplication, and division. The set of equations are defined by the user - or parent - within a text file. Each line of text is an equation.

Algebrax teaches and tests on the subject of simple algebra.

Using The Computer

PC-Tutor (one disk)
Author: Computer Knowledge
Registration: $15.00
Performance: 9/10
Ease of Use: 8/10

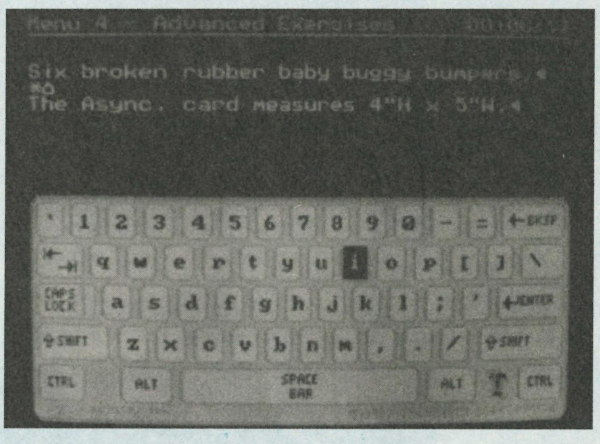


The majority of PC users have little or no knowledge of the way in which the computer and user interact, ie, the 'operating system'. It is true to say some knowledge certainly is needed even to undertake a few simple tasks, such as finding out what is on a disc, deleting files, copying files, making back ups and formatting blank discs.

Most PC manuals are virtually incomprehensible to the newcomer. Reading them can often make matters worse. What better way to learn how to use your computer than on the computer itself?

The author of PC-Tutor has gone to great lengths to ensure his program helps, not hinders, and he does not assume any previous knowledge. The course is interactive, presenting the user with information, then asking for a response on the keyboard. The program covers computer history, introduction to DOS, computer terminology, subdirectories, hardware, batch files, The keyboard and an Introduction to programming.

Material is presented in a series of screens and the user has the ability to move forward or backward through the tutorials, or jump to selected locations using a menu. Short quizzes test you on your knowledge but you may bypass these when reviewing.



Fastype (one disk)
Author: Trendtech
Registration: $20
Performance: 8/10
Ease of Use: 8/10

Fastype is a typing instruction program specifically designed for PC-styled keyboards. These quick-start instructions will get you going right away. You must have a Colour/Graphics Adapter Card (CGA) or equivalent (EGA), (NOT Hercules)

For Drills: Place the fingers of each hand on the home keys (ASDF JKL:) and type each letter as you are prompted for it. The selection of letters for you to type is random, the number of characters you have to successfully type is displayed before you start. When the drill is finished your WPM and other data will be displayed in the text panel.

For Lessons: Type each character pointed to by the cursor ( ) and when you reach the symbol, press the enter key (Ÿ) (for 'carriage-return'). When you finish the lesson your WPM and other data will be displayed in the text panel.

There are five drill, lesson, and feature selection menus and two sub-menus for selecting additional keys to learn. The primary menus can be displayed by pressing function keys F1 to F5 anytime while the screen keyboard is displayed. And, while any selection menu is displayed you can go to another menu either by selecting it from Menu #1 or by first holding down the ALT key and pressing F1, F2, F3, F4, or F5.

All menus have the Help Facility available.

Foreign Languages

French Tutor and Other Languages (one disk each)
Author: Andrew Bartorillo
Registration: $10
Performance: 6/10
Ease of Use: 8/10

The programs on this set of discs comprise a series of language tutors for learning French Spanish, German, Italian and Hebrew.

Each disk is self-contained and offers a complete tutorial on one language. The following text refers to all the tutorials.

Language Teacher is a series of menu-driven language tutorial programs. Each program in the series contains hundreds of word combinations and verb conjugation forms. A printer can be used to take advantage of its versatility.

Also included is the capability to select language-to-English or English-to-language combinations, choose multiple choice answers, be retested on misses, print a multiple choice test, and to run a full quiz diagnostic routine with line printer output. Of particular interest to non-English students is the capability to select the direction of the combinations.

All word, phrase, and verb conjugation selections are done randomly by the program the user being unable to predict what the next selection will be. The program package is not designed to teach conversational language or pronunciation but to provide practice drills in order to increase your working vocabulary and to enhance your use of the conjugation forms.

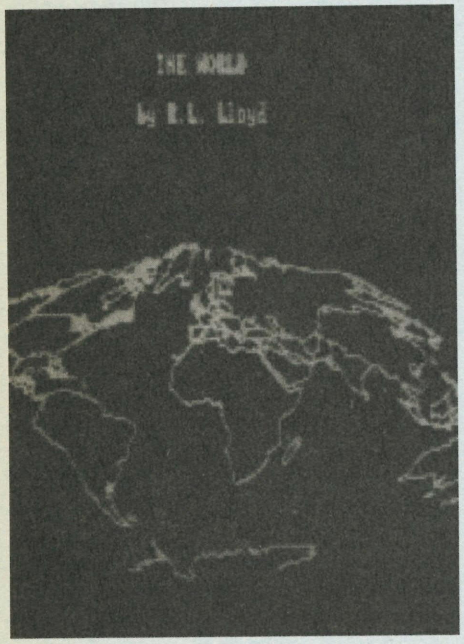
The extent of the vocabulary of each program is around 800 word combinations and about 1800 verb conjugations

Humanities

The World (one disk)
Registration: $20.00
Performance: 7/10
Ease of Use: 7/10

The concept of this program is to produce graphically presented outline maps of any part of the world and support them with text-based data on the appropriate location.

The opening screen shows a world view. The ? in the upper left allows you to choose when to go on. You need to enter the file



you wish to see presented. Unfortunately the program doesn't list what is available so you need to check before running it.

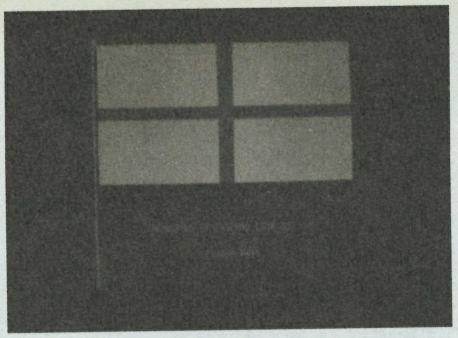
The main menu displays as follows:

1 - Select by LAT and LONG
2 - Select by large area name
3 - Select by area of Europe
4 - Find using City or Country name
5 - Capitals of the USA
6 - National Capitals
7 - Other Cities of note
8 - Enter new info on Tracks
9 - The Global view
10 - Point at a location
11 - Approximate distance between Cities
12 - Plot any one Track 99 - EXIT to DOS ?

For example if you know the latitude and longitude you want to look at, choose option 1. You will be asked for latitude first, then longitude.

World then asks if you want a World view or nearby Cities, then asks for a scaling factor (a number from one to five). A default scale of 3 is selected by pressing the enter key. The largest area is 1 and the most detailed is 5. Scale 5 will show you the names of all World capitals and any locations you have.

While the graphics are fairly crude, this program has plenty of information and facilities and is a good introduction to world geography.



Monarchs (one disk)
Author: Peter Waters
Registration: None
Performance: 7/10
Ease of Use: 9/10

Monarchs is essentially a database of British monarchs from the year 827 to date but it offers very user-friendly interaction to provide instant access to the information it contains. A quiz, Master-Brain, is also included. After loading, a bar menu provides selections for the following options:-

1. Screen list of all monarchs.
2. Select by monarch name and browse.
3. Select by year. 4. Master-Brain Quiz.
5. Master-Brain Top 10 Table.
6. Hard copy of all monarchs.
7. Hard copy of all reigns.
8. Hard copy details of named reign.

After making a selection, you are presented with the name of the selected monarch together with the date of the start and end of the reign, the duration of the reign and age of the monarch at death.

Pressing N or P shows similar details for the next or previous monarch. Pressing D at any time at this stage displays details of events in that monarch's reign. Usually a second page of detail is available and where this is so, there is an invitation to select it.

There are 60 monarchs plus The Commonwealth and if hard copies of each are made together with the three sheets from item 7, a handy 64 page booklet will be obtained.

Drawing & Painting

PC Draft II (two disks)
Author: Natural Software
Registration: $50
Performance: 9/10
Ease of Use: 7/10

TC Draft II is a high resolution pixel oriented drawing and graphing utility, which is designed to facilitate a variety of drawing and drafting needs.

You can produce drawings up to 1280 by 700 dots using the colour graphic adaptor high resolution graphics mode (640 x 200 dots per screen). Such a drawing will more than fill an 8-1/2 x 11 inch printed output (at 150 dots per inch resolution).

Built-in functions allow you to draw circles, lines, boxes, arcs and curves; draw bar, line and pie graphs; create patterns with which to fill areas; cut and paste objects and save objects to files for later use.

PC Draft is both menu driven and command driven — all drawing commands may be selected from the menus or may be entered by a single keystroke command such as [C] to draw a circle or [L] for a line.

You can zoom in to precisely edit one pixel at a time, record graphic keyboard macros saved in files for later playback and for animation effects and load and edit fonts.

Drawings may be printed on a variety of printers including those compatible with IBM and Epson Dot matrix, HP Laserjet+, and HP DeskJet printers. Also you can save the output to the printer in a file for later batch printing. You can save portions of the screen or full drawings in GEM .IMG file format. These can then be directly imported into such Desk Top Publishing programs as Ventura Publisher and WordPerfect 5.0.

PC Draft II offers many more exciting features such as screen capture in all graphics modes, its own programming language called PIX. Highly recommended, professional standard throughout.

Desktop Paint II (two disks)
Author: Compass Systems
Performance: 9/10
Ease of Use:9/10
Requires Hercules or EGA/VGA graphics

The use of pictures can make a big difference to the appearance and readability of a publication. Most desk top publishing programs have the feature for importing pictures but not for actually creating and editing them in the first place.

There is a wealth of what are known as clip-art images available in the public domain but many of these need to be altered or enhanced to suit individual requirements.

This is where Desktop Paint steps in. You can use it to create a drawing from scratch or, load in a suitable clip-art picture and edit it.

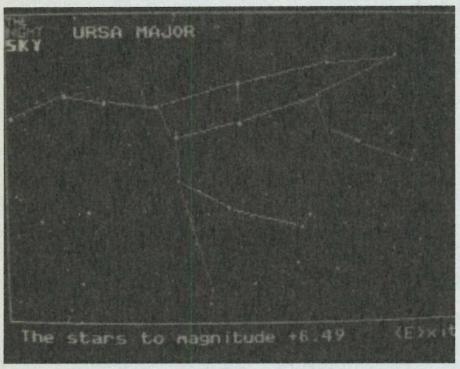
It offers all the standard drawing features plus a selection of graphics tools. Formats supported include IMG, TIF, PCX, MAC and WPG. A mouse is required.

Desktop Paint is an excellent drawing program. It is designed more for professional quality desk top publishing applications rather than just as a children's doodler, hence it is not in colour.

Astronomy

The Night Sky (four disks)
Author: A.C.Stevely
Registration: £24.95
Performance: 8/10
Ease of Use: 8/10

The Night Sky is a computer planetarium capable of plotting depending on your disk system, either 24,000 stars to magnitude +7.49, or 45,000 stars to magnitude +8.49.



It is a very easy to use menu-driven program. This program was written by an amateur astronomer who, when he is not looking at the stars, drives a London Transport bus!

He has spent many hours working on this program, which was originally started as an exercise in programming. Only when it was almost finished did the author think of distributing it as a shareware program. Users can select from 28 different locations worldwide. If your city is not on the list then you will have to look up the latitude and longitude of your city in an atlas.

1....Stars 2....Planets 3....Comets 4....Local sky Solar System 5....Eclipses 6....Sun 7....Moon 8....Jupiter 9....Transits Star Atlas 0....Night Sky star atlas

For anyone interested in the subject and for serious astronomers this program is a must.

Christian Software

Bible Student (seven disks)

Bible Student is the entire King James Version of the Bible on floppy disk featuring: multiple overlapping windows; pull down menus; mouse support; fast reference and search facilities: fast text extraction to ASCII file or printer; online context-sensitive help; ability to run from a single floppy drive.

All of the functions of Bible Student can be accessed through the pull down menus by using the <Alt> key together with the highlighted letter. Context-sensitive help screens are available by using the <F1> key.

The operation of Bible Student is fairly intuitive, especially to those who have used similar computer packages before. A more comprehensively written manual may be made available in the future depending on the feedback.

Bible Companion (one disk)
Performance: 8/10
Ease of Use: 8/10

A Bible Companion is just that. It is a companion to assist you in your study and reading of the Bible.

Reading Plan/Bookmarks

Here we have the hub of the program. Two Bible readings will be highlighted on your screen based upon the current date. It takes on the average 20-30 minutes per day to read the highlighted readings.

If you use A Bible Companion on a daily basis you will have read by the end of one year's time the Old Testament once and the New Testament twice. Printed bookmarkers are available to the user if a printer is attached.

Maps, Charts and Dictionary

There are two map features that are available to the user. The Holy Land - Palestine option allows the user to locate many of the topographical features of Biblical Palestine. The Acts of the Apostles option allows the user to locate nearly all of the cities and regions mentioned in the New Testament book of Acts. By typing in the feature you wish to find, the program will do its best to display it on the selected map.

The charts should explain themselves.

The dictionary was designed to assist the average reader in understanding some of the many archaic and obscure words found in the King James translation. You can use the dictionary by pressing the Page Up and Page Down keys, and also by pressing any letter key.

File Viewer

The purpose of this option is to provide a way to read Bible text while still being able to gain access to some of the more useful utilities of this program, such as the dictionary and maps - both of which can be called up while viewing a file. Most shareware/public domain distributors have the Bible on disks that can be used with the File Viewer option.

Menu System

Power Menu (one disk)
Publisher: Shareware Publishing
Registration: £49.95
Performance 9/10
Ease Of Use 8/10

One of the biggest frustrations for a new user of a PC is the unfriendly operating system which comes with it (unless of course you are fortunate enough to have a high performance computer and Windows).

A newly unwrapped computer with a hard disk drive will probably just present you with the C> prompt when you switch it on.You then have to know about sub-director tree structures, DOS commands and the appropriate name to type in to get any programs running.

To overcome this problem several authors have written new 'front-ends' to MS-DOS which improve the interface between you and your programs.

These are usually in the form of an on-screen menu system which lists the options and programs available and tells you which keys do what.

Power Menu is one of the best examples of the genre. It is easy to install and menus are completely user-configurable. You just type in the title you require, the name of the program and where it can be located. Plenty of on-screen context sensitive help is provided and there are several useful additional utilities if you want them.

DiskTree (one disk)I
Author: Richard Smith
Registration: $20
Performance: 9/10
Ease of Use: 8/10

Making order out of the chaos of the thousands of files contained on even the smallest of hard-disk drives is both important and incredibly tedious.

Without control and order, files get lost, space gets wasted and productivity drops as users spend more and more time just keeping track of files.

Of course, in a perfect world, users would save their data according to a sensible and logical standard of what files should go where. Unfortunately, no one does this with any real conviction and when things get confused, there is no quick way of sorting the mess out.

DiskTree is an attempt at creating an affordable, powerful and, above all, easy-to-use disk management tool. It offers full Microsoft mouse support, extended screen resolutions, i.e. 43 and 50 line modes, up to 26 drives in memory at once and between 10,000 and 13,000 files and directories held in memory.

The Directory structure is displayed in pictorial fashion and can be traversed using either the keyboard or mouse. Features include:

- Files, directories, directories trees and even entire drives can be moved, copied or deleted with ease
- Search for individual files or directories
- Option to auto view files during file operations
- Files can be viewed, edited or executed.

File & Disc Management

DOS Toolbox (two disks)
Author: Computer Tyme
Performance:7/10
Ease of Use: 7/10

The Computer Tyme DOS ToolBox contains powerful and simple to use utilities. Some of the programs are written for beginners, others for intermediate and advanced users. The programs come with help screens and on-line documentation which give quick proficiency with each program.

The toolbox was originally written in 1985 to provide the same functions for MS-DOS as a program called Sweep did for CP/M. The main function of this program is to be able to select files from a list of files, then either copy , move , or delete them. Thus the design of this program to makes these functions as easy as possible.

The files are displayed in a vertical list. The up and down arrows, page up, page down, home and end keys move you through the list. The G (GOTO) command is provided to help you get to a desired place in the list quickly. Files are selected (marked) using the right arrow key, and unselected (unmarked) using the left arrow key. All files can be marked using Ctrl-Right Arrow and unmarked using the Ctrl-Left Arrow. A wild card mark is provided to mark all files that match a particular mask.

When files are marked they are simultaneously highlighted for action. For anyone with a lot of 'housekeeping' to do on the mass of anonymous files which have accrued on hard and floppy discs (and who hasn't?) this is a very useful tool which let's you get things sorted out very efficiently.

Flexibank Plus (one disk)
Author: Adrian Mardlin
Registration:£29.95
Performance: 8/10
Ease of Use: 8/10

Flexibank Plus is a flexible, easy to use hard disk back-up system that takes a logical, simple and unique approach to the back-up problem.

With a conventional back-up system, you are required to take a full back-up about once a week and do daily incremental back-ups which are placed on separate disks. Should you need to restore from the back-up, you must first restore the full version and then each of the incremental files up to the last back-up taken.

With Flexibank Plus all this is different as the concept of full and incremental back-ups is removed. Instead, you only need to take a full back-up once and then all subsequent ones are placed on the same back-up disks, giving some long term speed increases, simpler file restoration and an improved back-up management capability. It offers selective back-ups allow you to specify, both globally and by directory, which file groups should be included in, or excluded from the back-up, potentially reducing the number of back-up disks required.

The file management system means that Flexibank Plus keeps track of what has been backed up, and informs you if any files have gone missing from your hard disk since the last back-up. This allows you to recover accidentally deleted files.

File compression is included in the system as is the capability to handle up to 20 hard disk drives.

The alarm system warns you on booting your computer that you have forgotten to take a back-up for a specified number of days.

Programming Tutorials

C & Turbo C Tutor (two disks)
Author: Coronado Enterprises
Registration: $39.95
Performance: 7/10
Ease of Use: 8/10

Many owners of the PC like to try their hand at programming at some stage but are often put off by the price of commercial programs. Of course it's always the case that you don't know whether you're going to like it until you try it. Fortunately there are plenty of compilers and tutorials in the shareware marketplace so for a few pounds you can try your hand at programming or just find out more with one of the many tutorials available.

One of the most popular high level languages is C. While not the easiest to understand (initially due to it's fairly brief syntax), it produces fast, executable programs and is very versatile.

A good introduction to C and the more powerful C++ can be found in this tutorial package. It comprises two discs, the first is full of text files containing the tutorial which takes you from beginner through to intermediate level. The second disc contains a collection of source code examples to study and compile.

The author recommends the use of Turbo C, Power C or Microsoft C if you want to try the examples out.

Children's Games

Mummy's Busy (one disk)
Author: Various
Registration: Various
Performance: 7/10
Ease of Use: 8/10

This disk contains a selection of entertaining programs suitable for four to 10-year-olds and provides an excellent way to keep them amused while you are trying to get on with your jobs - hence the title!

Cards is based on the popular TV programme called Play Your Cards Right. You have to guess whether the next hidden card is going to be higher or lower than the one on display. Points are awarded for successful answers.

Memories is a game of concentration or pelmanism. A deck of 54 cards is laid out face down. You try to match the cards. If the two cards match you receive two points and they will be removed. The cards are animals and there are four of each, with the exception of hyena, of which there are only two. Matching the hyena cards will give you four extra points. Be careful: if you match cat and mouse or hawk and dove you will lose two points - they hate each other. But, on a one time basis, if you match dog and horse or lion and tiger you will get a bonus of two points - they love each other.

Wari I is played on a board which has 12 compartments arranged in two rows of six (the arrangement is similar to that of an egg carton). The numbers of the side represent the quantity of the computer's 'counters', and the numbers on the lower represent the 'counters' on the player's side. A movement consists of taking all the counters from one compartments on your side and distributing, one counter into each of the adjacent compartments in a anti-clockwise direction.

You score points by capturing counters. A capture occurs when you sow your last counter in an opponent's compartment which previously contained either one or two counters, removing his counters from play.

The game can end in several different ways. Play must end however when the board is empty and all the counters have been captured or when one player has captured more than half of the counters. Wari also permits a stalemate, where each player chases the other around the board fruitlessly.

Numgame is a counting game for five year olds. It asks the child to count up the faces on the screen and type the number.

Finally Battle is a straightforward shoot 'em up game for under sevens.

Dress me up
Author: Christopher G Gunn
Registration: $35
Performance: 8/10
Ease of Use: 8/10

Dress Me Up is a computer version of a pastime that most children enjoy - that of dressing up dolls.

The computer version makes the game more interesting by hiding the clothes behind a series of wardrobe doors.

The child starts out by choosing from any of the four kinds of stuffed animals on the shelf - two boys and two girls.

There are blouses, skirts, slacks, hose, purses, jackets, shoes, hats, coats, shirts, sweaters, pants and socks hidden behind the wardrobe doors to choose from.
Dress Me Up comes with two complete outfits for the girl and boy animals and eight more outfits can be added to their wardrobes.

In addition to all the different clothes, a water colour box will appear on the screen and let you paint the clothes or the animals themselves. The paint box includes polka dots, stripes, and a wild plaid.

Dress Me Up quietly enhances neatness, memory and word skills. Requires EGA or VGA.

Using a mouse is an automatic option. Whilst it may not appeal to children wanting to spend their time zapping aliens, this gentle approach makes a pleasant change and offers a few hours of quiet stimulating activity for pre-schoolers and infants.

Arcade Games

Pharoah's Tomb (One disk)
Author: Apogee Software
Registration: £19.95
Performance: 9/10
Ease of Use: 9/10

Pharaoh's Tomb is an arcade/adventure game set in a huge Egyptian pyramid. You will need to explore and survive 20 uniquely dangerous levels (screens) riddled with ingenious puzzles and traps. This game uses a special animation system called FAST (Fluid Animation Software Technology) which allows for flicker free movement even on the older IBM PCs.

You will start with five lives and a few spears, which can be thrown at offending denizens that guard the pyramid. Moving walls, falling spikes, bats, mummies, and magic winds are just some of the hazards to overcome. On each level you will need to collect one or more keys to advance to the next level and hidden on the final level will be the prize of your journey.

No two levels will have the same animated creature patrolling it, which adds greatly to the variety of the game. Sound effects are also used, but can be toggled off. The keyboard controls can be configured to two alternate sets of keys. A five player permanent high score table keeps tracks of the all-time best explorers. Plus, you can save the game on any level and restore at any time.

Hi-Resolution Games

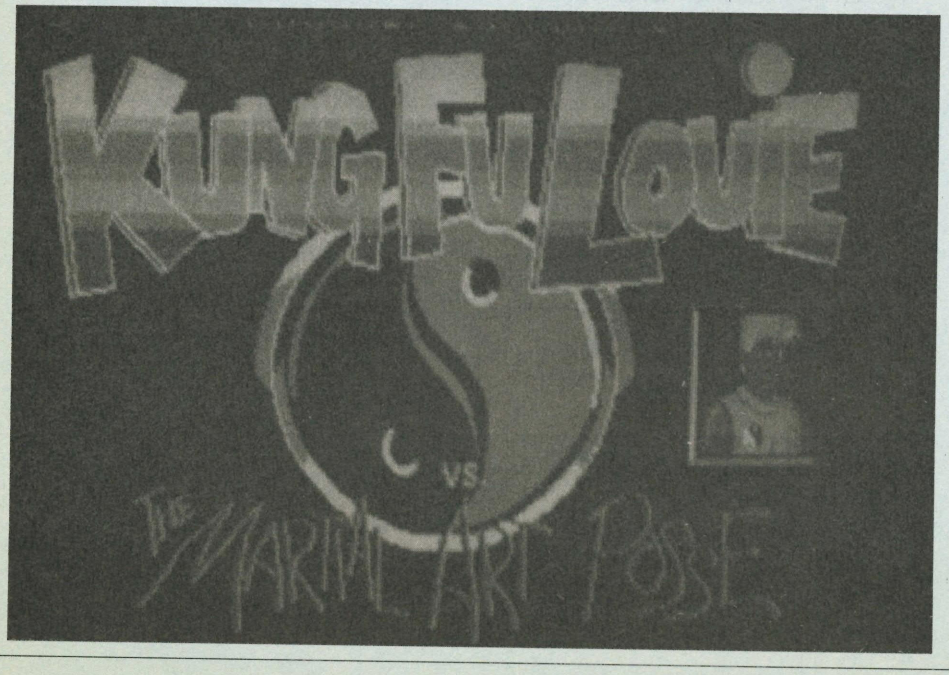
Kung Fu Louie (three disks)
Requires EGA/VGA
Performance: 9/10
Ease of Use 8/10

In the history of the New York City brawls, groups of vigilantes, gangbangers and renegades, otherwise known as ruthless streetfighters, stormed the neighbourhoods. Through constant battles and rumbles, the leaders arose, bringing a new breed of mayhem to the streets. Karate, kung fu, tae kwon do, shinobi-jutsu/ninjutsu, and all other martial arts quickly became influenced with the 'art' of streetfighting. Soon, corrupted masters and students began to take control of the streets.

Now, it's Kung Fu Louie to the rescue. His task is to rid the city of the streetfighting gangs. He needs your help to control his movements and actions.

Two karate students have got together with a team of programmers to produce a high quality game which compares very favourably with commercial equivalents, both in terms of the excellent animated graphics and the realistic gameplay.

Highly recommended commercial standard animated graphics game.



Duke Nukem (one disk)
Author: Apogee Software
Registration: £19.95
Performance: 9/10
Ease of Use: 9/10

An incredible EGA/VGA game with large animated characters, and huge levels. Your mission is to stop Dr. Proton, a madman bent on ruling the world with his army of Techbots. As the irrepressible hero Duke Nukem, you'll chase Dr. Proton deep into the Earth, then to his lunar space station, and eventually into the Earth's nuclear ravished future.

This is an astonishing Sega Megadrive-style game with more animation than ever seen on an IBM PC! Also features dual scrolling play fields, with huge 3-D backdrops. No other IBM game has emulated this eye-popping effect. Watch Duke somersault and cling on to ceilings as he escapes traps and battles Proton's robot guards. This game is sure to be a show stopper!

Other features include four-way scrolling levels, cinematic effects, demo mode, built-in hint mode, arcade sound effects, joystick support, high score chart, save/restore up to nine games, unlimited continues, keyboard reconfigure, sound on/off toggle, cheat mode, and much more...

Hard Disk recommended

Sports Simulations

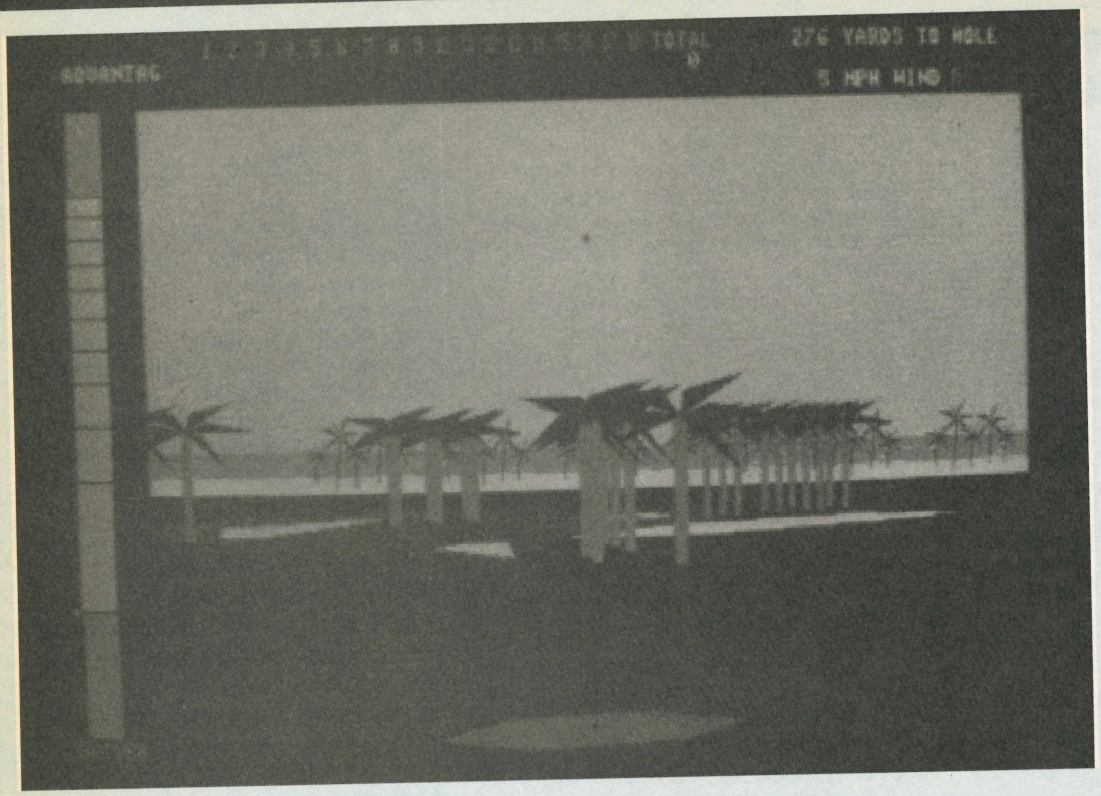
CadieHack (one disk)
Author: Paul Simoncic, MICODE Developments
Registration: $20
Performance: 9/10
Ease of Use: 8/10

CaddieHack is a golf game written for EGA and VGA systems. A CGA version is available on registering.

It is probably the most realistic golf simulation yet released and it makes excellent use of graphics to present both a perspective and vertical view of the course. All actions are user-controlled and the game play appears to be quite authentic.

The program is developed using a new course architect system called ARCH which uses a database of polygon sets to create the images of fairways, bunkers, water traps and greens.

Tapping the space bar begins the shot. Tap the space bar a second time to select the power of the swing. If you wait until the swing pointer has passed 100 per cent



power (and gone into the yellow area), your power is reduced dramatically. If the swing pointer reaches the top of the yellow area, you miss the ball.

Tap the space bar a third time to make contact with the ball. If you tap the space bar too early, you miss the ball. If you wait too long until after the pointer is well into the yellow area below the grid, you also miss the ball. If you do hit it early, it will slice right with reduced power. Hitting late will hook left and also reduce power of the shot.

Club selection is based upon distance to hole, wind, and playing level. The built in caddie usually picks the right club. To keep the game interesting, the caddie will not judge course hazards so choose your club wisely when near water.

The registered version offers a lot more choices of course and operational parameters.

Soccer Game (one disk)
Author: Wizard Games UK
Performance: 8/10
Ease of Use: 8/10

The object of this outstanding game is to become a successful manager of a football team. At the outset you are contracted for a number of years to a fourth division team. From this lowly base you try to build up a reputation which ensures other teams have an avid interest in desiring your managerial qualities to be present at their club.Consequently, when your contract expires you may, if you're extremely talented, get offered a contract from a first division team. If, however, you are incompetent as a manager (whether by spending too much of the club's money, selling too many of their shares, losing too many matches, etc), your contract will not be renewed and no other reasonably-minded team will offer you another contract. The game will be over. While under contract it is still possible for you to be sacked for gross misdemeanours but not possible for you to leave your current club for another.

Success is measured in a number of ways. Largely it is a personal matter. Some people may play the game to win a European cup, others only for the FA Cup; some will play the game to amass large sums of money, others to be top of the first division. Others still will be playing to remain as an active manager for as many seasons as possible.

The Soccer Game uses a database of 1,270 players, 100 teams, 100 treasurers, 100 scouts, 100 physiotherapists, 100 managers, 100 assistant managers.

Skill & Strategy

Seabattle (one disk)
Author: S. Rooney
Registration:
CGA (Colour Graphics Adapter) or EGA (Enhanced Graphics Adapter)
Performance: 8/10
Ease of Use: 8/10

Seabattle is a naval game spanning the period from just before the first world war to just after the second. This is the period when the battleship was considered to be the capital ship of the world's navies.

Starting with the British Dreadnought and culminating in the United States Iowa class of battleships, which even as this is being written are in action in the Gulf albeit using weapons not heard or dreamed of in the historical period of this game.

In its registered form it enables a player to take on the computer or another player whilst in command of up to 20 ships and more than 50 squadrons of aircraft (both carrier and land based).

The objective of the game is for the player of either side to achieve the minimum conditions for victory. Victory is not simply determined by the number and type of ships sunk on both sides. There are four different types of objective a player may be set:

(1) Destroy Enemy Naval Forces
(2) Move Ships To Objective
(3) Deny Enemy Its Objectives
(4) Perform Raiding

Star Trek (one disk)
Authors: Various
Registration: None
Performance: 7/10
Ease of Use: 7/10

What hasn't been written about this classic program - or rather entire suite of programs! Back in the early days of computers, when programmers started to get bored with the tiresome task of producing 'serious' stuff, they were watching what has now become the cult classic TV series (the original one with Captain Kirk and Mr Spock of course). It seemed a natural progression to base a strategy-style computer game on the Star Trek theme.

Thus was born the early versions of Star Trek - the computer game. Of course in those days there were no such things as graphics cards so the game was very much text based. Even so, the clever designers managed to make very effective use of the extended IBM character set to produce maps, dials, indicators and computer output.

The Star Trek theme has evolved quite a bit since then and this disc features three different versions - one similar to the original mono version, one for CGA users and the newest for EGA screens.

The fundamental basis for each is that you are the captain of the enterprise and your task is to boldly go, seeking out and destroying the enemy Klingon Ships by judicious use of the maps and data at your disposal and of course application of the weaponry on-board. A must for any PC games collection.

Graphics Adventure

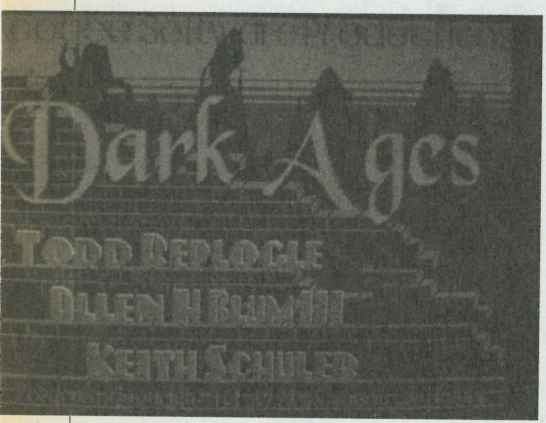
Kingdom of Kroz II (one disk)
Author: Apogee Software Productions
Registration: £9.95
Performance: 8/10
Ease of Use: 9/10

Kingdom of Kroz uses high-speed 16-colour text-based graphics and therefore works on all machines. It features a tremendous sound effects library.

This shareware game is the first in a series totalling seven different games. The author has adopted an unusual and effective method of registration. Instead of asking for payment for this, the first game in these series, he asks satisfied users to pay for the subsequent games in the series.

You must navigate through dangerous chambers, solving puzzles and avoiding pitfalls. Collect gems, whips, chests, nuggets, tablets, keys and scrolls to aid your progress. This game is as much strategic as it is pure arcade fun.

A unique combination of arcade action, strategy and adventure unlike any other game you've played. Some levels are puzzle oriented, which makes a great change of pace from the high action parts of the game. No two games are alike!



Dark Ages (one disk)
Author: Apogee Software
Registration: £19.95
Performance: 9/10
Ease of Use: 9/10

Dark Ages is the first shareware game to support the Ad Lib and Sound Blaster music cards. It features a movie-style soundtrack of eight unique songs and themes. It also has sound effects that don't require an Ad Lib (or Sound Blaster) card to enjoy.

The EGA/VGA graphics are colourful and stunning, with fast scrolling screens and high-speed animation. Dark Ages has such demanding graphics and animation that it requires an 80286 (or 80386) machine to run at proper speed, otherwise it may run too slowly. Therefore, Dark Ages may only run on the newer, faster PCs and compatibles.

In the game, you're the Prince of the Great Kingdom, who as a child watched your father die at the hands of Garth, a power mad warlord with uncanny magical abilities. Garth sent you away from the Great Kingdom to be raised as a peasant, never to fulfil your destiny as the future King.

But Garth made a terrible mistake. The very peasant he to raise you was once the Kingdom's greatest hero, long since retired and forgotten. And over the years you were raised as a warrior and as champion of justice, and the time has come for you to claim your heritage, and free the Great Kingdom from the dark age of Garth.

Classic Adventures
Author: R.C. Johnson
Registration: $10
Performance: 7/10
Ease of Use: 8/10

Alice in Wonderland is an adventure game based on Lewis Carroll's novel, Alice's Adventures in Wonderland. Although you need not be familiar with the novel to play, there are occasionally places it would help.

However, you will notice immediately (if you know the novel), that the author has added some possibilities that Lewis Carroll never thought of.

This game is meant to be played as an accompaniment to reading the novel, to make a great literary classic more interesting (as if it needs it). Reading the novel and playing the game as a supplement can be extremely engaging for adults and teenage children. Younger children may find the game too difficult.

There are 16 objects in Wonderland to interact with. You'll know them when you see them. You may pick them up, drop them, put them in your apron pocket, or manipulate them in a few other ways.

There are 10 creatures or other characters you can interact with. You may talk to them with the command Talk . You can interact in other ways, as well. These are the characters from the novel. They will behave in roughly the same way as they do in the novel. Some pose danger, some can help you, and some are merely there.

You will discover that your size can change in this game. You start out your normal size, and then may grow or shrink, depending on your actions. At times, you will have to be very small to accomplish certain tasks.

Aliens Laughed At My Cardigan (one disk)
Author: A M Boyle
Registration: £30 for an adventure tailor-made with you in the leading role.
Performance: 7/10
Ease of Use :9/10

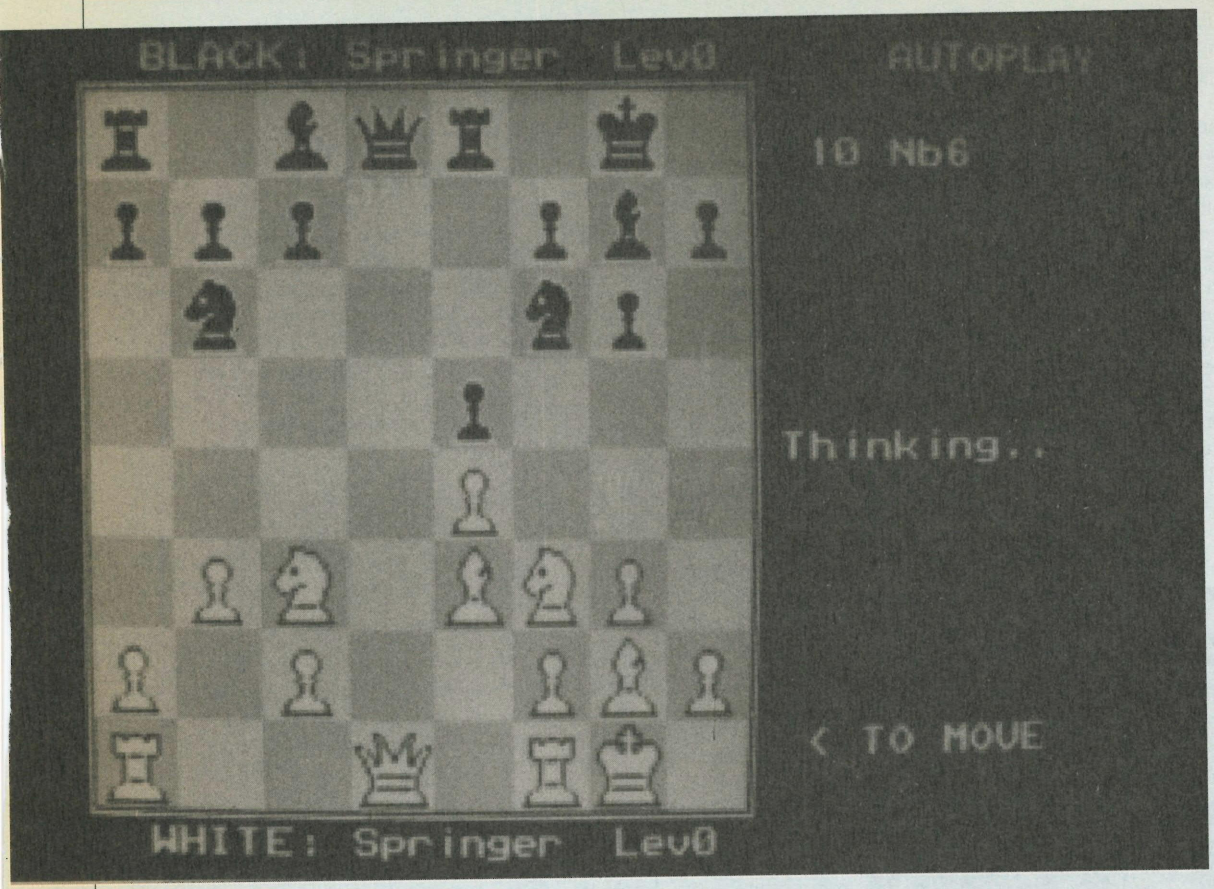
With a title like that, you've got to try the program! And, if you enjoy a challenge along with a laugh you won't be disappointed either.

Aliens Laughed At My Cardigan is produced by a young UK author who clearly has a rather offbeat sense of humour, is of the Hitchhiker's Guide to the Galaxy and Infocom type.

The scenario opens with you relaxing on a garden swing after celebrating your birthday. As you while away the hours an alien spaceship descends on to your lawn and two weird beings walk out of the lower bay door.

They stare and point at you; then, when you ask them what they want, one says to the other: "Is that a totally bogus cardigan or what?" Within seconds it pulls out a ray gun, points it at your cardigan and shoots. Your cardigan fades away to nothing. Your mother bought it for you last Christmas so





you know you're now in deep trouble. So what do you do next?

Combines a sense of absolute nonsense with classic adventure gameplay.

Board Games

Power Chess (one disk)
Performance: 9/10
Ease of Use:9/10

Chess is a very good exercise for any programmer to get his teeth into due to the fact that it takes only a few logical rules to generate a massive range of possible outcomes.

Not surprisingly therefore, there have been many versions of the game through the years ranging from text based ones with no board graphics at all through to arcade action commercial games like Battle Chess where the pieces literally fight it out.

Power Chess is to date probably the best shareware chess game released. Its screens are clearly laid out with nice large pieces and a separate area on the right for information and instruction.

The program obeys the international chess rules and recognises stalemate and technical draw. It shows playing time for black and white, index of the last 21 moves, index of all possible moves, computer hints for next move, go back on a move plus game save/restore facilities.

A range of standard openings is supplied on the disc. The pieces are moved using the arrow keys and a cursor. Power Chess runs on all types of display and adjusts itself accordingly. It is also available in several languages.

Global Battle (one disk)
Author: Phil Munnelly
Registration: £6
Performance: 8/10
Ease of use: 8/10

As its name suggests, this is about a world at war. The game is played by up to ten players, any number of which can be human players. All others are controlled by the computer.

If no human players are set up then the game will play as a simulation.

Each world is divided up into a number of continents which are themselves divided up into regions. Each region is occupied by one or more armies of a single player. The ultimate object of all players is to take over the number of regions required to win the game.

After the initial option setup, the game begins by allocating the initial armies to each player. The number of human players will have been set up as part of the initial options.

Each game turn involves each player being allocated additional armies depending on the number of regions held, with bonus amounts being given for controlling complete continents. The player can opt to attack a region of another player during their turn, but in doing so loses the armies generated by the regions (but not the continents).

Quiz Games

Pop Quiz (one disk)
Author: Software Creations, Inc.
Performance: 7/10
Ease of Use: 8/10

Pop Quiz (or Rock 'n' Roll Trivia) can be played by one to four players. The object of the game is to be the player that scores the most points. Points are earned by answering trivia questions that appear on the screen. Each correct answer is worth from one to 100 points, determined by the amount of time that it took to answer the question.

On the screen are displayed the Counter which ticks off the time allowed to answer each question (The number of points awarded for a correct answer is determined by the amount of time left on the counter), the message box, the questions window, the answers window (multi-choice) and the spinner which determines which of the six categories will be used for questions on each turn.

Pressing any key stops the spinner at a category on which a question is asked, offering a choice of four answers from which the player must make his or her selection.

If the wrong answer is chosen, a message stating so will be displayed in the message box. If you wish to see it, pressing F1 at this point will display the correct answer. It will then be the next player's turn.

If the question is answered correctly, the number of points awarded is displayed in the message box while the player's score is addedto in the player's box.

The game ends when any player answers a question correctly in each of the categories, and thus receives all six stars. The winner of the game, however, is determined by total points, and this is not necessarily the person who first gets all six stars.

Registered users get 1,000 additional questions.

Trivia Quiz (one disk) QUIZ (1
Requires CGA
Registration: None
Performance: 6/10
Ease of Use: 9/10

Trivial questions and answers continue to be popular and there are now various arcade machines

devoted to the subject in pubs up and down the country. So it comes as no surprise to find there are several Trivia quizzes available for the PC.

This is probably the best one currently available. It runs on CGA screens and EGA/VGA owners should be warned that they must force their computer into CGA mode (using the Display program on their system disk) before running Trivia Quiz otherwise you will just get a random, uncontrolled pattern on your screen.

This Trivia Quiz makes pleasant viewing with attractive use of the relatively simple graphics and a bit of sound. The idea is you score points by entering correct answers to wide assortment of multi-choice questions.

There are five categories altogether and game play is quite fast particularly on 286 computers.

considered blocked and cannot be removed.

Note though the tiles are arranged in five levels and each level has a left and right edge so there are many more unblocked tiles than it would first appear. Note the tile on the top of the pile blocks all four tiles below it, and tiles on row five block both rows four and six.

Two Bridges (one disk)
Author: WR Software
Performance: 8/10
Ease of Use: 8/10

Bridge is often regarded very seriously by enthusiasts and therefore a lot of time could be spent in sharpening up your game. It may (of course) not be possible to gather round three friends to play and in some cases you may not want to play with them until your playing abilities have improved.

So in comes your trusty computer to stand in - no arguments and no criticisms if you play a wrong hand either.

This disk actually has room on it for two different bridge simulations each has its relative strengths but both offer a practical solution to the need to practice on your own.

Bridge Pal is particularly useful as the manual that accompanies it on the disk not only tells you how to use the program but also describes the card game of bridge itself.

You can select Help on the first Bridge Pal menu for a brief introduction to the program. If you have played bridge before, this Help information may be the only thing you'll need to read.

Card Games

Mahjongg (two disks)
Author:Nels Andwerson
Registration: $22
Performance: 8/10
Ease of Use: 9/10

Mahjongg is an ancient Chinese game whose origins are supposed to date back some 3,000 years. This version has similarities to solitaire played with cards and also with dominoes since it is played with tiles. When I first discovered the game my initial impression was the game would quickly become dull but having played it for a while and having given it to friends we've all found that
it is quite addictive despite its apparent simplicity.

This disk contains versions of the game suitable for all types of screens.

The object of the game is to remove as many of the tiles from the playing board as possible within the rules of the game. Tiles are always removed in pairs and can only be removed from the left or right edges. Any tile that is not on a left or right edge is

Mostly Public Domain.
Most require CGA
Performance:
(given their age) 7/10
Ease of Use: 9/10

It seems extraordinary in these days of sophisticated, animated VGA graphics, AdLib stereo sound cards and complex gameplay thatmany users continue to ask for old faithfuls like Space Invaders and Pacman. But they do, whether it's through nostalgia or the factthat they've still only got a CGA monitor, we're not sure but this selection of favourite classics continues to sell and sell.

This particular selection contains six other oldies but goodies - Ribit, Breakout (aka Bricks), Donkey Kong, Q-Bert, Jumping Joe and a variation on the theme, proving that not all programmers are sexist, called PacGal.

Classic Games are straightforward to run up and play. They all operate from the keyboard and some offer a joystick option. They use standard CGA graphics so the resolution is not the best and the range of colours is limited to the old IBM standards.

Having said that, despite their age, these games still offer many happy hours of pure entertainment and still stand up well against more modern efforts which quite often are so complicated as to put people off persevering with them.

Fun and Games
Author: Various mostly Public Domain
Performance: 6/10
Ease of Use: 9/10

Another very popular selection of classic games - most of which require CGA graphics.Fun and Games features Pango, Bouncing Babies, Elevator, Centipede, Pyramid, Dragons, Pac and Osbit.

All programs are easy to run and require no special setting up - in fact they can all be run from a start-up menu.

The selection offers plenty of entertainment for all ages.

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25 (28). PC FILE V
26 (26). CROSSWORD SOLVER
27 (27). MUSIC MAESTRO
28 (24). GENE GENIE
29 (30). FUN AND GAMES
30 (43). GRAND PRIX
31 (39). HELPDOS
32 (32). AS EASY AS
33 (29). PLAY 'N' LEARN
34 (40). KEEP THEM AMUSED
35 (31). STAR TREK
36 (34). LEARNING MATHS
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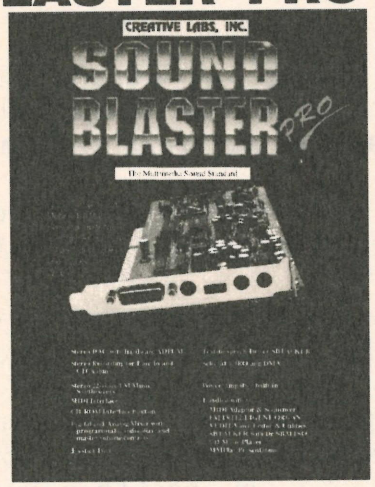
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Dear PC review

What makes a really good game? Are PC Review's tech spec boxes comprehensive enough? These and other burning PC issues are discussed below.

PC review LETTER STAR

Death of the computer game?

I am writing you to express my outrage. I am a London University student and have owned a 286 for a couple of years. I have never really been interested in games for this machine, powerful as it is, because at the time I got it decent PC games were practically non-existent in this country.

But I recently noticed your magazine – dedicated to entertainment for the PC alone – and had to buy it. I commend you for the quality of the magazine, but the truth of what I've now seen makes me puke.

I remember not long ago, when I was younger, and the old Speccy and 64 were popular, games were produced by small software houses – some literally backstreet operations – and they were based on original ideas.

Okay, so the graphics would look pitiful nowadays in the face of the modern 16-bit Amigas, STs and VGA Pcs. But these simple 64K, cassette-loaded games played! They captivated you, keeping you up into the early hours, totally oblivious of time, when you should have been doing your homework for the next day. And how about even further back into history, remember the Atari VCS? One of those blocky 2K cartridge games could have you hooked for months.

But what now? What has all this technology given us?

Just look around: a handful of big software houses totally dominating the scene, paying god-knows-how-much for licenses of the latest film/cartoon character/arcade machine, spending ridiculous amounts on glossy colour adverts, and then churning out the same old re-hashed games that we've all played before – except this time it has digitised graphics and/or sampled speech, and – no I haven't finished yet – finally passing all these licensing and advertising costs on top by charging thirty bloody quid for a game! And they have the nerve to call a £10 game 'budget.' A tenner is full-price to me, pal, and budget means £1.99.

And all this cash for a game that will impress you for the first couple of times you see flashy intros and then rot on the shelf for evermore after you realise how boring and unplayable it is.

Software houses, get it into your thick heads: megabytes of memory and sound with a picture of Arnie on the box do not automatically make a great game.

I feel compelled to finish – at last – with something a friend told me recently and I agree: The computer game is long dead, buried alive the same day the Spec and 64 were laid to rest, and I honestly can't see it ever being resurrected. Manic Miner R.I.P. Amen.

Ainsley Fernando
Barnehurst
Kent

PC review REPLIES

WE'VE AWARDED YOU the Star Letter prize (software, which will either thrill you or enrage you even further, I suppose) for a magnificent piece of spleen-venting. However, I disagree. I think the ratio of playable vs non-playable games is pretty much the same nowadays as it always has been. For every big-budget movie licence which doesn't deliver the goods, there's always a less expensive gem. Until recently, the PC has been a stronghold of deep strategy games and flight sims (and fewer big-name licences than some other formats I could mention). These may, or may not, be equally playable in your book. But times are changing: look through our reviews (look back at issue one's Classic Games supplement and hang on for part two in two month's time) for the sheer variety of game styles now coming out.

The price of PC games (still higher than many others) is a perennial topic and one which we'll come back to again and again, I'm sure.

But if you liked Manic Miner, Mr Fernando, tell me, have you played Lemmings?

Little Perforations

Have you ever thought of making the hints and tips section of the magazine perforated along the inside edge? This would allow them to be removed and kept in a binder for future use.

At the moment I have to throw out magazines after they are nine months old due to lack of storage space.

D. Frost
Margate
Kent

PC review REPLIES

I'm not sure about the viability of perforated pages, but there's no reason why we shouldn't construct a grand compilation of hints and tips in the future.

Less Haste, More Speed

Do games writers really know what they are doing? I don't deny they have great ability to write games for the PC, but I think they are setting their sights far too far in the distance.

The thing is a large majority of PC games come across the pond from America – and in America anyone who wants a fast PC can afford one. The fact is that even games players can afford a 20Mhz SX – which would cost the average American about the same as you and I would pay for an Amstrad 3086 with similar display and hard disk configuration. The average American can afford a 386 for use at home, so it makes sense that all the games from America are tailored to this type of machine. But in this country the majority of home users – and many office users – use XTs and ATs like mine as these are within the price bracket we can afford, so all these SX inspired games run slowly on our XTs and ATs.

Now to my main point. These games which run very well on a 16Mhz SX run reasonably well on my AT at 12Mhz and are just about manageable at 8Mhz. Therefore the authors write their game and the wallies at label production – that's the part of the company which makes the nice sticker telling you about display options and sound card – play the game on their 16Mhz SX and think: Very nice – but will it work on an AT? They operate the switch on the front of their PC and the digital display switches from 16 to 8Mhz. And guess what? The game still runs, so they think: that's fast for an XT. But they don't worry about it and label it the 8Mhz or faster .

But the 80286 processor is more efficient than the 8086 and the 80386 is more efficient than the 80286. So: an original XT runs at 4.77Mhz. A modern XT – ie, the Amstrad 3086 – runs at 8Mhz. My AT runs at 12Mhz and is switchable to 8Mhz. Therefore you would expect it to run at three times the speed of the original XT. But no. Mine runs at about six times at 8Mhz and nine times at 12Mhz. The American SX running at 16Mhz runs at about 20 times faster than an XT and at 8Mhz – the labelers' test – runs about 10 times faster than an original XT.

This means your 8Mhz or faster label will run the game nicely but not an 8086 at 8Mhz as you might think, but an 80386 SX running at 8Mhz. This explains why my fast 12Mhz 286 – half as fast again as the machine the game is expected to run on, finds it is a little slow when running games, It also explains why some games running on my friends 8Mhz XT jerk so much they are unplayable.

The Amiga runs at about 8Mhz but its games don't jerk. And neither would the PC's if the authors spent their time trying to develop games to run on fast XTs and lower powered ATs. All Amigas run at the same speed so programmers push their code to make it run quickly. Whereas on the PC the programmers do not. They just sit infront of their SXs and tap away.

Neil Gorin
Stevenage
Herts

Cheating on the boss

It's all very well software houses telling the public not to copy their software as it is illegal – which I agree with – but they will do anything for the public to play any of their games at any time.

The point I trying to make is the fact that some games use 'boss keys' so people who should be working are cheating on their company by not finishing the work they should be doing. I don't consider this very fair. How would one software company like it if one of their staff was playing games from another software company in office hours?

Nicholas Midgley
Doncaster
South Yorkshire

PC review REPLIES

Are you a boss yourself, by any chance?

Left on the shelf

I am sure you are aware of the ever increasing number of computer magazines all competing not just for sales but for limited shelf space in newsagents.

Good newsagents will actively promote a new title in a variety of ways. A good shelf display – often at the expense of other titles – and verbally bringing the magazine to the attention of the customer are just two of the obvious methods. However, such action is entirely down to the individual newsagent as I am sure you will appreciate.

I just wonder how much support the average newsagent will muster for a magazine which implies on its front cover of its first issue that he – the newsagent – is in the habit of removing free gifts from magazines before he sells them?

Chris Henley
Henley's Newsagency
Torquay
Devon

PC review REPLIES

I don't know if PC Review is the only computer magazine you stock, but you will find all computer magazines with cover-mounted disks carry similar messages. This isn't because we wish to cast any aspersions on the newsagents themselves, but some do remove the disks as a matter of course, because unfortunately some people do steal the disks from covers, and keeping the disks safe behind the counter prevents this. Also, should the magazine be mysteriously delivered to your shop minus cover disk, or if a disk has been stolen, the message revealed underneath the disk brings the matter to your attention. There's no offence intended, either by PC Review or any other magazine which carries a cover mounted gift.

Stop being too simple

I have just read the first issue of PC Review and have found it, on the whole, very good. Apart from one thing.

You said you had simplified your game rating system, but I believe you have over-simplified it. Instead of knowing whether a game has good graphics, sound or lastability we now simply get a mark out of 10. I think you had the best review system I had ever seen and now you have discarded it.

Please bring the old system back, shorten the reviews a little and have a few more of them.

Stephen Evans
Market Harborough
Leicestershire

PC review REPLIES

Going into the whys and wherefores of the new rating system would take up too much space here, but we cleared a slot on this issue's Quit page (p146) for a discussion on the thorny subject of ratings, which drew a varied postbag from issue one.

A matter of procedure

I was delighted to be able to obtain the first issue of PC Review. The number of games dealt with in depth and brief details of similar titles, plus a scattering of what appear to be genuine screen shots, looks to be a good layout for the future. Likewise, the selection and quality of the two 5.25" disks was excellent and allows for an interactive feel of a game before parting with upwards of £30.

That's it for the praise. Now for a moan. I was somewhat disappointed in the limitations for program installation on the cover disks insofar as your on-screen procedure only permits copying either to the 'other' floppy drive or to drive C. Many installation batch files these days ask for user entry of the drive letter in which the disk has been placed and, similarly, user entry of the destination drive. This approach is much more versatile and actually asks less questions of the user than your method.

Lance M. Johnson,
Yate
Bristol

PC review REPLIES....

We've adopted a new menu system for the cover disk, starting this month, which I hope addresses some of your problems.

Questions, questions...

Being new to the PC games world I am a little curious about a few things:

1. Will any games be coming out which support the new Soundblaster Pro soundcard?
2. Will any CD-Rom games be coming out?
3. Is it true Wing Commander 2 takes more than 20Mb of space on the hard disk?
4. Will Readysoft be producing future Don Bluth games on the PC?
5. When is Psygnosis' Planetside CD flight sim coming out?
6. How come King's Quest V and Space Quest 1V only get four stars when reviewed?

I hope you can answer all of these.

Peter Flynn
Hartlepool
Cleveland

PC review REPLIES....

1. Yes, but no details have been released yet.
2. Some are available now – check our CD-ROM reviews each month, and also the Buyers' Guide in this section for regularly updated information (we carried a CD-ROM games top ten in issue one and that list should be updated in the near future). Sierra (0734 303322), and Software Toolworks (0444 831761) are good hunting grounds for the CD-ROM buyer.
3. Up to a point. As Paul Presley explained in last month's review, you can do an economical installation, taking up a mere 15Mb, which doesn't decompress the files and slows the gameplay up a bit. Full installation, decompressing the files from floppy to your hard disk, uses up 21Mb.
4. Yes, a slew of Bluth products are promised next year: Space Ace II – Borf's Revenge, Escape from Singe's Castle and Guy Spy.
5. A good question.
6. Because at the time of reviewing, our reviewers felt that was the mark they deserved.

Spot the difference

In response to John Leigh's letter in PC Leisure on 286s. Here is a short guide.

Suppose you had identical 286s, apart from processor speed, on at 10Mhz and the other at 20Mhz. If you ran the same a game on both machines, one of several things might be better on the faster one:

1. Nothing.
2. Higher detail level or image sharpness.
3. Faster/smoother animation.

The reason is the faster machine can do more calculations per second than the slower one. this means the program either lets the processor sit idle half the time or gets it to do some constructive work.

Most, if not all, modern games change the graphics detail level or animation frame step size to suit the speed of the processor. The ability on most PCs to be able to slow down the machine is if you are using a particularly archaic piece of software which actually falls over if the processor is running too fast, or old PD games' characters move at close to the speed of light across the screen.

Philip Owen
Harpenden
Herts

The right stuff

PC Leisure was good but this PC Review stuff is excellent! I particularly like the new style review pages with the extended info and especially the box which contains the alternatives.

The specialised sections , like last month's soundboard article are brief and to the point. They don't give unnecessary technical mumbo jumbo like most PC magazines.

But my favourite bit of the magazine is QED. I am one of those people who haven't got the patients to sit down for hours on end to work out how to solve adventures and bypass various stages in games, so cheat sections help us impatient PC users.

Wayne Roberts
Gunnislake
Cornwall

PC Review welcomes letters on any subject under the PC sun. The editor will chop them to fit the space if need be, and we'll assume letters are to be considered for publication unless you specifically state otherwise. Send all correspondence to Letters, PC Review, EMAP Images, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU. Star Letters win software prizes!

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WINNERS

PC LEISURE ISSUE 9:

Crossword competition 7

One five star rated game from PCL 9 goes to C D Soulsby of Hassocks, West Sussex, who was first out of the hat.

Solution to Crossword 7

Across: 5. Moonbase; 6. Spot; 7. Sierra; 9. Snoopy; 10. Satan; 11. Crime; 14. Bytes; 15. Cabal; 17. Cohort; 18. Galway; 19. Kult; 20. Red Baron.

Down: 1. Logical; 2. Sara; 3. Leisure; 4. Loopz; 6. Stormball; 8. Readysoft; 12. Century; 13. Sarakon; 16. Rogue; 18. Gods

ON THE SPOT

Every month PC Review invites you to join us on a visit to one of the country's leading PC software producers – a chance for you to put companies On the Spot. Ask all those burning questions and find out what goes on behind the scenes to bring you your PC games. Each company visit will then be featured in PC Review.

If you want to take part in a PC Review On the Spot visit, fill in the form below, and we'll be in touch.

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

.....

Daytime tel no:.....

Evening tel no: (leave this blank if you prefer) .....

Age: Under 21 ❑ 21-35 ❑ 36-50 ❑ Over 50 ❑

Which company would you like to visit?

Domark ❑ Sierra ❑ Mirrorsoft ❑ US Gold ❑ Virgin ❑

Other (if applicable) ❑

.....

Any particular reason for your preference(s)?

.....

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.....

.....

Send this completed form, or a photocopy, to
On the Spot, PC Review, EMAP Images, 30-32 Farringdon Lane, London EC1R 3AU.

Confused about the mysterious workings of your PC? Bewildered by hardware options? Stricken with software seize-ups? Whatever the problem, share it with Q&A, and we will endeavour to help

FALSE ECONOMY?

Q

Will software bought in America, or for that matter anywhere outside the UK, work on UK machines? It seems cheaper but I'm worried it won't work.

And rumour has it that the i586 chip is coming out early next year - is this true?

Reginald Lee
Northolt
Middlesex

A

There is very little technical difference between software made in the US for the US market and US software made for the UK and European markets. The main difference will be the rather quaint way of spelling English words that the Americans use, and the lack of the pound sign. Or, for European software, it's not in English at all.

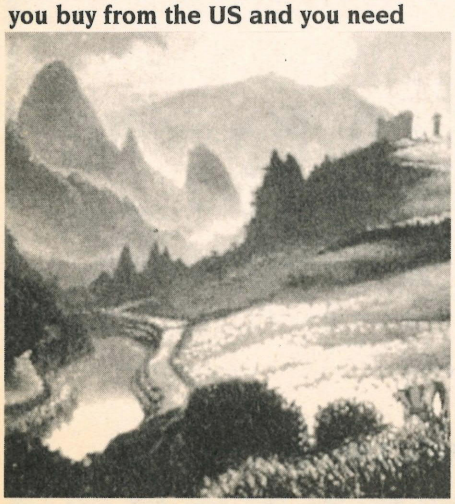
Though, as you'll gather, none of that really affects games software, if you don't mind the American spellings or foreign language that is. The only really problem you might have is getting any support for the product.

If you do buy your software in the UK at least you will have a UK supplier to get support from – usually in the guise of "Oh, you have to do this to make it run on one of those." If you buy from the US and you need support you are likely to find the UK distributor – if there is one – won't look too kindly on helping you out and after calling the US a few times your phone bill will begin to look like your phone number.

This is doubly so for any applications software. UK distributors can get decidedly unhelpful over 'grey imports' – that's the practice of buying cheaper software or hardware from the US – and life–saving upgrade disks 'supplied free to all registered users' become very difficult to obtain.

So, yes, you can run US software on UK PCs, but beware the support trap.

As for the i586 (code named P5 if you want impress your friends), Intel is only saying it is going to be available in 1992, though informed speculation has it placed for launch around second quarter, between April to June. Though Intel will be announcing upgrades for the i486 (both DX and SX) at the beginning of next year, these will effectively double the chips clock speeds – so if it's a 66MHz i486DX you want – start saving now.



BIG BYTES

Q

Please can you tell me if you can put two Filecard 30s together in one computer to make one 60 megabyte hard disk.

Daniel Sedden
Cheshire

A

The Filecard and the original Hardcard are very useful devices for users who want to expand their PCs. They have a disk drive unit and all the controller hardware on one slot built on to a card and are a very efficient way of increasing your hard disk capacity.

So to answer your question – NO you cannot run the two together to make one 60Mb hard disk. But if the question is can you put two cards in one computer then the answer is YES.

You cannot run the two disks together as one unit without an awful lot of modifications to the hardware and software – the sort of modifications hard disk manufacturers do in their research and development labs. But in the same machine it is possible providing the power supply is up to it. Simply speaking, the PC's power supply is just like the national grid; it has a finite supply. It is likely to be able to handle the first card with few problems, the second card too; but it is worth checking in the manual how much the cards need to run.

MAKING THE GRADE

Q

I have an Amstrad 1640 with 640Kb RAM and an ECD monitor. Is it possible to upgrade it to at least 2Mb and, if so, how? Also I want to upgrade my graphics from ECD to SVGA. What would be a suitable combination for my PC and how could I do this without keeping the old monitor as a power supply?

Pritpal Jutla
High Wycombe
Bucks

A

It is possible to upgrade the memory in the 1640. The only problem is it won't be the same sort of 'extra' memory you would use in a 286 or above. You will have to configure the memory as EMS or expanded memory. This is not the same as extended memory which is what is available on more powerful processors, where the memory is seen by the processor as a simple extension of the on–board memory.

Expanded memory works on a different principle and was designed to run with the 8088/8086 processor chips and was devised back in the early days of PCs, though a lot of games still support it all the same.

You'll have to run the memory as LIM EMS 4.0 (Lotus Intel Microsoft Expanded Memory Specification) and

there will be instructions on how to with the card.

As for the SVGA upgrade it is certainly possible. You can disable the on–board EGA graphics system at switch no 10 at the back of the unit and plug in a SVGA card with no problem. And running a monitor off that will also be possible. But it is likely to be a bit messy because of Amstrad's inspired placing of the power supply in the monitor housing.

Though we don't know of any external power supply units for the machine, some people in the office do remember a company offering just that: a safe, fully isolated power supply for a 1640 back in the old days. If anyone else can remember who it was please drop us a line here and we will happily pass on the information.

PASSED ITS PRIME

I have just been given an old IBM PC by my cousin who bought it new. I read that the early PCs had different disk drives can I use it as an ordinary PC?

Bob Hughes
Blackheath
London

The first PCs had a 5.25 inch 160/180Kb single–sided floppy, a minimum of 16Kb and a maximum of 64Kb of memory, and was launched in 1981 in the US. The UK didn't see the PC until 1983 and by then it had achieved the specification we know now, with 5.25" 360Kb double sided disks.

So given that your cousin bought the PC from new and you don't say if he/she was American, the answer is a qualified yes, the IBM PC still only had a maximum of 256 Kb memory available to it and you may still need to work on it (extra memory, colour monitor, perhaps even an accelerator card) to get it up to a decent games specification.

A quick way to spot a UK (or European) PC is to check the voltage selector. If it's a 115 volt unit it's American and if it says 230 volts it probably a UK unit. You will find the voltage rating on the back of the unit by the mains inlet.



HEADING FOR PORT

I own a 16 MHz 286 PC with VGA graphics and, as an avid games fan, I was wondering how you can tell if your machine has a game port or not?

During normal running the machine with a mouse and no printer, I have two free ports: a 24 pin socket and a 15 pin socket. Is one of those a game port?

Wayne Roberts
Gunnislake
Cornwall

Hmm, it is always difficult to do this sight unseen, but here is a rough guide to how the input/output sockets look on the back of a PC.

First off let's get this male/female connector stuff sorted. Those of you with an imagination may well be ahead of the class here – but pay attention anyway because it isn't what you think.

A female connector is slightly smaller than the male connector and, usually, fits in to the male socket. It has the half of the plug which receives the pins: so the female connector has the same number of little pin holes as the male connector has pins. Or holes for pins if all the pins aren't fitted – uncommon but it happens.

You may now, correctly, assume the male connector has the pins and the female connector has the pin holes.

The games port on the PC is a 15 pin female connector and has two rows of pin holes, one of 8 and the other 7 and it's about one inch in length.

The only other 15 pin connector you are likely to find on a PC is the VGA connector, but this is about three quarters of an inch long and has its 15 pins in three rows of 5.

And as you said the PC was running it is likely to assume that it isn't the video output. So it sounds like a games port. If you can, borrow a joystick and connect it up, that should be the final proof.

You say the other connector is 24 pin, it is more likely to be a 25 pin serial port (two rows 13/12 male) or 25 pin printer port (two rows 13/12 female). Note: the serial port also comes as a scaled down 9 pin (two rows 5/4 male) connector on a lot of PCs nowadays. If it is 24 (two rows 12/12 female) it's likely to be a General Purpose Interface Bus (GPIB) connector – which is not a games port.

If you have any information which may help any of our readers, or if you need help yourself, write to Q & A, PC Review, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU.

Cardboard City

Do we detect some embarrassment on the part of budget software specialist CodeMasters when it decided to publicise its truly revolutionary new development?
"CodeMasters is now releasing all its Amiga and Atari ST games in sturdy cardboard boxes ..." screams the press release.
"Look out for more innovative cardboard engineering in the future, wood-pulp fans," trumpeted marketing manager Richard Eddy.
Those lucky Amiga and ST owners, eh?

Licensed to thrill?

The software industry is quite capable of buying up some dubious licences for computer games without outside encouragement (the favourite example is usually Jack Charlton's Match Fishing, of mid-80s vintage), but even the most ardent tie-in chasers would do well to emulate the fictional company Gigantic Productions, invented by The Guardian. As part of the newspaper's Posers series, which aims to put moral dilemmas to public figures, the self-styled Gigantic suggested to Broadcasting Standards Council chairman and ex-Times editor Lord Rees-Mogg that they were thinking of portraying him as "Mogg-Man" in a violent arcade-style game. Rather surprisingly, Mogg-Man was quite enthusiastic about the idea.

So, in the spirit of Lord Rees-Mogg, more unlikely licences, please. Ken Barlow in Indiana-style adventures, perhaps ... Jeremy Beadle to take Leisure Suit Larry's mantle? Send all suggestions to the usual address.

So good we had to say it twice ...

Well, that's our excuse, anyway. Apologies all around for the glitches in issue one which led to four reviews having chunks repeated in the middle. For everyone who has asked what the words were that were missing from the end, here's a quick run-down:

Wing Commander 2

Up till now everything has been perfect, for machines that can handle it. What of the lower-end PCs, without memory cards and sound boards? This is where the game falls apart (in some cases literally). Without expanded memory, the first thing you notice is the lack of music, even with a sound board. There's less of it, reserving it for menu screens, a bit of the intro and other spot effects. It also removes any speech, so all you are left with are sound effects.

The other problem is the constant error messages that crop up. There you are, happily blowing some alien scum off the face of the galaxy, when the program quits and displays 'Not enough memory'. That and the strange 'time loops' that crop up, where you suddenly find yourself flying the same mission over and over again, until it decides to correct itself. This is very unprofessional for what has, till this point, been a very professional product. Surely someone at Origin would have noticed such major errors, though one does have to argue the size of the project in their favour.

It appears to be the case that the game is developed on the most powerful system possible, then chopped down to support lower-grade machines without a careful check. I'm sure Origin would say otherwise but you have to remember, whenever the game has been demonstrated or previewed it's been with the highest possible system.

Anyway, there isn't a lot you can say against Wing Commander 2 if you've got all the necessary extras. It's a superb piece of entertainment that will no doubt keep you occupied for ages. That's not to say it couldn't have been better, but as it stands it is very playable and has plenty to keep you hanging on for more.

You're going to find a large split in the community when Wing Commander is brought into discussion. There will be one side that claim that while the presentation is superb, the actual game is little more than basic 3D combat and can become repetitive. Then there will be the others that whoop with joy every time they hear the opening sound track and form Wing Commander 2 fan clubs with regular meetings in which everybody dresses up as characters from the game.

What you have to remember is this is the future of PC games, no matter how hard you try to believe otherwise. Companies, especially American ones, are finally starting to take full advantage of the PCs power and games like Wing Commander 2 are the result. All that needs to be done is for someone completely unaffected by sexy technology to play the games before they are released and to make the changes that allow the user to become more fully involved with the proceedings. Just imagine what the possibilities could have been if the cinematic sections had multiple choice speech options, with four or five completely separate paths for the story to have taken. Remember, it's by no means the end for the series, already extra mission disks are being worked on and it's a safe bet there will be a sequel. Surely it's only a matter of time before Origin produce the ultimate game. For ultimate PCs only, of course...

Team Suzuki

Ever fancied watching yourself race a motorbike on TV? Well Team Suzuki also has a 'TV camera' viewing option with F5, which features 3D action from a multitude of directions. Finally, F2 allows you to see what is coming from behind in race situations and, guessing correctly that a quick backward glance would be an advantage in a close race, a nippy little knock on the space bar will also let you look behind without having to press F1 to return to a forward view.

Colour is good, nothing is overdone and the overall 3D effect is quite impressive if a little boxy looking, very understandable considering the speed at which the game runs. I also really like the 3D action replay of the last ten to twenty seconds of the race, when you finally go over the finishing line it adds a few triumphant seconds for you to lean back in your chair, punch the air and exclaim 'Yeah' as you get that spectacular feeling of man triumphing over machine and adversity.

Overall I found Team Suzuki an enjoyable if difficult game to play. It certainly matches up to the programmers' expectations in the realism department and for the majority of simulation fanatics, racing addicts and motorbike boffins it will become the standard by which such software will be judged in the future. Due out any day now and priced at £29.99 it is good value for money, as the three engine classes and 32 racetracks will make for lastability. Born to be wild, bike on dudes!

Might and Magic III

The game also suffers from constant hard drive access - and that's on a top-end, 20Mhz machine. Every time an option screen appears, the game freezes for a second or two, which gets annoying quite quickly. I've not played with an expanded memory machine, and this might well solve the problem, but most of us will have to put up with the delay.

Despite all these problems, this is fundamentally a great game. The quality of the gameplay, not to mention the graphics and sound, make the mistakes mentioned earlier even more grating. It's a shame that New World Computing either haven't employed testers or haven't listened to them, as surely these faults could have been fixed easily. What you're left with is a game that's frustratingly imperfect.

I'd recommend this game to veterans of the Might and Magic series, and to experienced RPGers in general, and there's no doubt that the game rewards persistence, as I've discovered by slogging on in the face of the early difficulty. There's no doubt that this represents the future of role-playing on the PC, and once New World conquer the obvious teething problems with their new system, they will have produced the definitive RPG - and this is a good start to that aim. Might and Magic III is the classic example of 'nearly', but not quite", a potentially superb RPG marred by some user-unfriendly problems.

Willy Beamish

Furthermore, when you have your game decisions to make,there is often a conflict between what is obviously the sensible, play-safe option, which usually turns out to be successful, and the option that you feel would be more in character with Willy. Complaining about helping your mother in the kitchen isn't constructive to the development of the plot; refusing to push Brianna on the swings is a bad move; brushing off a cut on your finger is medically unsound, and yet how many small boys would voluntarily go off to the bathroom to bandage it? By the time I'd finished with Willy Beamish, he was turning into a right little goody-goody.

In a game with this much complex animation and illustration, it is inevitable that there are going to be delays while the next screens load from disk - even on our 20Mhz test machine these pauses were noticeable, though not too obtrusive. On anything slower, they will be both. A little more surprisingly, I found the movement of the mouse and/or keyboard a bit jerky at times, particularly when transferring an object from the inventory screen to the main screen. Having marked your object and dropped it in the location, it can be remarkably difficult to place it correctly, so that it has the right effect. This is distressing when you are being beaten up by Spider, the school bully, for a second time, and can't get him to accept your peace offering, especially as you feel it might be time-critical. One more blow and you might land up in hospital, which is little more than a graphically impressive way of saying Game Over. In fact, landing in any sort of big trouble more than once will end your game. Occasionally, a 'trouble-meter' will pop up to indicate just how close you're pushing your luck; more often it's just a case of making a bad choice from your menu.

There is also the point that while you play the part of a child, Willy Beamish is a game intended for all ages, with a few bits of innuendo thrown in for older players. Certainly the story should appeal: beautifully drawn and impressively detailed in its finishing touches, and both the star and his co-stars have some real personality. In the long run, though, I'd have preferred a bit more action from my side of the computer.


A320
A·I·R·B·U·S
...is on final approach.

BATTLE COMMAND



FIRST INTO BATTLE ...

Set in the future, in which you control a "Mauler" Assault Tank in one of 16 missions, in a war fought between two dominant races of the New World. Such are the defensive capabilities of the opposing armies that any offensive moves must entail "behind the lines" actions performed by elite troops in specially designed vehicles. The Mauler is the latest such machine capable of being lifted in and out of hostile territory and armed with the most advanced weaponry. Select your mission and the armoury you will require. The 360 radar sweep, in and out of cockpit views and area maps showing terrain, and complete theatre of operations, all combine to give a full picture of the battle as you strive for victory in a 3D arena where tactics go hand in hand with lightning reflexes and a true-grit determination

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Ocean Software Limited · 6 Central Street
Manchester · M2 5NS · Telephone: 061 832 6633
Telex: 669977 OCEANS G · Fax: 061 834 0650

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