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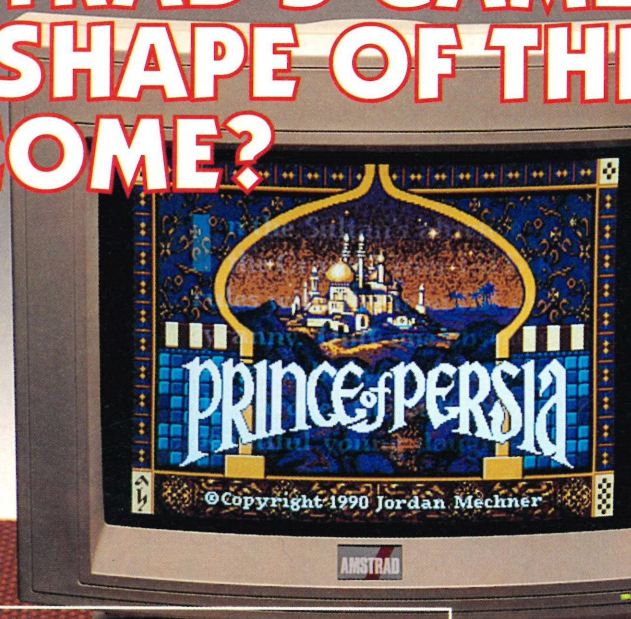
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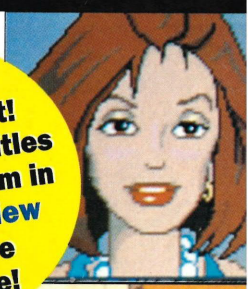
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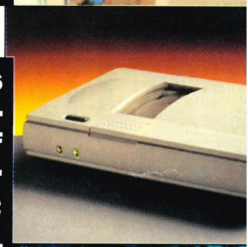
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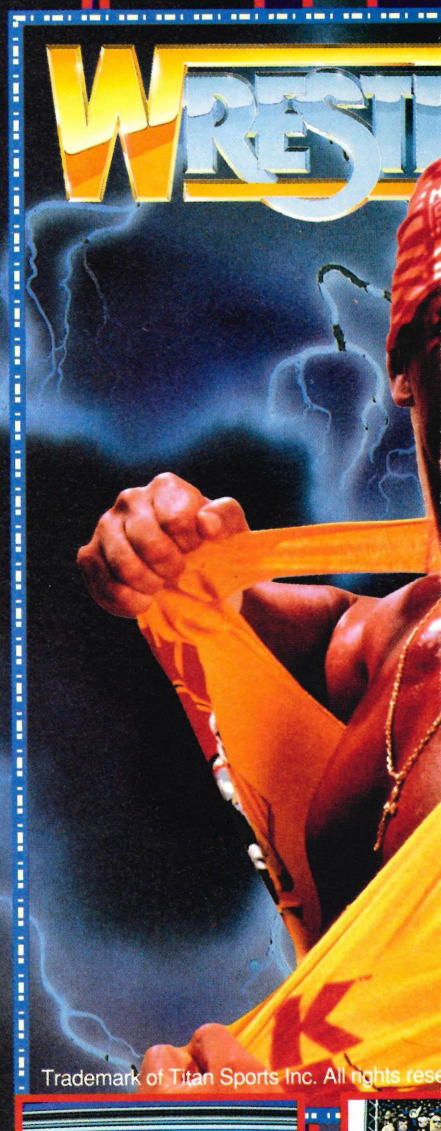


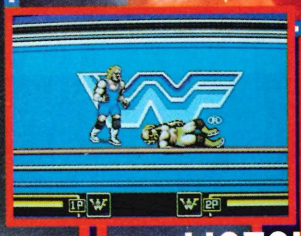


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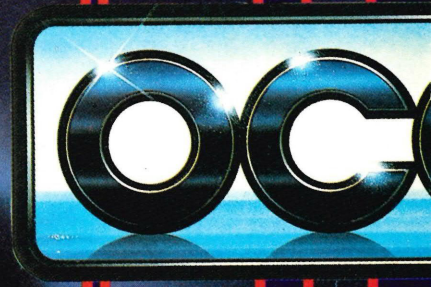
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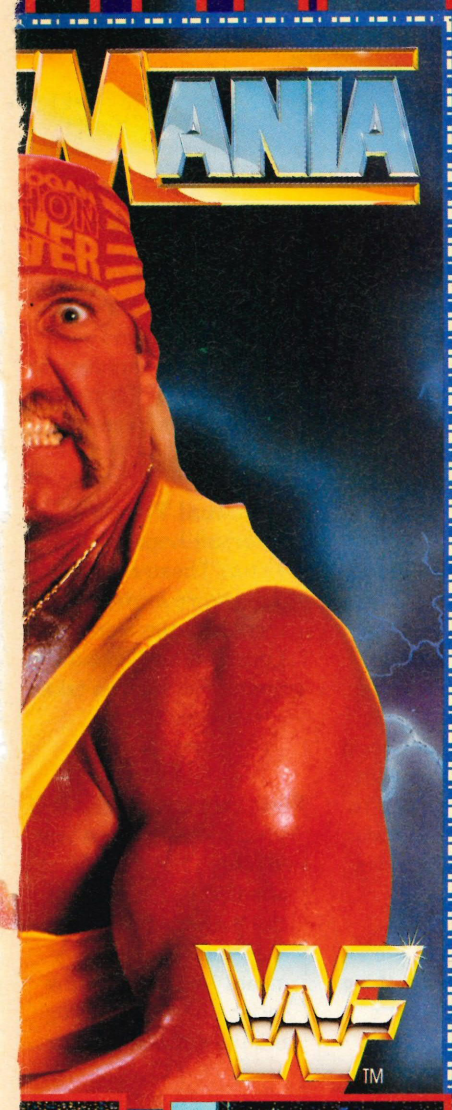


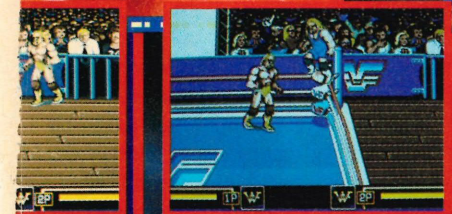
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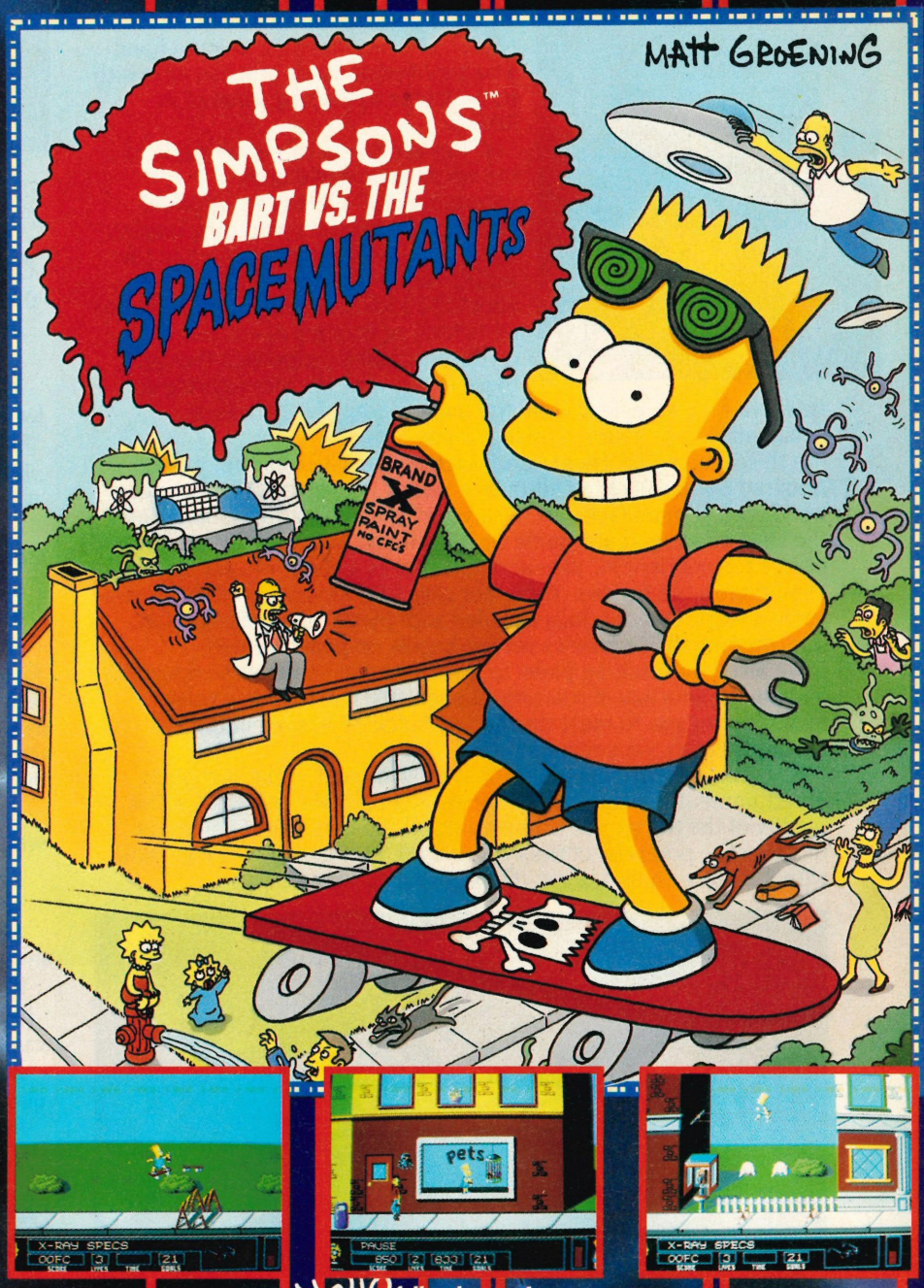




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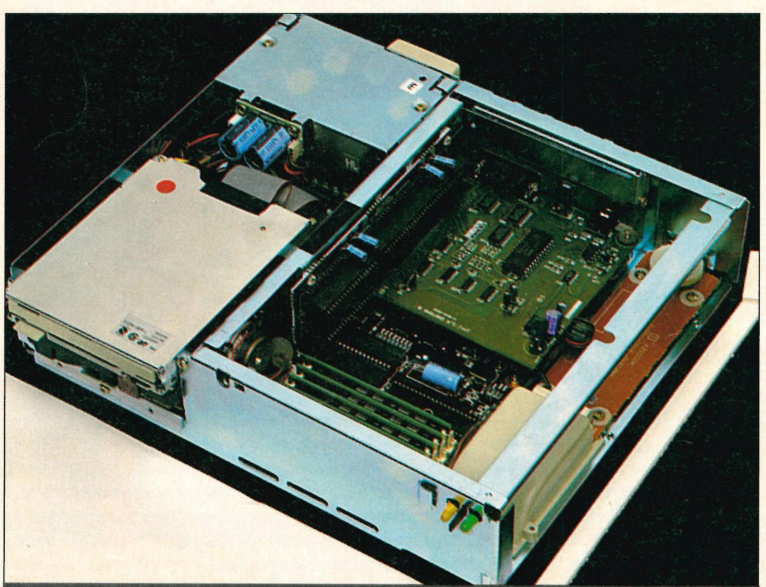
Whether you're a brand new PC Review reader, or a seasoned PC Leisure hand who's moved upwards and onwards with us, welcome to the first issue of PC Review.

PC Review is your one-stop guide to the whole wide world of PC entertainment – the fastest-growing sector of the leisure computing market. By this, we mean entertainment in the widest sense of the word: it isn't just about the 15th bombing mission in your jet fighter, or blasting aliens out of mythical galaxies (important though these things are). We aim to bring you news, views and reviews from the huge variety of PC products designed for use in non-working hours.

In this issue alone, there's an in-depth, exclusive feature of the Amstrad Games Pack, an all-in-one games PC which could well set a trend among manufacturers; a survey of the latest soundboards, and the start of a beginners' guide which will take you, step-by-step, from novice to confident PC user and upgrader in a series of easy stages. Then there's the reviews. We're not called PC Review for nothing, you know. Clearly laid out, fully detailed with plenty of robust opinion, our comprehensive reviews service begins on page 39.

We also have exciting plans to involve you in shaping the magazine and having your say. If you turn to page 103, you'll find an open invitation for you to meet the leading software houses in the PC leisure industry, on a regular basis.

PC games are currently the fastest-growing part of the computer entertainment market, and the most exciting place to be, since the quality of the top games is improving all the time as programmers discover the potential of the PC standard. PC Review will be growing with it: stick with us and get the most out of your PC.



The anatomy of your PC explained – see page 34



Just look at what Dynamix has in store for you with Willy Beamish on page 80

7
News A third Wing Commander game is in the pipeline, Star Trek's 25th anniversary, first details of Virgin's conversion of David Lynch's film Dune, plus a full round-up of who's doing what and when.

15
Coming Soon In Secret of Monkey Island 2, a revived LeChuck is out for revenge against Guybrush Threepwood. Meanwhile Mirrorsoft aims to continue the good Cinemaware name with TV Sports Boxing, and to win the Battle of Britain with Reach for the Skies.

20
Q & A You ask, we answer. If there's anything about your PC that's bothering you and you can't find the answer, try our expert panel: no question is too simple or too technical

23
Cover story: Amstrad 5286 Games Pack Instead of buying a games-configured PC in bits and bobs, wouldn't it be nice to buy the whole lot in one package? This is Amstrad's latest wheeze: find out how it stood up to Rob Beattie's going over it with a fine toothcomb.

28
New soundboards on the block Brand new soundboard technology to give your PC that philharmonic feeling.

31
Virtual Theatre Mirrorsoft hopes that the Virtual Theatre graphic adventure engine will emulate the Sierra, Lucasfilm, or Delphine systems. Rik Haynes takes a closer look

34
First steps with the PC What happens when you switch on the PC? What are all those sockets at the back for? What do CGA, EGA, and VGA mean? We begin a new series on using, abusing and understanding your PC

39
Reviews A veritable feast of goodies are put through their paces by our review team. Take your pick from Origin's Wing Commander 2, Microprose's Civilization, Dynamix's Willy Beamish, Gremlin's Team Suzuki, and many, many more.

90
Tips Solutions to Heart

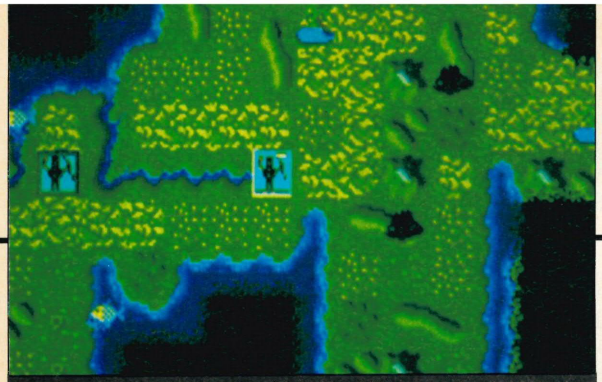
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Editor Christina Erskine
Art editor Gareth Jones
Production editor Paula Shields
Additional design Allister Cordice, Bridget Tyldsley
Staff writer Matt Regan

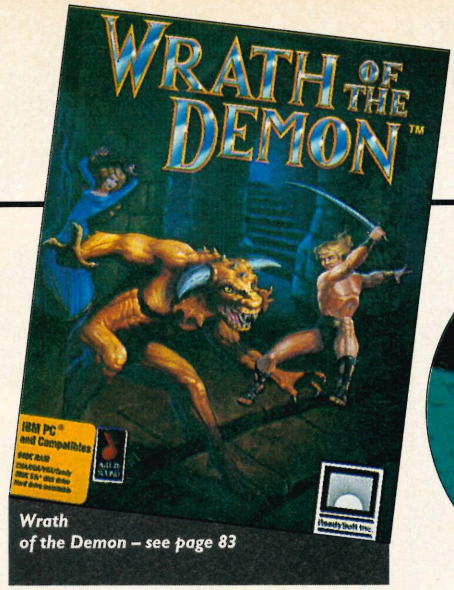
Contributors Rob Beattie, Neil Blaber, Tim Carrigan, Alan Dykes, Kati Hamza, Rik Haynes, Gordon Houghton, Chris Long, Paul Presley, Tom Schmidt, Laurence Scotford, Mark Smiddy, Pat Winstanley, Peter Worlock

Cover photograph Ed Park
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ADVERTISING
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Wrath of the Demon – see page 83





Wing Commander 2 revealed on page 40

of China and Eye of the Beholder, plus a host of tricks and tactics to get you through the rough patches.

97

Kid Pix Deluxe Paint for kids? Probably more than a few adults will find it absorbing as well.

98

Philips CM50 CD-ROM drive Size isn't everything, as Philips proves with its small but perfectly formed CD-ROM device.

100

Win an Amstrad Games Pack Your chance to win a complete Amstrad 5286 Games Pack system - plus mouth-watering software prizes for the runners-up.

103

On the Spot Join PC Review on our grand tour of the UK's best PC publishers, and meet the movers and shakers in the games market. Find out how to participate in this introductory feature.

105

On disk The cover disk explained - how to play the addictive Faces demo, catalogue your record collection and sing along to The Blues Brothers.

108 Subscribe to PC Review ... and get free software as well!

110

Win a Tecnoplus Sound System A Sound System including soundboard, sampler and speech synthesiser is on offer to the winner of this easy to enter competition

112

Next Month in PC Review Find out what's in store in the December issue.

115

Buyers' Guide Hardware, software, peripherals, accessories, handy phone numbers, quick games guide ... all listed here.

141

PC Review Shareware Catalogue PC Review and Advantage have joined forces to offer you the very best in shareware. All available at a special discount to PC Review readers.

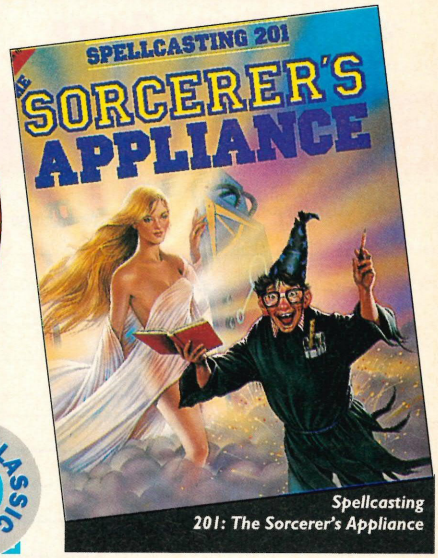
158

Letters

162

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Spellcasting 201: The Sorcerer's Appliance

Plus ... 24 page colour supplement: part one of the PC Review Guide to the Top 100 Classic PC games.

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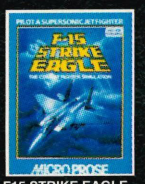
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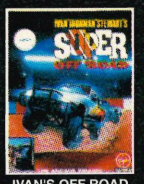
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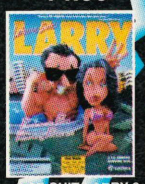
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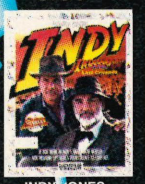
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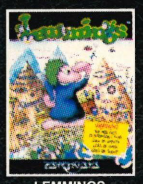
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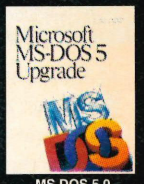
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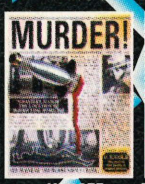
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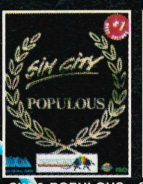
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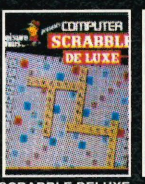
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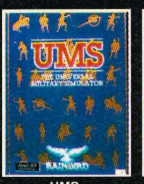
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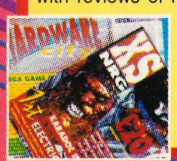
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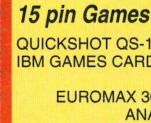
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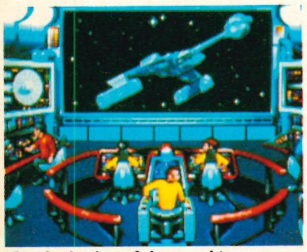
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On the bridge of the starship Enterprise with Kirk, Spock, Sulu, Chekov, Uhuru, Scotty and Dr McCoy busy at their posts.

KEVIN KICKS ASS

A family comedy without the family, Home Alone is based around the surprise hit film with you in the role of eight year-old Kevin McCallister trying to foil the break-in of two inept burglars while his family go on vacation.

Home Alone from Capstone and Accolade is split into a two-phase action game. First you must rush around the house, creating ingenious traps and sneaky pitfalls.

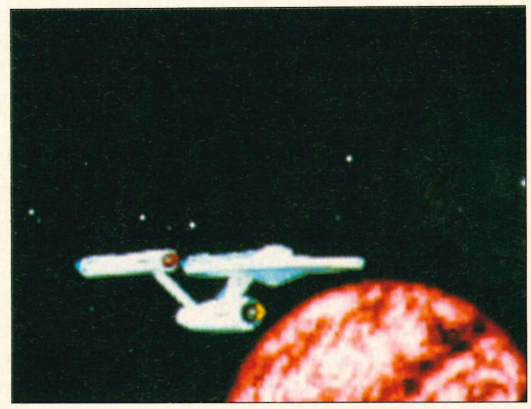
Then you'll lure the thieves into a wacky slapstick chase through the clever contraptions that protect your suburban home.

As one would expect, the programmers are using digitised pictures and sounds from the film. Most of the software graphics are in the process of being reviewed and approved by the film studio, 20th Century Fox.

Previous Capstone releases have included Bill & Ted's Excellent Adventure, Search for the Titanic, Miami Vice, Superman and Trump Castle.

THE FINAL FRONTIER

Helping to celebrate 25 years of the most popular science-fiction TV series ever made, Interplay and Electronic Arts are about to release a space flight adventure based around Star Trek.



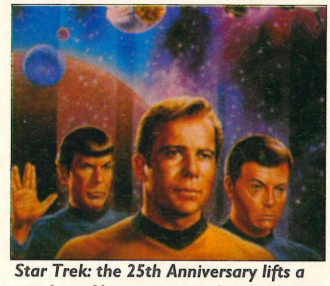
Almost two years in development, the intent of the game is to put the player in the position of James T Kirk, captain of the USS Enterprise. Additionally, the familiar bridge crew will be there, including Spock, Dr McCoy and Uhuru.

Star Trek: The 25th Anniversary combines a 3D space flight simulator with a wide variety of role-playing adventures. The security guard will beam the team down to the surface of any planet. Approximately 15 of these worlds will be covered in detail, where the landing party can interact with the inhabitants in traditional 'adventure' game style. "Each planet adventure will be like a single TV episode strung together by an overall plot," comments Anita Lauer of Interplay. "We've been working closely with the creators of Star Trek, Gene Roddenberry and Paramount."



In space, you see the entire bridge of the Enterprise with all the characters at their station. Here commands are issued to the crew, such as "ahead warp factor three", or "fire photon torpedoes". Klingons, Romulans and a few other surprises will be waiting for space combat with klaxons blaring and disrupters locked on!

Authentic models were built and digitised for these sequences and combined with bitmapped special effects. Lots of lavish graphics in 256-colour VGA and major soundboard support, with complete musical score and sampled sound effects, round out the game.



Star Trek: the 25th Anniversary lifts a number of humorous touches from the TV series. Trekkies should love it ...

DO IT YOURSELF

If you know anybody who has tired of the info-packed Universal Military Simulator II strategy game, Rainbird has just released what could be a perfect gift.

A versatile utility program, the UMS II Planet Editor allows the player to create their own world and battles. Almost everything can be tweaked, from how many volcanoes are included in the landscape to what sort of climate is established.

Working with the same 'building block' system found in the original release, the easy-to-use menu driven Planet Editor comes with two ready-made scenarios (South East Asia 1946-1964 and The Pacific during World War II)

WORLDS OF ULTIMA

Envious of the success of rival publisher SSI, Origin is planning to release a dungeon and dragons role playing adventure game inspired by the likes of Dungeon Master and Eye of the Beholder.

Ultima: The Underworld is the third game in the 'Worlds of Ultima' series which also includes Savage Empire and Martian Dreams. Unlike these best-selling titles, Underworld isn't based around the Ultima VI game engine.

Origin reckons their release has the most realistic-looking dungeon and creature graphics ever seen in this style of entertainment software. In fact, it's another one of those 3D 'Virtual Reality' efforts so popular at the moment. Flasks of oil can be thrown against walls dripping in slime and such like. Still, things certainly have come a long way since the textural descriptions of locations in adventure games like Zork from Infocom.



As in previous Ultima adventures, players enter the fantasy realm of Britannia. This time, they have to rescue a baron's young daughter from some heavy monster dudes.

Expected before Christmas, Ultima: The Underworld will cost approximately £40. Origin products are distributed by Mindscape in Europe.

COMMAND PERFORMANCE

With Wing Commander 2 already selling like hotcakes, PC Review can exclusively reveal Origin is set to begin work on the third, and last, adventure in the space saga. And if you think the latest game is visually impressive, you won't believe your eyes when you see Wing Commander 3.

"We're going to employ a lot of the technology that's been used for Strike Commander," enthuses Wing Commander mastermind Chris Roberts, "It's going to be pretty awesome."

Inspired by a memorable sequence in The Empire Strikes Back movie where Luke Skywalker attacks monstrous walking vehicles in a snowspeeder, players will be able to swoop down on to the surface of planets and fight a varied selection of Kilrathi forces. Experienced joystick jockeys can actually fly inside some huge spaceships for really confined combat.

In case you're interested in technical matters, Wing Commander 3 will utilise texture-mapped polygon 3D objects as opposed to the bitmapped graphics seen in the previous games. These advanced techniques should allow the creation of more detailed and realistic imagery.

Martin Galway, the head 'blue-sky R&D guy' of Origin's audio department, expects Wing Commander 3 will exploit more tricks on the Roland LAPC-1 card and could use quality sampled sounds instead of synthesised ones on the Soundblaster and AdLib Gold soundboards.

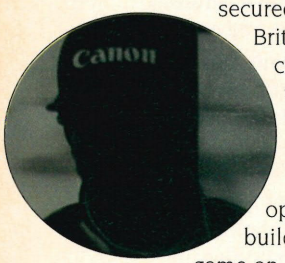
"Do you remember the film Aliens? When the space marines are creeping through the base looking at all the acid burns and debris," asks Galway. "There's no music playing there! Only lots of sound effects on top of one another. They alone carry the burden of generating suspense."

Such an ambitious project will obviously require an expert team of designers, programmers, animators, musicians and sound effects specialists.

"This project will be staffed by the best in the business but I want to finish the trilogy myself," Chris Roberts remarks. "I like to get down in the trenches and have control over every single pixel."

Sadly, gamers itching to play a part in the final demise of the Kilrathi Empire will have to wait until Christmas 1992!

GOING FOR POLE POSITION



Publisher of the phenomenally successful Lotus Turbo Esprit Turbo Challenge and Team Suzuki, Gremlin, has secured a deal with British driving champ – and terribly nice bloke – Nigel Mansell.

"The opportunity to build a Grand Prix game on such an exciting racing personality will be a culmination of many years hard work in seeking to develop the perfect racing game," indicates Gremlin's Ian Richardson.

A series of Nigel Mansell games will be released over the next year. Paul Blyth, who competently handled the recent Federation Quest One conversion, has been put on the project and is already tweaking a few fancy graphics routines.



LIVING WINDOWS

Maxis has released a new version of its best-selling Gaia game, SimEarth – The Living Planet, taking full advantage of the friendly interface and multitasking facilities provided by Windows 3.0 from Microsoft.

Maxis' goal is to publish 'software toys' like SimCity and SimEarth which let players learn through exploration.

In SimEarth, you control the evolution of life – from its origin in the oceans to development of intelligence, civilisation and interplanetary travel. Not so much a game as a complete science project, players can create their own planet or use one of the seven pre-built worlds.

With SimEarth for Windows, hints are provided through Windows Hyper Link Help System. In addition, players can instantly shrink the game to an active icon and run other Windows 3.0 programs while SimEarth continues to play in the background. An upgrade for existing owners is available.

LIFE AFTER HARPOON?

Following on from the success of the award-winning naval strategy wargame Harpoon, Three-Sixty in conjunction with the Game Designers Workshop is developing a land-based counterpart.

Patriot comes with a Persian Gulf scenario and battle sets from the world's major hot spots, but expansion datadisks will become available later on. Additionally, there is an editor for any creative minds out there.

Taking the role of a Major General, players are able to blend tactical and strategic decision making with on-the-field observation.

Three-Sixty's programmers are currently expanding, enhancing and simplifying this product to allow easier access to first time players.

These new features will include improved graphics and sound, better interface and a more detailed database.

REMOTE CONTROLRODENT

Selectech's AirMouse remote control is a simple-to-use remote control for all interactive computer and video systems.

Comprised of the Base Station that connects to your PC and a handheld remote unit equipped with two buttons, AirMouse is the "magic wand of the interactive video world", according to Selectech.

"Our approach obsoletes trackballs, joysticks and surface-operated cordless mice," proclaims a confident Jim Richards, the president of US-based Selectech.

WORLDS APART

Future Wars was the interactive adventure that put French games developer Delphine Software on the map. Now Eric Chahi, the co-designer of that chart-buster, is showing his next production.

For the past two years, Chahi has channelled all his energy into the development of Another World. The result is a brand-new animation system using polygon graphics or numerous special effects not easily possible with traditional bitmap visual technologies. Hopefully these zooms, panorama and animated close-up shots will produce a movie-style look.



Another World will be available later this year

GREAT SPACE RACE

Who was the second geezer to step on to the dusty hallowed rock of the Moon? Interplay and Electronic Arts have joined forces with former astronaut Buzz Aldrin to produce an 'extensive, entertaining and visually explosive' simulation of the mid-20th century space programme.

Available early next year, Buzz Aldrin's Race Into Space is based on the Liftoff! board game designed by Fritz Bronner and offers over 50 types of space missions. Players can choose to build either the American or Soviet space programmes .

Actual digitised space flight footage has been used with over 70 animated launch, reentry and recovery sequences are displayed in full colour with a complete soundtrack and sound effects. Buzz Aldrin's Race Into Space can be played against the computer, a friend and via modem.



MAN FROM ATLANTIS

For those players who like their graphic adventures a little bit more 'spicy' than the average Lucasfilm game, US Gold is concurrently developing an arcade game based around the Indiana Jones and the Fate of Atlantis scenario. Lucasfilm's adventure version is already well underway.

In this all action game, Indy and his sidekick Sophia explore a multi-level isometric-3D world for clues that will eventually lead them to the fabled underworld city of Atlantis.

Project Management Consultants provided the game design and Attention to Detail is handling the coding, graphics and sound. This team previously wrote Night Shift for Lucasfilm Games and US Gold.



Early indications are that this action game with its cartoon presentation will be superior to the one that accompanied Indiana Jones and the Last Crusade.

Both Fate of Atlantis games will be released later this year by Lucasfilm Games and US Gold. The games will be compatible with VGA, EGA and CGA graphics cards and support AdLib, Soundblaster and Tandy DAC soundboards. A hard drive is essential for playing the adventure title.

BE A PLAYBOY

The man who found Elvis in Accolade's first graphic adventure is back doing what he does best ... looking for tanned bikini-clad babes on the beaches of South California.

Les Manley is Lost in LA and on a quest to find the person behind a string of Hollywood kidnappings. As he negotiates the area in and around Los Angeles, Les meets up with plenty of stereotypical Californian people like Lance the Lifeguard and Dominique and Monique, two female mud wrestlers.

"Characters have been made more realistic by the use of professional models and actors whose images have been digitised and enlarged for a full screen, cinematic effect," says producer Sam Nelson, "Some of them have even appeared in photo layouts for Playboy Magazine.

"In addition, there's licensed California-type music hits from such groups as the Beach Boys."

Watch out Sierra: it looks as though Accolade is trying to out-sleaze your infamous Leisure Suit Larry games!

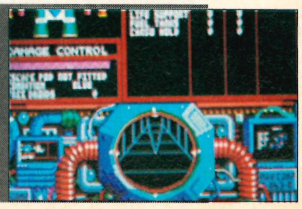


STAR TREKKING

After a long conversion lag-time, the PC adaption of Gremlin's Federation of Free Traders has finally arrived.

This space simulation brings solid three-dimensional graphics and professionally composed music, as players go out to explore the unknown regions of the universe. Good job there's an impressive array of weaponry to choose from!

Federation of Free Traders costs £29.99.



HORRORSOFT

Placing PC players in the middle of a completely new adventure, Elvira II: The Jaws of Cerberus is Accolade's sequel to last year's critically acclaimed fantasy role-playing adventure.

You're on a mission to rescue Elvira from the ghastly Cerberus, a 60ft three-headed demon who holds our heroine captive somewhere in the depths of a huge film studio. With hundreds of creatures to battle, including necromancers and flesh zombies, over 120 hours of intense gameplay is being promised.

"Truly spooky animated graphics and a haunting original soundtrack completely embroil the player in an experience synonymous with a first class horror movie," declares Project Producer Mark Wallace.

Accolade suggests the 4,000 locations in The Jaws of Cerberus make it five times bigger than the first Elvira game.

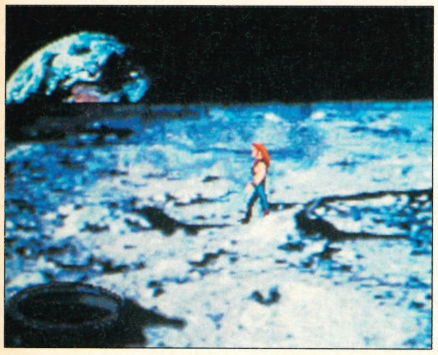


Elvira II: Will this sequel top the success of the first game inspired by that vampish late-night American TV host?

STRAIGHT FROM LEGENDS

Eternam, from major French games publisher Infogrames, is a strange graphic adventure ten times bigger than Drakkhen.

"Stay on your seat, this is not meant for chicks," says a French spokesperson in unfamiliar broken English. "Eternam has a crazy scenario and heaps of marvellous graphics in MCGA mode."



Authors Laurent Salmeron, Michel Royer and Norbert Cellier certainly have managed to pack quite a few surprises into this imaginary trip through the unknown which also features some splendid landscapes and legendary characters.

Infogrames is also planning to release a CD-ROM adaption of Eternam.



Patton Strikes Back should herald a welcome return for the wargame.

STRIKING A BALANCE

Chris Crawford, author of the highly-regarded Balance of Power, has just completed work on Patton Strikes Back for Broderbund.

This is a fast-paced strategy game centred on the Battle of the Bulge, one of World War II's most crucial land battles. The story so far... It's December, 1944. General George S Patton's tank forces are struggling to break through enemy lines, hampered by fog, snow, impassable roads and a lack of air support.

Players are able to command either Allied or German forces under historically accurate tactical and weather conditions. For variety, you can also choose campaigns with random weather and different forces on the battlefield.

The game supports VGA graphics along with AdLib and Soundblaster audio cards.

HOLD THE FRONT PAGE

Mario, Luigi and the rest of the Super Mario Bros gang have finally made it on to your PC ... well, sort of.

The Super Mario character from the multi-million selling Nintendo series of video games is more popular than Mickey Mouse in the USA and Japan! No wonder Hi Tech Expressions and The Sales Curve are attempting to tap this success with their own Super Mario Bros Print World package.



This program can be used to create cards, banners and stationery featuring the characters. Your designs can be printed out at any size, from a postage stamp to a 40,000 page mural. There's also a text editor, calendar maker and database.

Super Mario Bros Print World requires a PC with dual floppy disk drives or a hard drive (DOS 3.0 or higher), and, of course, a dot matrix or laser printer. It supports most graphics cards.

MORE MAVIS BEACON

Are you having trouble keeping up with keyboard demands of your favourite text adventure or word processing package? The people at Software Toolworks reckon they've got the solution to your key-bashing problems.

Mavis Beacon Teaches Typing II (£35.99) has been updated with a whole host of features like Windows and VGA support, graphics and statistic displays.

In addition to providing lessons on 'QWERTY' and 'DVORAK' style keyboards, there is a new Supermarket check-out practice game using the numerical keypad.



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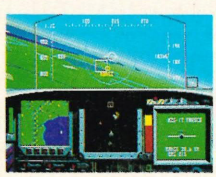
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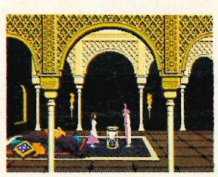
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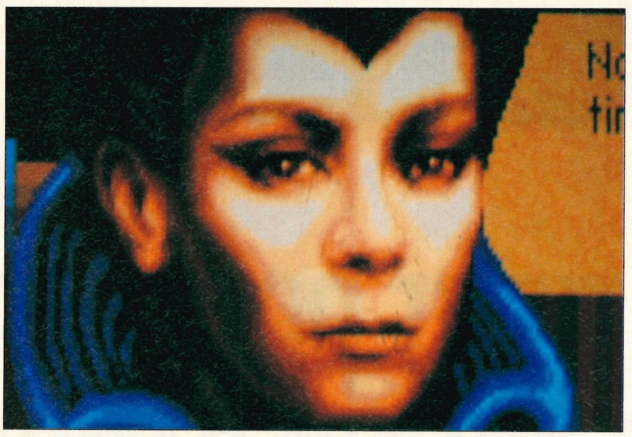
Before he made Twin Peaks, maverick movie director David Lynch attempted to bring the colossal Frank Herbert sci-fi novel Dune to the big screen. Not even the intrinsic weirdness of Lynch or the acting talents of Sting could save this film from being one of the biggest flops of the eighties.

Several years later, Virgin Games has picked up the software rights and is busy recreating the arid landscapes, political intrigue and giant sand worms of Dune.

To help their risky undertaking, the top brass at Virgin Games decided to get two separate developers on the case. The result is two startlingly different games and it seems that the French adaption is itching ahead of the opposition.

Basically a strategy game, their unique version of Dune is enhanced through the use of action sequences and startling audio video presentation in the tradition of French leisure software like Captain Blood and Purple Saturn Day.

A release date and price have yet to be decided upon.



DEFENDERS OF THE EARTH

According to Argonaut Software and Microprose, South American drug barons 50 years from now will be busted by an elite squad of undercover agents and stealth fighters.

The soon-to-be-released Advanced Tactical Air Command (ATAC) is their attempt to fuse futuristic flight simulation and strategy game.

As leader of the task force, you're charged with spearheading a massive high-tech aerial assault on the Colombian drug cartel. Four of the newest F-22 planes are at your disposal. These high performance stealth planes are deemed suitable for virtually any mission.

Combat sequences are displayed in solid-3D graphics with detailed images of hills, mountains, roads, jungles, drug plantations, factories, warehouses, guerrilla camps and more.

Success in the game will depend not only on superior flying skills but also upon developing an effective overall strategy. If only it was this simple in real life ...

RED BARON RETURNS

After months of anticipation, Dynamix and Sierra On-Line are finally readying the sequel to Red Baron, easily the best biplane flight simulation available today.

Aces of the Pacific isn't strictly Red Baron 2, but the game does have gameplay and graphical similarities with its forebear.

Concentrating solely on the Pacific Theatre during the Second World War, desktop pilots can look forward to flying over 40 different types of aircraft each with their own realistic flight models and handling characteristics.

All the hallmarks of quality entertainment software is being promised: from gorgeous 256-colour paintings to some very crisp sampled sound effects.

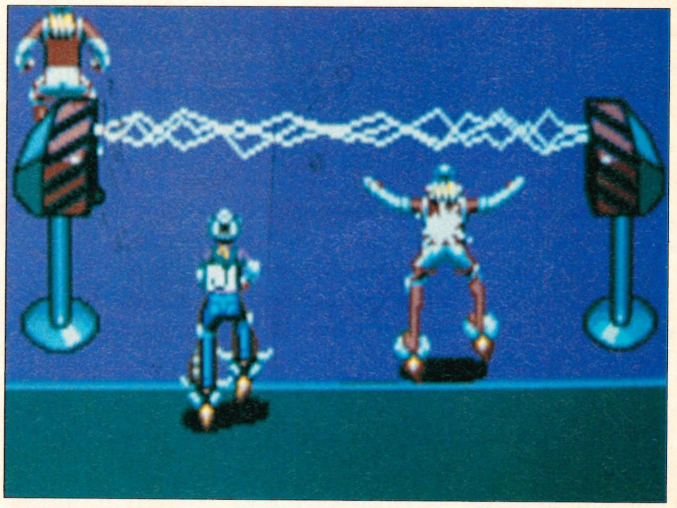
With the likes of Willie Beamish, Heart of China and Rise of the Dragon, Dynamix is fast becoming one of the top PC games developers in the world.

DEMOLITION DERBY

The Rollerbabes are a famous team of female athletes in this futuristic combination of roller derby, hockey, wrestling, boxing and skateboarding.

Teams compete on a circular track and score points by speedily covering distance, avoiding death traps and beating up their opponents. The teams include names such as the Buzzcut hairdressers to the Subhuman surfer tribe.

Rollerbabes is the latest release in the TV Sports range from Cinemaware/Mirrorsoft. As such, the game includes announcers, league play statistics and the facility for up to eight players to take part at once.



Keep an eye out for the Moving Violations, a squad of mermaids, in Rollerbabes from Cinemaware.

XTRA SWOTL

Those generous guys at Lucasfilm Games are preparing to spring yet more surprises on the fans of their latest product.

A series of expansion disks for Secret Weapons of the Luftwaffe will hopefully take this historic air combat game to new heights. Each disk adds a new plane to the simulation which can be flown by you or incorporated as a new adversary.

Larry Holland, creator of all Lucasfilm's respected flight sims, is putting the finishing touches to the first SWOTL expansion disk which centres around the American P-38 Lightning twin-engined fighter, one of the largest fighter aircraft of World War Two.



"Wing Commander really is like playing a movie, it just blows the competition away" - PC Leisure

"This is a definite candidate for Game of the Year, Wing Commander is one of the most exciting games ever released" - Ace

WING COMMANDER II

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- *Dynamic Intelligence*™ – the better you fly, the better your foes fly!
- *Totally new challenges* – including bombers, tailguns and more!
- *Instant replay* – get an audience-eye view of the action!*
- *Digitized speech* – unique voices for every character!*
- *Cinematic storytelling* – you're the star in a whole new story!

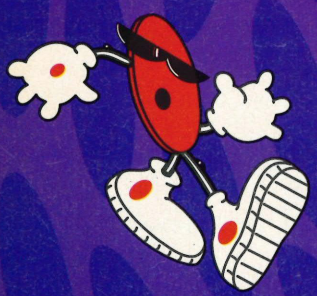
For MS-DOS w/640K (*EMS Memory required for Instant replay and digitized speech); 256-color VGA or 16-color EGA; AdLib, SoundBlaster and Roland sound, SoundBlaster req'd for digitized speech; mouse, joystick; hard drive required. SoundBlaster, Roland MT-32/LAPC-1, AdLib are registered trademarks of Creative Music Labs., Roland Corp., and AdLib Inc. respectively. Wing Commander II is a trademark of ORIGIN Systems, Inc. © 1991 ORIGIN Systems, Inc.

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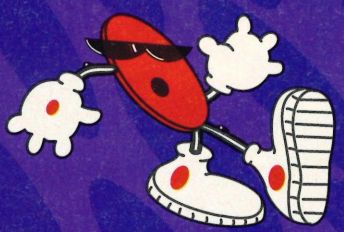
MINDSCAPE

SPOT™

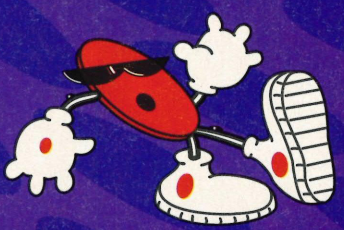


THE COMPUTER GAME!

"Gameplay that's fit to bust."
Amiga Power



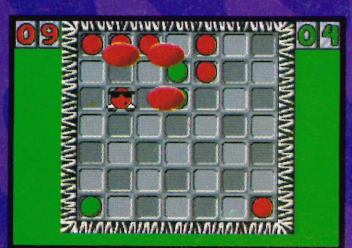
"Original and playable to last a life time. Don't miss it."
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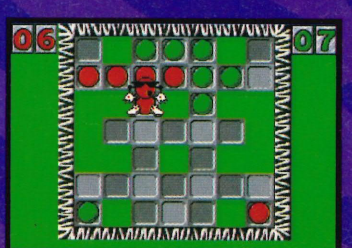
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KEEP YOUR EYE ON SPOT™

Amiga screen shots shown.







Virgin Leisure Genius

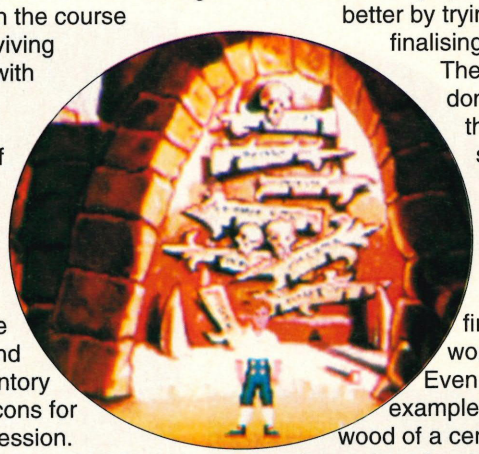
Le Chuck's Revenge



PIRATING can be fun! (as long as you are not pirating software...) The sequel to 'The Secret of Monkey Island' packs thousands of jokes into a few megabytes.

Let's go back in time for a few moments to the last scenes of The Secret of Monkey Island. Guybrush Threepwood, just approved as a real pirate, storms into a church, where his lady is being forced to marry LeChuck, the meanest, vilest, pirate in the Caribbean. Only killing LeChuck will stop him from terrorising the seven seas again but to make things complicated he is already dead and runs around as a virtually indestructible ghost! Luckily Guybrush comes prepared with a bottle of anti-ghost root beer which destroys LeChuck once and for all. Or does it?

Several years (and one computer game) later, Guybrush is at a campfire, telling his fellow pirates the story of his victory for the umpteenth time. They are really bored with Guybrush right now, so nobody gives him much of a helping hand when another would-be pirate steals all his money. To take revenge he learns about voodoo magic to scare away his new nemesis but in the course of events he involuntarily helps reviving LeChuck, who, of course, is mad with thoughts of revenge. Guybrush needs another, even deadlier weapon than root beer to get rid of the ghost, and sets sail on a quest across several islands that is supposed to be more complex and sillier then the first game.



For this sequel Lucasfilm spiced up their adventure-system to make control of the game even easier and nicer to look at. Instead of an inventory list as words, there now are little icons for all the objects in the players' possession. Another important change: Monkey Island will only be available in a VGA version (the earlier games came in EGA first and in VGA upgrades later). This VGA version is supposed to run on EGA systems in a high resolution mode, but this is slow and will not look as good as VGA.

As the game was designed with VGA graphics in mind, Lucasfilm tried out new ways to create the graphics. First only black and white sketches of all the rooms are done on paper and scanned into the computer. The programmers can use those to program those rooms and find out whether the graphics need changes. Only when the sketched room is approved as the final one and a good part of the program is written, will the room be painted in colour on paper by an artist. This version gets scanned again and then goes to computer graphic artists for touch-ups. The whole process is not only faster than the earlier approach by painting directly on screen first and programming later; the programmers do not have to wait for the graphics and can make them fit to the game better by trying them out in black and white before finalising them.



The animations in Le Chuck's Revenge are done partly by touching up animations from the first game, by drawing them from scratch, and by videotaping the programmers as they perform complicated actions and then using the digitised tapes as a source for the graphic artists.

As most players liked the humour in the first game so much, the designers are working hard to make this game funnier. Even the puzzles need unusual solutions. For example, in one place you require a piece of wood of a certain length only obtainable by sawing off the pegleg of a sleeping pirate. Besides LeChuck you will find most other characters from the first game too. Stan, the used ships salesman from Secret of Monkey Island is back in business but now sells only slightly used and nearly brand new coffins! He is dressed in black, of course, but his infamous sales pitch is still the same.

LeChuck's Revenge is supposed to ship by the end of November; translations into German, French, Spanish and Italian are likely to ship either in December or in early 1992.







TV SPORTS BOXING

THE FATE of boxing in its present form may be hanging in the balance at the moment, but Cinemaware's TV Sports Boxing has been in the pipeline for some months now. After football, basketball and baseball, the American software developer (now more of a label than a development house) is trying its hand at a non-team sport. As with previous games in the series, TVS Boxing emphasises the management and training aspects of the game as well as the match itself.



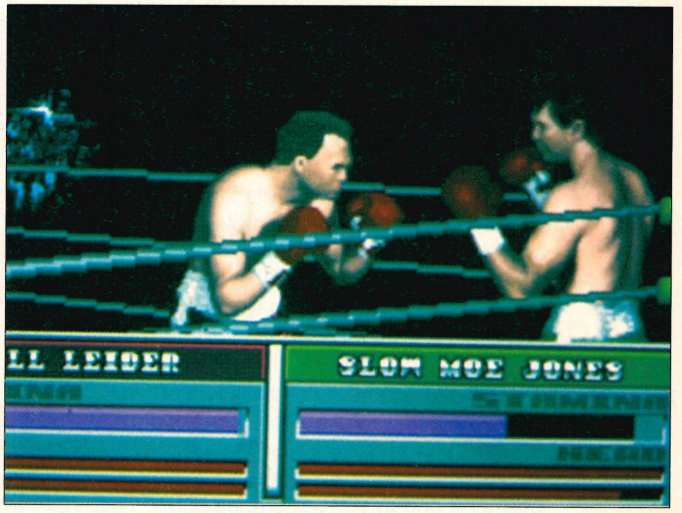
Most of the features have been incorporated into the game now, including the management and training sections. These involve talking to the manager, arranging fights and deciding on training techniques. Initially, your boxer can be configured by distributing points around the various stats (such as defence, conditioning, footwork) making each boxer unique – and, hopefully, a potential champion.

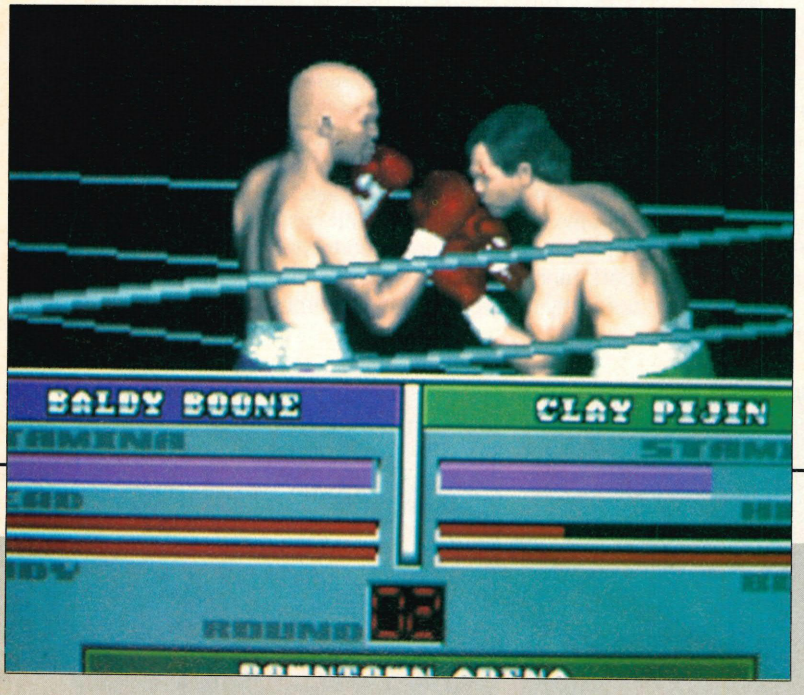
Once the fight day arrives, things hot up with the arrival of TV coverage. This unlikely event, TV coverage of an unknown boxer's first few fights, helps to justify the game's name and creates the atmosphere for the bout through the use of sampled commentary between rounds. The fight itself can be between two players, although this is limited to an exhibition match. The single–player option pits your skills against the computer–controlled opponents. As the matches have referees and are scored by three judges, the computer will alter its tactics to suit the ongoing situation – if it's winning on points, it'll keep out of reach and let the time tick away, rather than risk a knockout.

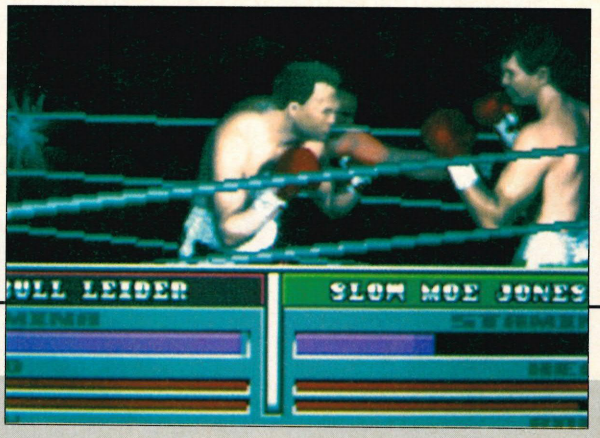
A current problem in the game is the speed – not that of the movement (which can be increased by thinning the ropes, oddly enough) – but whenever the boxers close in on each other, the referee considers them to be holding and makes the pugilists step back for a short while – which is extremely irritating, especially if your opponent has a greater reach than you! Mirrorsoft plan to iron out this bug before releasing the game, along with a few other minor alterations to smooth the gameplay.











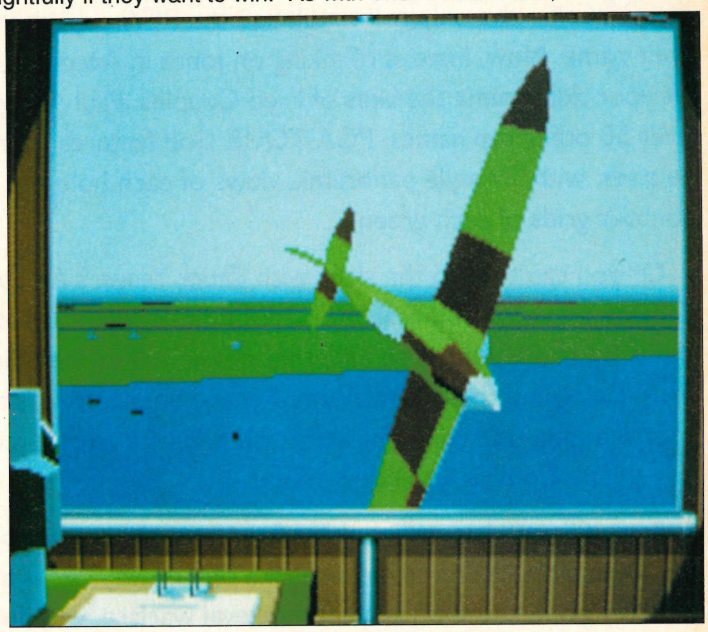
REACH FOR THE SKIES

THE BATTLE OF BRITAIN

is receiving its second treatment at the hands of games programmers, this time from Rowan Software for Mirrorsoft. Reach for the Skies is touted as the most accurate simulation of the conflict yet, covering all four phases of the battle, which include protecting convoys and defending radar sites. Starting with a sampled speech from Winston Churchill, RFTS is being designed as a Their Finest Hour beater although Mirrorsoft is careful not to mention the other game by name.

"By using vectors instead of bitmapped aircraft, we've increased the speed dramatically," says Rowan Software. "Not only that, but we've included a strategic element – players have to allocate factory resources thoughtfully if they want to win." As with Their Finest Hour, German or British planes can be flown and while there are fewer aircraft in RFTS, the campaign option – casting the player as the Controller of the British or German forces as well as an active pilot – promises greater depth and flexibility.

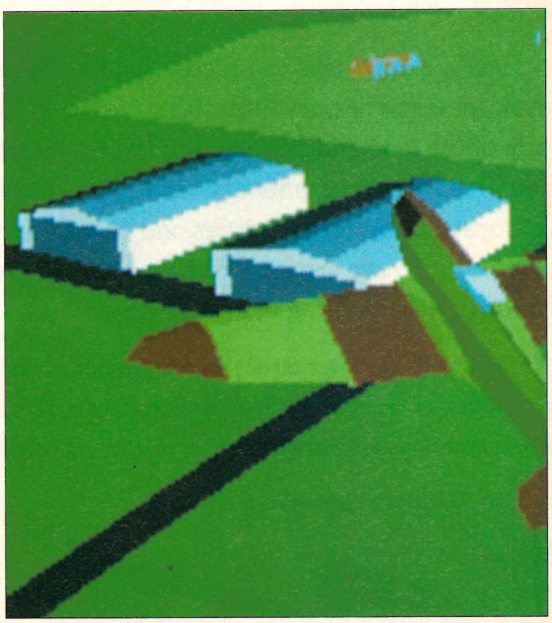




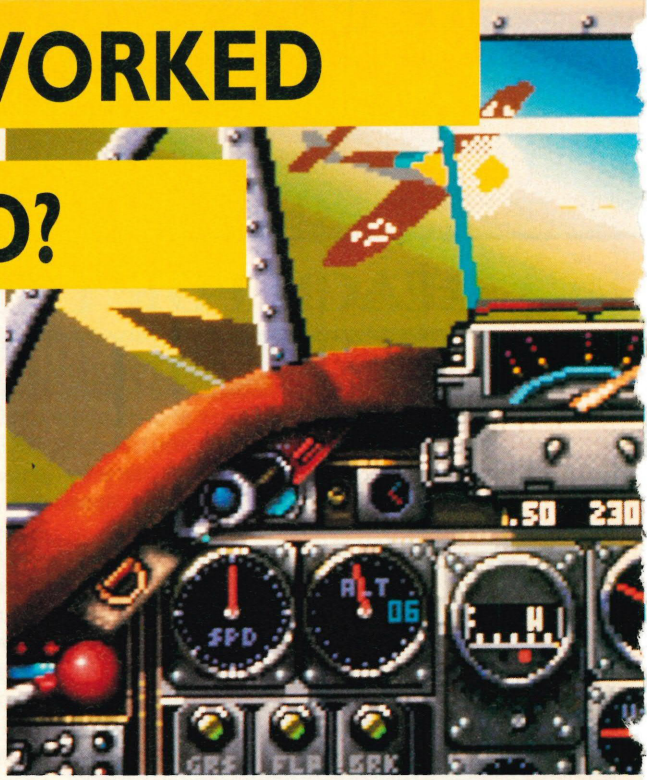
Starting on day one of the Battle of Britain, the game uses samples of the big band sound of the era to evoke atmosphere (with a sound card only, at this stage) and proceeds day by day, giving updates of damage inflicted and received. Of course, Mirrorsoft is keen to point out that novice players can leap straight into the action without having to orchestrate the entire war effort. The programmers are trying to keep the game as fast as possible, even on slower machines, and to this end are offering the abilty to alter ground and plane detail, even down to the light–source shading on the wings of your Spitfire. It will be available on VGA, EGA and Tandy.

With work on the loading sequences and other cosmetic touches yet to be fully implemented, Reach For the Skies is nearing completion and should be released before Christmas – expect a full review soon in PC Review. Tally ho, roger and out!





IS YOUR PC OVER-WORKED AND UNDER-PLAYED?



Does your PC sit there passively staring back at you, day after day - churning out charts and dribbling out documents?

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Battle Chess™ is a million miles from two old crusty codgers sat around a table, taking all day to make one move. This is a 3D strategy game based on ancient medieval warfare, with fully animated sword wielding Kings, Queens, Rooks, Bishops, Knights and pawns fighting for control of every square. Battle Chess features stunning graphics, realistic battle sounds and a surprising amount of humour.

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PC review Q & A PC review

Confused about the mysterious workings of your PC? Bewildered by hardware options? Stricken with software seize-ups? Whatever your problem, share it with Q&A, and we'll endeavour to help

Q I am a newcomer to the PC and over the past year there have been a number of questions I have been wanting to ask and never got a reasonable answer; perhaps you could help.

1. What is meant by texture mapping and ray tracing?
2. I am learning Basic at the moment. What language would you recommend next?
3. What is meant by RAM and ROM and could you recommend any good books explaining how computers work?
4. I am thinking about buying a mini-tower PC, a 20MHz 386 with super VGA graphic, and a 40Mb hard drive. Is this powerful enough to run all programs and games (and will it go out of date and be unable to cope with the ever increasing power of games)?

Greg Peacock
Cambridge

A **1. Both of these terms come from the graphics department, and are to do with the way graphical pictures are created inside the computer. Texture mapping is giving surfaces properties similar to real materials like stainless steel or wood. Ray tracing is the rendering of a three-dimensional picture by calculating the paths of light from different sources and using the way they bounce off objects to decide where the shadows are, which bits of objects should be bright, and which darker.**

2. It's difficult to recommend a language because programming is a personal thing, but a next stage with a similar feel and a lot of support in the shape of books and experience is Borland Turbo Pascal and many commercial programmers use it.

3. RAM stands for Random Access Memory. It is the memory that the computer uses as a working area. ROM is Read Only Memory. This is not like RAM because once it has been written to, it cannot be changed (hence read only). The advantage is that the data in the chip isn't lost when the PC is switched off. As for books, well, your best bet is to try either your local library or computer shop. Though Inside the IBM PC, by Peter Norton will have a lot of the basic information you need.

4. A 386 PC will be powerful enough to run the vast majority of software. It will not go out of date, but there will always be a more powerful PC than the one you own. You may find a 40Mb hard disk a bit on the small side if you install a lot of applications software: 60Mb to 80Mb would be a better bet. The super VGA graphics (800x600) will be fine, but it's unlikely that many games will use it.

Q What is the difference between an 80386 and a 386SX? If they are both 386s, why is one so much cheaper than the other?

Amanda Ellis
Walton on Thames
Surrey

A **The 80386 (or 80386DX to be precise) is a 32-bit processor, ie, it has data paths inside it that accommodate 32 bits at a time. When it sends data to the outside world, it also has a 32-bit highway to the PC's memory – this enables it to run and process very quickly. The 386 design is pretty good too, and it has several facilities that software manufacturers use and write for. So Intel (the manufacturer of the 80386 and most of the other PC processor chips) decided to create a cut-down version of the 386 that had all the 32-bit stuff inside but talked to the outside word 16 bits at a time.**

This enabled PC manufacturers to build cheaper PCs that only had to handle 16 bits at a time (based on the old AT or 80286 design, which also used 16 bits). Thus manufacturers can offer the 386SX at a lower prices and still supply the 80386DX functionality, if not speed.

So things like multitasking (the PC doing more than one process at a time) which the 386DX does well can be done on a 386SX, the difference being that the rest of the computer has to wait for its data a bit longer than it would with a DX, because it only gets it at 16 bits at a time.

The 386SX is fine for most applications that don't need a lot of processor power, though if you do have the cash always try to buy the most powerful computer (with as much memory) as you can afford.

Q I own an Amstrad 8MHz EGA PC and as an avid simulation fan I am beginning to find it difficult to find good simulators that will run on my machine. I have therefore decided to upgrade my machine gradually as I cannot afford to buy another faster computer. A few questions I'd like to know the answer to:

1. What is the difference between an accelerator card and a new processor?
2. If I want my machine to run at 16MHz will I need to buy a new case or will the processor fit in to the old slot?
3. Would I have a different number of expansion slots (I have three at the moment) and would they cater for 16-bit cards as well as 8-bit ones?
4. Will I still be able to expand my machine (eg. EGA monitor, 3.5" disk drive) as I would normally?
5. Would I be able to vary the MHz as opposed to just having a turbo switch?

Nicholas Midgley
Besscarr
Doncaster

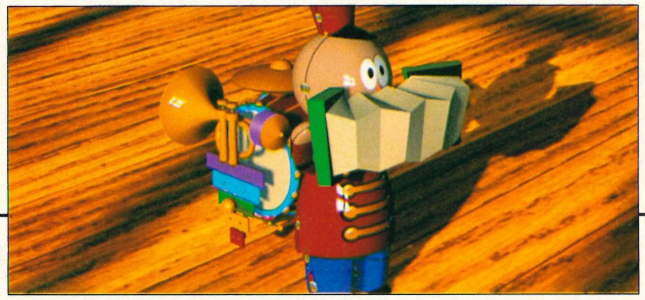
A **First things first, the clock speed of the processor is defined by the manufacturer, so if you want your PC to run faster you need a new processor (unless you fancy taking pot luck fiddling around with a new crystal oscillator and a soldering iron – not recommended). In fact varying the MHz (or, more correctly, the clock speed) is exactly what a turbo switch does: because some software needs to have the PC running at a particular speed the turbo switch slows the machine down from its rated speed to solve any problems.**

When you say "buy a new case" I assume you mean the socket that the processor plugs into; if you need to do this – forget it (see comments above about soldering irons and pot luck).

The difference between a new processor and an accelerator card is, 1) not a lot and, 2) a great deal. That's because the accelerator card is a new processor but the difference is that it is a different processor. The accelerator card will have a 286 or 386 chip on it that will replace your current 8086 or 8088 processor. The old processor will have to be levered out and a cable attached to the connector that the chip sat in. The cable is then connected to a card that sits in one of the PC's slots, and hey presto you have a new processor.

If you just buy a new, faster processor and install it, you are unlikely to get anywhere near the performance increase you will from an accelerator card (and we will be talking about accelerator cards in a later issue). So, an accelerator card is the only way you will get any real increase because it will use a more powerful chip.

The slots you talk about are for add-in cards, not for the processor itself, except (as I said earlier) that an accelerator card that has a processor on it will use a slot up. You will still be able to upgrade your PC (as much as it will allow) with the exception of the slot lost to the accelerator card. You don't say what Amstrad PC you have but it is likely to be a PC1640 if it's EGA. If this is the case, you will have to remember that the power supply sits in the monitor unit and if you wish to upgrade you will need a new power supply as well as a new monitor.



Ray tracing: the rendering of a three-dimensional picture by calculating the paths of light from different sources and using the way they bounce off objects to decide where the shadows are, which bits of objects should be bright, and which darker.

Q I have a Amstrad PC with an 8086 chip and I use MS DOS 3.3. I want to upgrade my system and put MD DOS 5.0 on my PC. Is it worth it, do I need to change the processor to move to the new version and will it still allow me to run my current software?

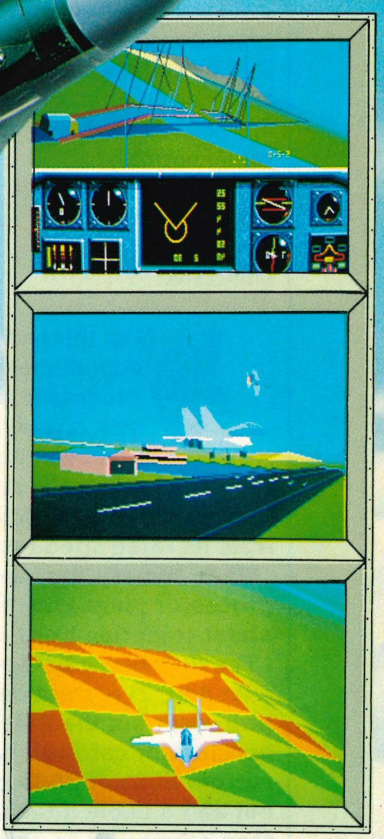
Dave Whitman
Cheam

A **The answer to whether it's worth it is a definite maybe. You don't need a different processor and your software *should* run with no problems (that's what Microsoft says, anyway). If you are using commercial applications software changing and/or games the latest version of DOS *may* help you. The new DOS is smaller than previous versions (that is, takes up less room in memory) and thus allows more room for other programs. This is good.**

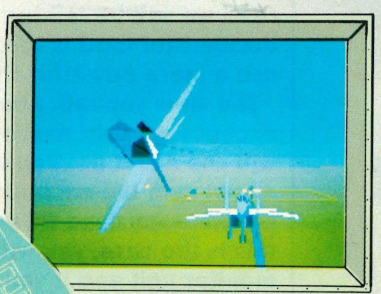
It also has facilities to move some things like drivers, that would normally sit in memory, out of the way in to high memory, which again frees up memory space for other programs. There isn't a catch, but you may want to question the financial outlay versus any benefits you may get – the benefits certainly aren't guaranteed. If your system is running fine at the moment my advice would be to leave it alone. If you were buying a new system though I would thoroughly recommend buying MS DOS 5.0 for it.

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SUPERFULCRUM



AMIGA SCREENSHOTS



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The MiG-29 "Fulcrum" is the Soviet Union's most advanced fighter aircraft. Now in a top-secret, privately financed, project, the Mikoyan Design Bureau has developed the fighter even further. The result is the mighty MiG-29 M SUPERFULCRUM.

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DOMARK

Available on: IBM PC, Amiga, Atari ST.

Programmed by SIMIS

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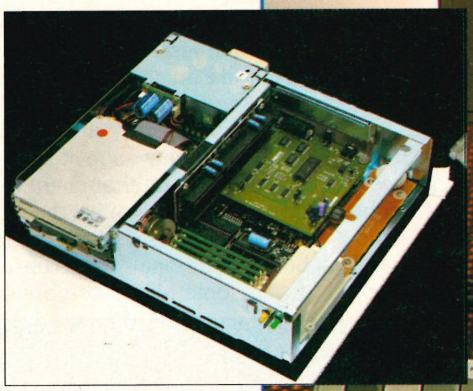
Published by Domark Software Ltd., Ferry House, 51-57 Lacy Road, London SW15 1PR.
Tel: +44(1) 81 780 2224.

It's a sure sign that PC games-playing is a truly established practice when Amstrad decides to move in mob-handed. How much of a bargain is this all-in-one entertainment machine? Rob Beattie conducts an in-depth investigation

AMSTRAD

Amstrad has long held a reputation for arriving in a market with products that may not break new ground technologically, but are keenly priced.

To the PC5286 then, and to get the technical description out of the way, the Amstrad's innards go something like this: a 40Mb hard disk with a respectable 24ms access time; 1Mb memory (expansible to four on the system board) a Citizen 3.5" 1.44Mb floppy disk drive; two half length AT-style slots – one of which is taken up by the sound board; and a slot for an Intel 80287 maths co-processor. The system board itself is tiny, but definitely gives the impression of being made to a price – this is not state-of-the-art surface mount technology.



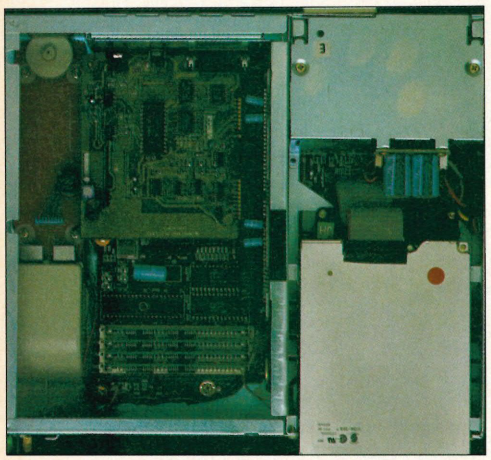
All this costs £899 (that's £1056.32 including VAT). If it wasn't October it ought to be Christmas...

Internally the machine has little to distinguish it from any other 286-compatible PC. True, it's smaller than almost anything else around - though perhaps the Tiny Computer or HM Systems' Minstrel might give it a run for its money – but aside from its meagre girth, this is business as usual.

Size is actually an issue here. If you're considering a second PC for the home the last thing you need is something the size of a bathtub. The Amstrad certainly scores here, packing all the basic components you'll need to get going into a compact, stick-it-almost-anywhere unit. (Aficionados will have followed the saga of Amstrad and cooling fans – suffice it to say that judging from the noise it makes, the one in the 5286 is most very definitely in there and cooling).

Round back there's a VGA socket, one parallel port (for a printer) and a serial port (perhaps for an external modem). Out the back of the soundboard there's a socket for the joystick and a tiny out-jack for the two speakers. The mouse and keyboard connect bizarrely into two sockets recessed underneath the system unit and are awkward to plug in, since it's hard to know which way is up when you've got something turned

Amstrad PC5286 Games Pack
(0277) 228888 £899.00



upside down.

The display is standard VGA with 256K memory dedicated to improving video performance. This is standard livery now for PCs which are going to be used for graphics, whether they're producing tough looking statistical charts, or even tougher looking dungeon walls. VGA also has the advantage of being backwards compatible with every other IBM-invented video standard including CGA and monochrome. That means it'll run just about any program in the known universe.

What's the whole lot like to use? Pretty fair for the price. The horrid old Amstrad mouse has disappeared to be replaced by a new, sleeker, more Microsoft-like model. The keyboard is smaller than earlier Amstrads, but seems at least as robust - good news if you're pounding Xenon II deep into the night. The system unit is commendably small and the monitor's crisp with good contrast, though the controls are bit weedy and too far away to reach easily.

The joystick is, er, a joystick. It's indispensible for some games and completely superfluous for others. The speakers look more like electric shavers than electro-static woofers, but make an acceptable trebly, racket. Indeed, the hissing engine soundtrack for F15 is remarkably realistic.

There's a lack of attention to detail though. A mouse mat would have cost next to nothing, allowed Amstrad to brand the whole package even more, and made you feel better about the deal. The speakers aren't in the same colour as the rest of the package and look almost like an afterthought. Despite our earlier praise of the F15's engine sound, it's really too naff to make you feel that you're at the heart of a new home entertainment centre.

That's because the whole thing is an example of what Amstrad has traditionally done best - produce something that looks grand on the

COUNTERPOINT

This is essentially an extension of those old menu-based programs that sat on top of DOS and let you do simple tasks like copying and deleting files. This time though, it's a graphical program which uses pictures instead of menu choices to keep non-computer types away from the ugly mess called the operating system. As such it provides a number of features:

* You can run the programs that Amstrad supplies with the Counterpoint disk just by pointing at their icon with the mouse and double clicking. As you can see from the pictures, the icons are neat and effective.

* You can create your own icons and use them to launch programs that you've installed on the hard disk, or pick one of the 130-odd pre-designed icons and use that. Problem: you still need to understand how DOS works in order to type in the commands that start the program. Second problem: Counterpoint's 'painting program' is actually a bit useless for creating anything from scratch.

* Counterpoint provides a number of pre-configured buttons for formatting disks, copying, doing directories, printing and checking itself out. Problem: This is good, but when you want to add one of your own - perhaps to read drive D, not an unreasonable request - you have to understand how DOS works. Or have access to someone who does.

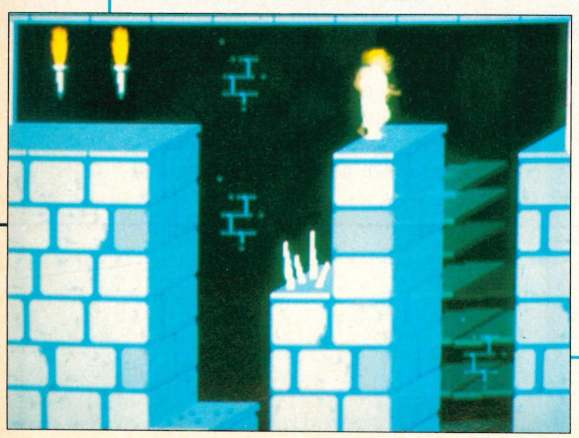
Counterpoint's fiddly to use. It's OK when moving round the screen and using the icons, but the cursor arrow mysteriously disappears when you hit the menu bar and that makes it oddly difficult to use the drop down menus and pick the item you want - because you can't see the pointer, it's all to easy to slip off the bar completely.

Still it helps differentiate the 5286 from all the others, blazons Amstrad's logo all over the screen and works well enough as a gentle introduction to what goes on in the murky world of DOS.



THE GAMES

The choice of Links, Prince Of Persia and F-15 Strike Eagle may be run of the mill to those who spend their days slumped in front of a joystick, but as a starter pack, it's good value. The range of game playing on offer is important in a bundle like this, and Amstrad's got the balance about right. Here's all you need to know about all three in under three minutes.



● Prince Of Persia

(number 44 in PC Review's Top 100; see this month's supplement)

Jaffar, that hoodlum of the harem, is going to marry the Sultan's daughter (and presumably go on to do some of the other stuff) unless you escape from the dungeon to free her. She's cute in a pixelly sort of way, and you're actually rather realistic in this combination platform arcade/problem solving adventure yarn. The sound here is repetitive and a bit annoying. Price if bought elsewhere: £9.99

● F15 Strike Eagle

The hiss of the turbines, the scream of the Sams, the kick-ass of your Colonel. Get anti-social over Gadafi's 'line of death', or the Persian Gulf, Vietnam or the Middle East. In a bizarre way, this is probably closer to what it was really like for pilots in the Gulf War than a more 'realistic' simulation would be. Good sound effects. Typical price if bought elsewhere: £8.50

specification sheet, but when you get up close, has definitely been built to a price. That means shaving here and trimming there, until you have a product that you can sell for one of those magical numbers ending in 99. At least money's been spent somewhere - even if it was only paying for the plane ticket to go out and find the soundboard. Amstrad claims it's compatible with the AdLib board favoured by lots of games these days including Domark's MIG-29 Fulcrum, and the soon to be released (and attractively named) Pitfighter. As sound boards go (see box), it's pretty primitive, but for this price, it delivers enough bangs, pops and clanky synths to make the three games included more interesting than they might otherwise be - though if I get my hands on the bird in the golf game I'm going to wring its neck.

So far as poke is concerned, the PC5286 sits firmly in the little league of personal computers, though the nippy 24ms hard disk helps performance considerably. It's roughly eight times faster than the original IBM PC and about a third as fast as a typical 33MHz 386.

Even so, we're now in a world where the people with foresight are buying 386SX-based computers - partly because the SX is faster, but also because it's able to run 386-specific software that the 286 just can't. The main example of this is today's hottest program, Microsoft Windows 3.0. It'll run on the 5286, but you won't be able to access some of its advanced features. (And while Windows on its own runs surprisingly well on the Amstrad, when you start to add applications which hit the processor hard the performance of the world's favourite GUI turns a little too gooey).

It's relevant here to mention that Amstrad sells the same box with rather different innards as the PC4386SX. Like our friend under the lash here, it's a machine with a tiny footprint, but this time it's built round a 20MHz 386SX processor with 4Mb of memory an 80Mb hard disk, and Windows 3.0. True, the monitor's only 10" compared with the 5286's more gamesworthy 14", but that's really the only physical difference. The price for this extra power is £1699.00, which when you stack it up against the opposition, is not so great as it sounds. For that price, Viglen for example, will ship a 33MHz 486 machine with 2Mb of memory and a 40Mb hard disk. (For other more direct comparisons, see box).

The absence of an SX processor, however, needn't stop the 5286 from

UPGRADING

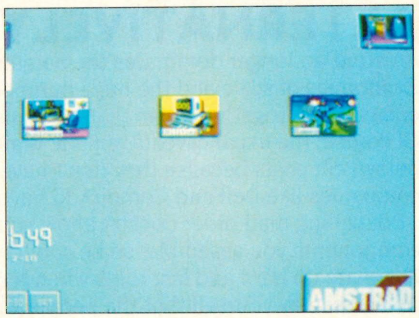
If you already own an Amstrad PC1512 or a PC1640, then this is neither a good nor a bad upgrade for the money. You'll certainly appreciate the performance hit, but that's got more to do with the relative sloth of the 1512/1640 than with anything else. Truth is, the machines that formed the first - highly successful - wave of Amstrad PCs are now rather out of date. It's hard even to recommend that you upgrade the 1640 using a go-faster board when you'd really be better off starting again and buying something completely different.

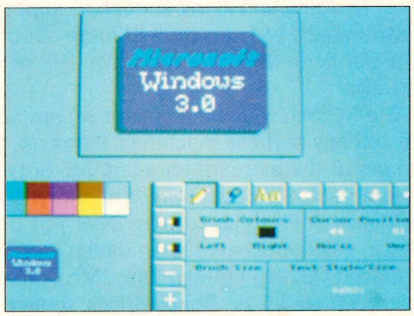
As such, the 5286 offers no significant advantage for existing Amstrad users - unless you can convince your local dealer to do a part exchange. Frankly, I think your chances are about this much.

1.
Welcome to Conterpoint, a considerable visual improvement on DOS which allows you to launch programs by pointing and clicking on them with the mouse.

2.
Counterpoint's icon editor is a bit useless. The colour palette's OK but the tools are difficult to use and imprecise. You do get a choice of fonts, though.

3.
Counterpoint comes with around 130 pre-defined icons which are probably rather better than anything you'll come up with using the icon editor. As you can see, it includes a wide range of programs.

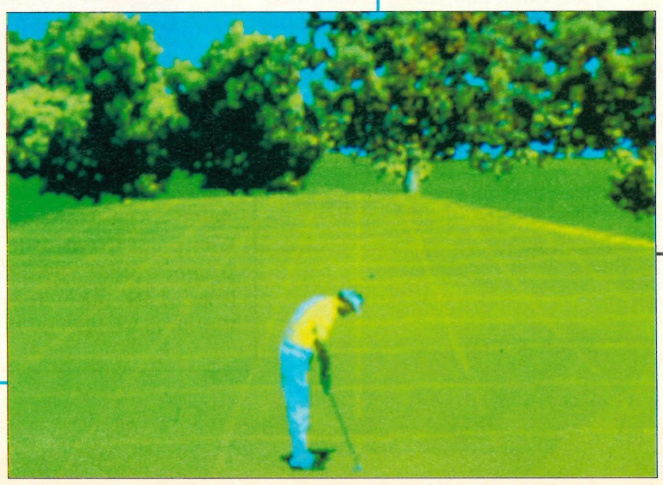






● Links

(full details in the next Top 100 instalment)
Not cuff or missing, but a beautifully detailed golf simulation which is marred by the fact you can only play one course. If your swing's anything like mine however, this will hardly matter as you'll spend the rest of '91 trying to make the 19 holes. It does though, demonstrate the limitations of the machine's 80286 processor - instant replays are disappointingly uninstant and standard play leisurely, because the program takes so long to re-draw the screen each time. It's very good to look at with lots of clever features, but it's sloooow. Typical price if bought elsewhere: £27.50





NOISE AND WIGGLES

Amstrad's sound card is compatible with the AdLib board sold by Mindscape at £89.99 (inc VAT). This is a good thing since AdLib enjoys wide support from games manufacturers and though it lacks some of the features of, for example, the Sound Blaster or Roland's LAPC board, it offers a good basic platform for noisy game playing, and therefore makes good sense as part of this bundle.

Certainly, the alternatives currently available are much more expensive. Sound Blaster 1.6 from Westpoint Creative includes a MIDI interface, is AdLib compatible and costs £139.95 (the Micro Channel version for PS/2s costs a whopping £249.95); while the Sound Blaster Pro with two FM sound chips and CD-ROM interface is aimed more at professional multimedia users (whoever they are) and costs £249.95. The Roland LAPC board is more popular in the US where the pockets of PC users tend to be a little deeper. Including this in the Amstrad bundle would have added £400-odd to the price. See our soundboards feature on page 28 for more details on these and others.

The joystick is neither a super-sensitive, optimised, killer flight-stick, nor a twig stuck in a cupful of mud. If you were putting this rig together yourself, you'd expect to pay around £6-£7 for something of this quality.

ALTERNATIVELY ...

Amstrad no longer dominates the bargain basement of personal computing. Economies of scale and the huge numbers of Far-Eastern companies putting PC components together mean that it's easier to find a bargain now than it's ever been. Of course, the usual caveats remain. Mail order manufacturers (like those listed below) cut costs because they don't have to pay dealer margins; this is how companies like Dell and CompuAdd have made their reputations.

But selling mail order doesn't allow you to do magical things with the price of the components you assemble, so be careful of deals that sound too good to be true. There are no hard and fast rules when buying PCs mail order or any other way, but try and satisfy yourself that the people you're dealing with are serious about what they're doing and know enough to support you if things go wrong. I know it sounds wishy-washy but you can tell more about a company after spending five minutes on the phone to them than you ever will by wading through all the glossy brochures or adverts.

The list below doesn't constitute any sort of recommendation because we've not tested any of these machines. However, this is the kind of street price you can expect to pay at the moment for a fast 286 or typical 386SX machine.

– Reeves PCS286-16 (1Mb of memory, 40Mb hard disk, SuperVGA monitor and card, 3.5" and f5 25" floppy drives, DOS 4.01 or 5.0, Microsoft mouse and Windows 3.0). Price: £999.00. Reeves is on (0604) 766433.

I Olivetti M290S (16MHz 286, 1Mb of memory, 40Mb hard disk, VGA monitor and card, 3.5" and 5.25" floppy drives, mouse, Windows 3.0). Price: £999.00. Time Computers is on (0254) 682343.

– Swift 286-16 (1Mb of memory, 44Mb hard disk, SuperVGA monitor and card, 3.5" floppy drive, serial mouse). Price: £599.00. Micro Surgeons is on (0244) 281230.– MINT 386SX-16 (1Mb of memory, 40Mb hard disk, VGA monitor and card, choice of floppy disk drive). Price: £826.00. R&D Technology is on (081) 965 5151.

– Ness 386SX-16 (1Mb of memory, 40Mb hard disk, SuperVGA monitor and card, choice of floppy drive, DOS 4.01). Price: £785.00. Ness is on (081) 452 8233.

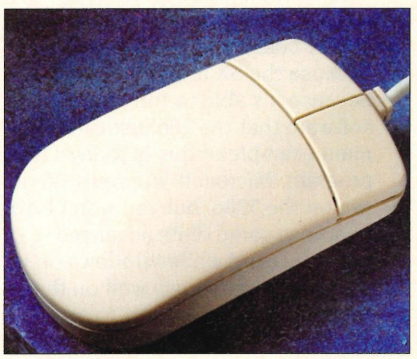
necessarily wish to spend gazing out the window. Home recording enthusiasts will also find the 5286 a mite slow for anything other than basic MIDI work. Should you buy it? If it was a 386SX for this price, I'd have no hesitation in recommending the PC5286 wholeheartedly - but it isn't, and so I can't.

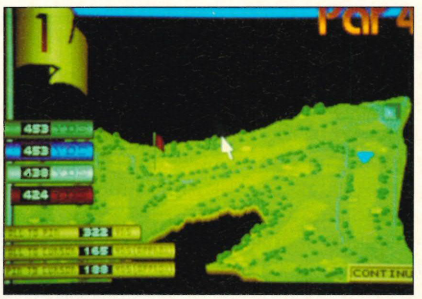
Additionally, you could certainly match or even better this price by shopping around for the various bits, but it might take you a while, and it's considerably more convenient to buy everything from a single supplier.

That's going to sway a lot of people - one person to call when you need help, or advice, or someone to blame

The hi-fi analogy holds true here. Many people get years of contented listening from an off-the-shelf midi system that cost £299; others slog round the shops for weeks and put together something twice as good for the same price; and then there are those who just *couldn't* listen to anything that didn't have huge speakers that they could suspend from the ceiling.

Most people fit into the first category - the price conscious mass market - and the Amstrad PC5286 Games Pack meets their needs effectively and with some style.





CONTACTS

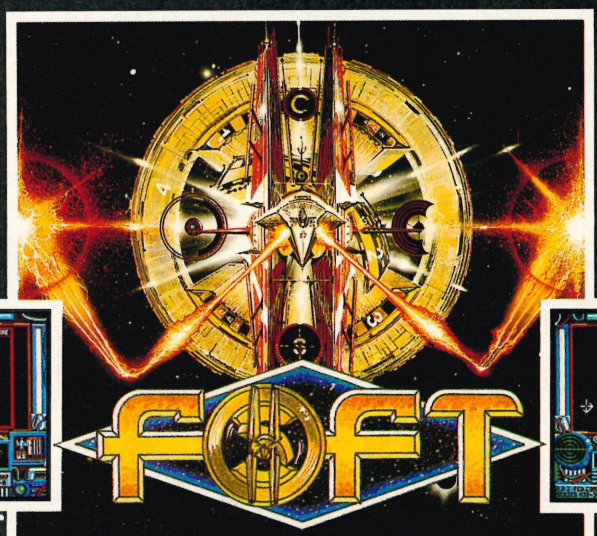
Mindscape (0444) 831761
Westpoint Creative (0743) 248590
Domark (081) 780 2222
Roland UK (081) 568 1247
Viglen is on (081) 997 3000

CLEARLY OUT IN FRONT FOR PC

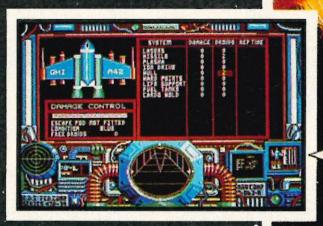
PC home entertainment matches a new dimension in strategy, speed and science - fiction adventure with the latest supreme quality releases from Gremlin Graphics - dedicated to PC programming excellence.

FEDERATION OF FREE TRADERS

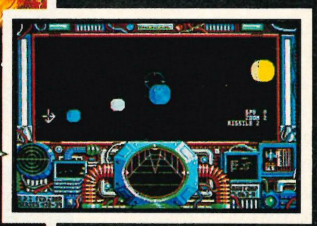
Start a new life in the stars !! For a limited period only the government of Terra is willing to sponsor your entry into the Federation of Free Traders. No cost, no strings and no way home once you embark on this epic...

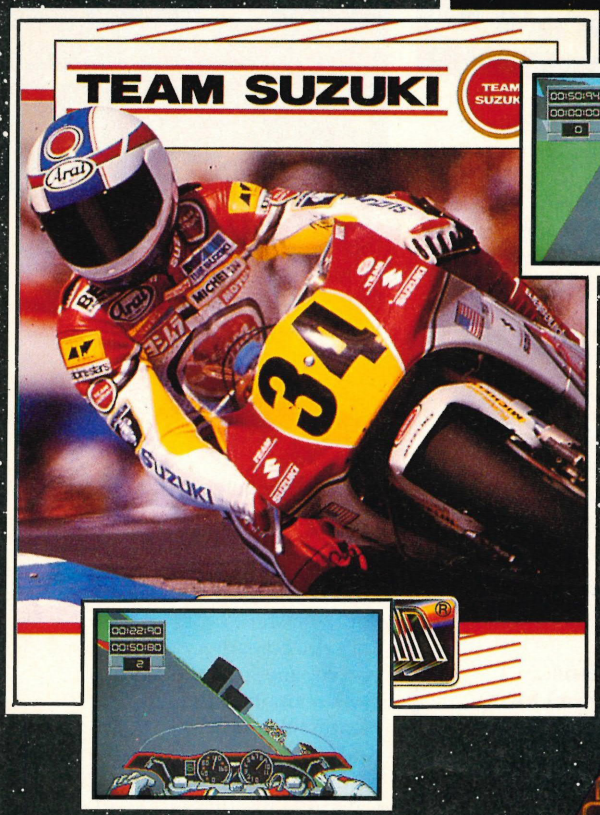


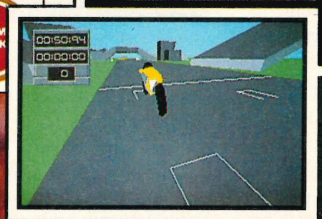
...quest to supply remote pioneering colonies with much needed merchandise.
The Galaxy is your market place, undreamed of wealth is your reward but one mistake and your rotting carcass will drift through the stars for a millenium.

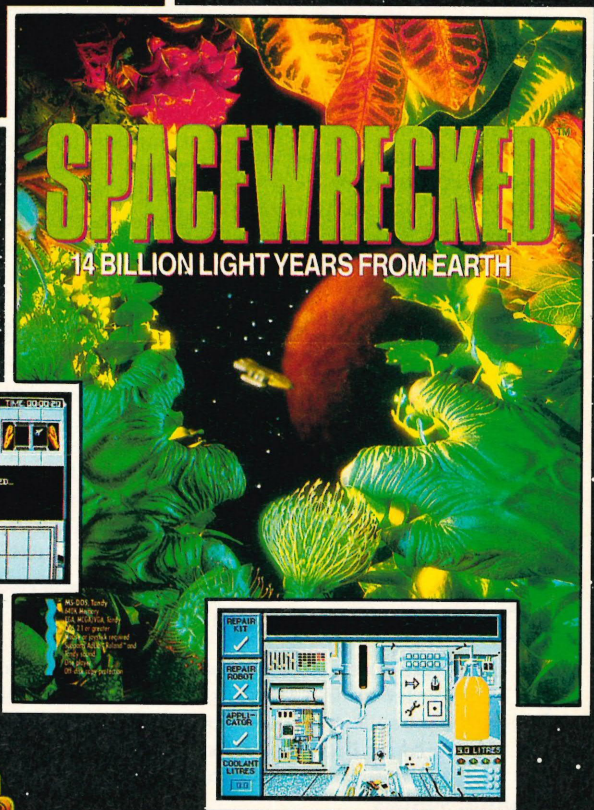


Screen shots from IBM PC, version.











TEAM SUZUKI

This ultra fast filled vector racing simulation even has Gary Taylor, boss of the powerful TEAM SUZUKI, sitting on the edge of his chair. The 'ULTIMATE RACING GAME' according to C+VG, this PC version is out on its own for speed, authenticity, and all round excitement.

SPACEWRECKED™

The huge Biological Survey Ship-BSS Jane Seymour is stranded eight million light years away from Federation HQ and you are the commander assigned to investigate its plight. A strategy / adventure game of amazing depth, variety and superb graphics that is guaranteed to enthral all players who enjoy a real challenge.

Available on IBM PC, compatibles.

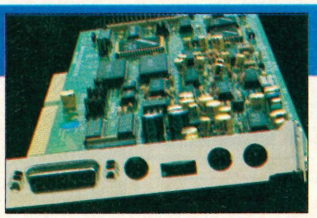
Gremlin Graphics Software Ltd. Carver House, 2-4 Carver St, Sheffield S1 4FS. Tel: (0742) 753423

Next generation audio add-ons and games incorporating interactive music are making your PC sound better than ever before. Rik Haynes explains why...





SOUNDING





Listen up, sound is frequently the forgotten factor of entertainment software. Any game, from role-playing adventure to flight simulation, will come alive the use of music, sound effects and speech. Nobody has really played Wing Commander or Heart of China unless they've been wired for sound.

Until recently, choosing a soundboard for your PC was really a two horse race between the AdLib and Roland LAPC-1. By inserting the latter module into a spare expansion slot, your PC was turned into an impressive sounding multi-voice synthesizer. AdLib's card offered inferior sound quality for a cheaper price, proved more popular with the punters, and so was supported by every major games software publisher. Countless AdLib clones came and went. However, the arrival of Creative Labs' Soundblaster shook the duopoly's foundations. Not only did the new contender offer full compatibility with AdLib, Soundblaster added a digital channel for reproducing realistic sounds like speech and screams.

Anybody wanting to hear everyday examples of sampled sounds should visit their local nightclub! Today's high-tech musicians employ a similar sound sampling method when they mix snatches of previously successful songs or the famous funky James Brown screech into their hit dance singles. It's easy to understand why pioneering developers are now utilising this special feature of the Soundblaster to improve their games. With Wing Commander 2, Origin has used this capability to make characters talk. Affluent gamesters can even hear Roland music and Soundblaster digitised speech if they have both boards hooked up.

BREAKING THE SOUND BARRIER

In order to stay ahead of Creative Labs, AdLib has just launched a soundboard to bust the Soundblaster. Fully downwardly compatible with the original Music Synthesizer Card, AdLib Gold is a far more sophisticated system with twenty synthesizer and two sample sound channels (see separate box for full specs). More importantly, AdLib Gold complies with the Multimedia PC Level 1 audio specification agreed earlier this year by companies including Microsoft, NEC and Philips.

At the time of going to press, none of the games publishers contacted by PC Review had actually received their AdLib Gold development kits. Nevertheless, everybody confirmed their interest in supporting it. That list included the likes of Origin, Lucasfilm Games, Sierra On-Line, Electronic Arts, Spectrum Holobyte, Microprose and Psygnosis, so AdLib seems to have a potential winner on its hands.

Not to be left behind, Roland in Japan and Creative Labs are both working on their own monster musical machines. Soundblaster Pro, announced earlier this year, is comparable to the AdLib Gold soundboard. Meanwhile, the Pro AudioSpectrum add-on from Media Vision in Fremont, California has two on-board FM synthesizers, MIDI and

GOLD BLEND

A brief run-down of the new AdLib Gold soundboard for techno fact fans...

- **Multi-voice sound synthesizer and DAC (Digital-to-Analogue Convertor) for stereo playback of music, sound effects and speech**
- **Microphone input for voice recording and sound sampling**
- **Audio mixer for combining CD audio, voice, synthesised sound and sampled sound signals**
- **MIDI input and output**
- **Game port for all popular analogue joysticks**
- **Downwardly compatible with original AdLib Music Synthesizer Card**
- **Full compliance with Multimedia PC Level 1 standard**
- **20 channels of synthesised sound plus 2 channels of sound sampling**
- **Enhanced FM synthesis using eight different wave forms**
- **Choice of PCM (Pulse Code Modulation) or ADPCM (Adaptive Differential PCM) digital sampling rates from 5.5KHz to 41.1KHz**

SOFTWARE SURROUND

Home Theatre, large TVs hooked up to four or five speakers situated around the living room, may be big in North America but the concept hasn't really taken off in Europe yet. Anyhow, these could be the next must-have wonder widget for gamers with cash to burn. Lucasfilm Home THX Audio System and Dolby Surround Sound reproduce movie soundtracks as they were originally created by the filmmakers. Viewers are treated to a smoother balanced sound and more intelligible dialogue. Designers could utilise the spatial sounds of such audio mechanismo to enhance their own games.

A twig suddenly snaps in the forest behind you in a future version of Ultima, you turn and manage to dodge the axe-wielding maniac charging at you. Don't scoff, it could happen...

joystick ports, multi-source analogue mixer, SCSI interface and also conforms to MPC Level 1.

George Thorn at Roland UK believes the prototype SCC-1 device is a 'blinding little box' which comes with over 300 CD-quality sampled sounds on ROM. These RS-PCM samples are the latest and best, spanning everything from slap bass to dog barks. Better still, such intricacies as amplitude envelopes and filter controls can be edited via software. Roland's baby can also play 15 instruments and one set of drums on different MIDI channels.

"SCC-1 is very much for high-end music composition on the PC," confides Thorn. "I don't see this as being a games support card like the LAPC-1. We're trying to push the Japanese towards an LAPC-1 compatible board which can also handle digital sounds."

Roland, with years of experience in the music business, can readily call upon a lot of research and development into cutting-edge sound technologies. Scaling a system down into a marketable product is, of course, another matter entirely.

NOW THAT'S WHAT I CALL MUSIC!

With the release of Wing Commander, Origin introduced gamers to the concept of a professionally-composed interactive music score. Apart from the main theme tune, separate musical passages were created to reflect specific events and conditions in the game. Tense moments of dogfighting, for instance, are accompanied by a chaotic theme increasing in tempo as the action gets hotter.

Origin's soon-to-be-released Ultima VII includes digitised speech, environmental sound effects and a full-length cinematic musical score synchronised to the action - players hear rivers flowing and crickets chirping at night.

"This is the philosophy for audio in our games from now on," confirms Richard Garriott, Origin co-founder and creator of the Ultima series.

Designers at Sierra On-Line, Dynamix and Lucasfilm Games are working on similar ideas. Indiana Jones and the Fate of Atlantis will be the first graphic adventure from Lucasfilm Games to feature the newly-developed iMUSE (Interactive Music and Sound Effects) audio engine which automatically adapts to the circumstances of the game. Individual sequences are invoked as the situation of Fate of Atlantis changes. Project Leader Hal Barwood suggests that some of these effects will be subtler than the those heard in Wing Commander.

Declares Barwood, "Our emphasis for Fate of Atlantis is to establish the mood and effective quality of the game through music. We're attempting to immerse the player as much as possible in the experience of the game.Luckily, the people at Lucasfilm Games can call upon the support of other divisions in the George Lucas multi-million dollar movie-making empire. Crucial creative knowledge could come from the extensive sound sample library and studio facilities at Skywalker Sound or the immense talents of Industrial Light & Magic, the special effects specialists responsible for Return of the Jedi and the state-of-the-art computer graphics in Terminator 2.

LOOM FOR IMPROVEMENT

Despite a depressingly slow start, advanced leisure software utilising the massive storage capacity of Compact Disc will quickly emerge as CD-ROM drive prices dramatically drop. Sound in games, like graphics and gameplay, should radically improve over the next three years.

Sierra On-Line was one of the first to embrace this new technology and has already released enhanced versions of King's Quest V, Leisure Suit Larry and other games on MS-DOS CD-ROM. Origin designed Ultima VII and Strike Commander with potential CD-publishing in mind from the outset, while Lucasfilm Games is busy reworking Indiana Jones and the Last Crusade, Loom and the Secret of Monkey Island for release on CD-ROM formats before the summer of 1992.

Being one of the few games to rely heavily upon a soundtrack, Loom is an obvious choice for such a transfer. The CD-ROM adaption will blend digitised speech with completely new art and animation. Brian Moriarty's graphical interface replaces text commands and menus with icons and music. Over 20 characters in this updated version of the game have unique voices provided by professional actors from the San Francisco area.

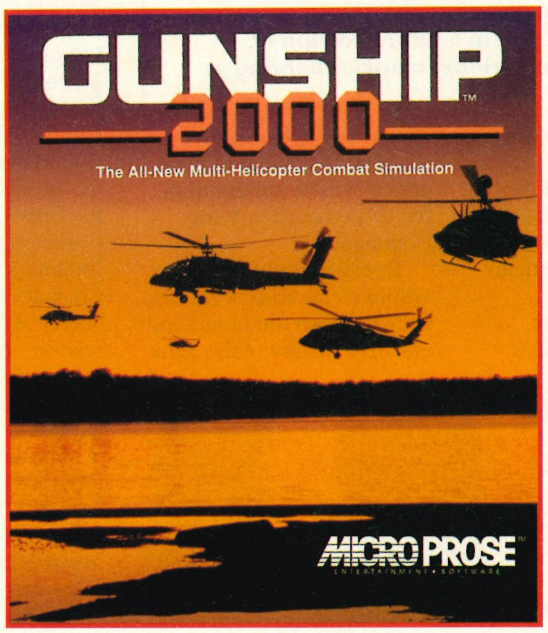
"With the absence of text from the screen, characters and backgrounds become even more vital," remarked Project Leader Jenny Sward. "Virtually all the art and animation is being redrawn. Body language takes on an important role. Stage movement becomes much more important as well. We're going to be using a lot of medium-style shots on characters, so you'll see a lot of detail regarding their facial expressions and body movements."

Soundboards like the AdLib Gold can combine and mix CD-audio, voice, synthesised and sampled sounds to produce audio of a similar quality to that heard in movies. Is that old internal speaker in your PC sounding a little tired by comparison? Not 'arf.

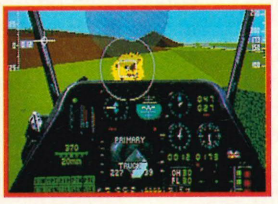
CONTACTS

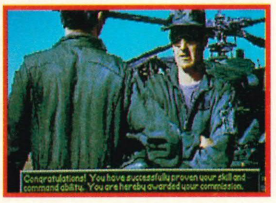
AdLib/Mindscape (0444 831761)
Creative Labs/WestPoint Creative (0743 248590)
Lucasfilm Games/US Gold (021 625 3366)
Media Vision (0101 415 770 8600)
Roland (0252 816181)
Origin/Mindscape (0444 831545)
Sierra On-Line (0734 303322)

Gunship 2000









The All-New Multi-Helicopter Combat Simulation

In the tradition of Gunship, the award-winning, best-selling simulation of the AH-64A Apache, Gunship 2000 gives you total command of a full multi-copter troop of America's most powerful and versatile rotor craft.

Gunship 2000 simulates an amazing seven of the US Army's technologically advanced military helicopters. Match the capabilities of each 'copter to the needs of the mission, select a squad of five choppers and then load them with your choice from the vast array of state-of-the-art weaponry available.

The action takes place in Central Europe and the Persian Gulf, each theatre containing three different arenas, giving you hundreds of different missions to choose from. Your crew members will increase in skill over time; your job is to make the best use of each one's abilities and to oversee and coordinate the tactics of the squad.

Topographical 3-D graphics show details such as river banks, mountains, valleys and ridges, making low-altitude flight stunningly realistic. See the action from any one of numerous remote views within the theatre of conflict. From inside the cockpit you can look left, right, ahead, or choose chase, tactical, or ride-the-missile cameras to study the battle.





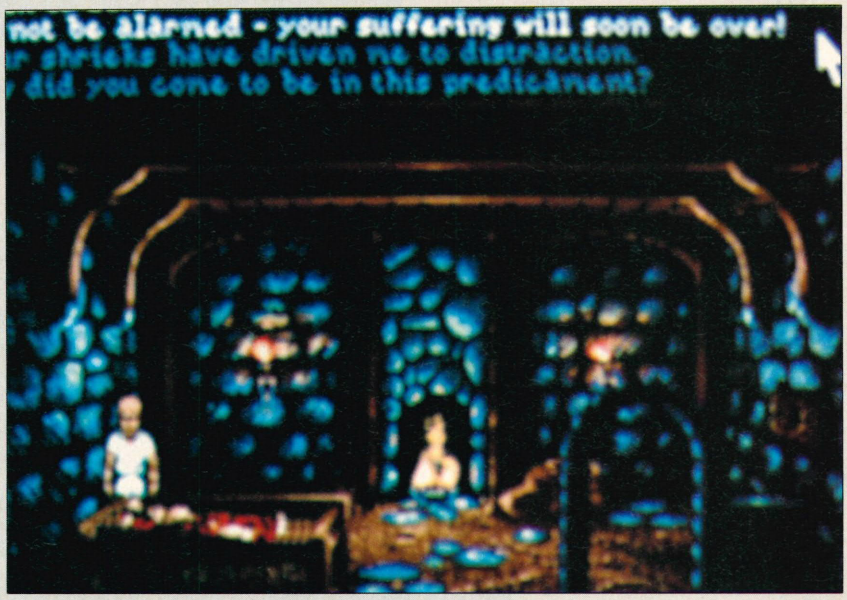
With multiple mission profiles and a campaign game, Gunship 2000 offers you the complete state-of-the-art simulation of a frontline battlefield for your IBM PC Compatibles and will support VGA, EGA, Tandy 16-colour graphics and AdLib, Roland, Tandy and IBM sounds.

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IBM screen shots shown. Actual shots may vary.

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Can a British newcomer possibly beat Lucasfilm, Sierra and Delphine at their own games? Rik Haynes discovers Virtual Theatre...



SAY, YOU WANT A REVOLUTION?

With the enormous success of games like Secret of Monkey Island, Heart of China and King's Quest V, every major games developer is attempting to produce the best ever graphic adventure. Competition is fierce and the claims are bold. Professionals from the fields of animation, music composition and script-writing have been brought in to enliven the experience. Such complex pieces of interactive software have at their heart an engine to make everything happen. This is where Virtual Theatre comes in. Revolution Software and Mirrorsoft reckon their system is superior to anything we've played before.

"Revolution Software was formed with the specific aim of creating a new generation of truly interactive entertainment software achieved through a fresh approach," announces co-founder Charles Cecil. "A lot of work has gone into Virtual Theatre. Tony Warriner and David Sykes concentrated on the system for a year before the first game was even thought about. Our hopes are very high."

Cecil worked closely with Sierra On-Line and Lucasfilm Games in the past so he already knows a thing or two about creating computer adventures.

Like Lucasfilm's adventure creation language, Virtual Theatre employs a 'point and click' interface where the action can be easily directed from the comfort of your mouse. Show your on-screen persona where to move, then watch it intelligently walk around obstacles and other characters to get there.

"Sierra's basic core game engine has not advanced as much as it could have done," remarks Cecil. "They've got beautiful graphics and fantastic sound but the actual system that drives the game is not that much different from the one five years ago. Lucasfilm hasn't really been around long enough to judge. We plan to enhance the Virtual Theatre system every time a new game is developed. We'll be putting a lot of effort into making it better and better."

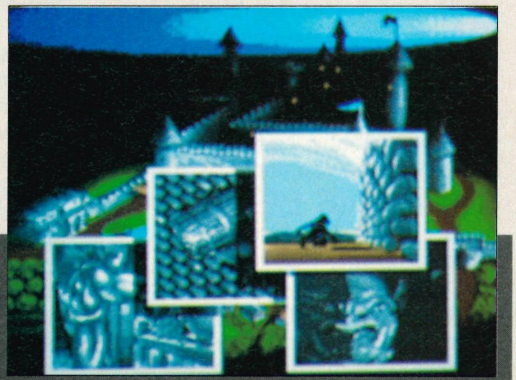
BRAVE NEW WORLDS

The first Virtual Theatre release is something of a software technology demonstration while also being a game in its own right. Another fantasy-based offering, Lure of the Temptress places you in the role of a deposed Prince out to destroy the Skorl, an ugly collection of beasts, and a power-crazed sorcerer.

Cecil believes the major breakthrough with Virtual Theatre games is that their worlds develop independently of the player.

"We want to try and create something that's as close to life as





These images are from an early 16-colour version of Lure of the Temptress. The final game will also support 256-colour VGA graphics made of hand-painted backdrops with a more stylised look. "Generally when you look at computer games, lines tend to be straight and angles predictable," indicates Charles Cecil of Revolution Software. "What's really nice about Secret of Monkey Island II is the rooms are a really bizarre shape. We're going to leave the exits and objects in the same place, but the paintings will hopefully be rather strange to make the scene look more `interesting."





middle of a square and watch the hustle and bustle of village life as characters walk past each other on their way to the pub or workplace. It's very impressive. Snoops will love Virtual Theatre."

"...You can talk to anybody at anytime. I think this is the key thing. We're trying to create a real world and make you feel as though you really are there."

Dialogue plays a crucial role in Virtual Theatre games. The choice of question and reply will affect the attributes of both characters. These hidden personality traits become more apparent as the adventure unfolds.

Cecil adds: "If you attack or torture a character too many times then they're never going to forgive you."

Flexibility is the name of the game. Unlike anything before, you're able to issue commands directly to your alter-ego or tell other people to perform complex actions like 'go to guard room, get bottle, use bottle on tap and then go to the outer cell and then give bottle to the prisoner.' Such sentences are constructed through the easy selection of key words overlaid on the screen when needed. Another neat aspect of this system is that you can only tell somebody to get an object you've already seen.

Cecil is particularly proud of the numerous non-obscure puzzles found in Lure of the Temptress.

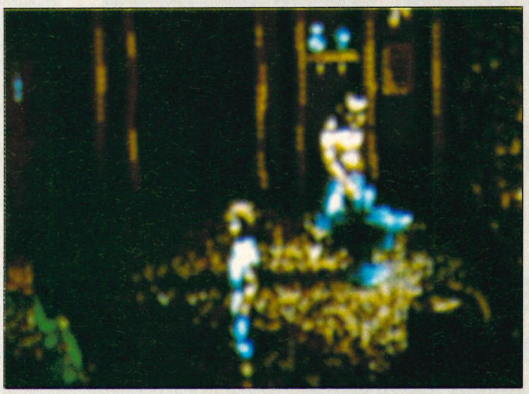
"King's Quest V, for instance, is totally nonsensical," implies the former Product Development Manager at Activision UK. "Our puzzles may not be easy but at least they're logical. In Sierra games you die for almost any reason and in Lucasfilm titles you don't die at all."

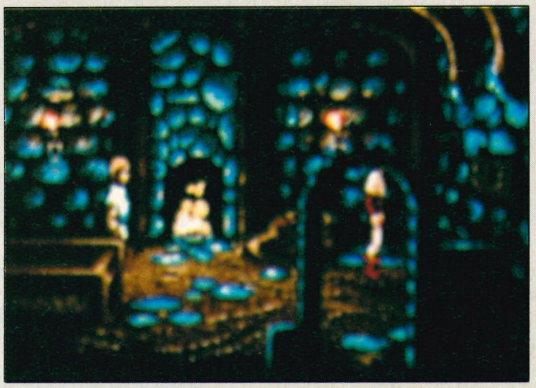
SEEING IS BELIEVING

Lure of the Temptress is split into roughly five separate sections with non-interactive animated sequences between each stage to set the scene. Cecil and his chums are promising a lavish end-game extravaganza to look forward to.

Every one of the 60-odd screens in the game has elements of animation to enrich the environment. Doors physically open and let in light, butterflies and birds fly off when disturbed and a sign above the pub swings in the wind.









"Music under the right circumstances is a very good thing," maintains Cecil. "At the moment, however, we want to concentrate on sound effects as we feel they're more atmospheric and will make the game. Sounds, as in real life, will subtly waft in. In the village scene we've got sounds of chickens, a dog barking, children playing in a nearby street and a blacksmith hammering away at his anvil. Maybe this sound-effects only idea will change in future games. We'd love to put speech in a CD-ROM adaption if we had the resources."

Dave Gibbons, creator of the hit Watchmen graphic novel, has been helping Revolution Software to script the first few Virtual Theatre releases. "He was very interested in the way you could do lots of different things," Cecil claims. "He's actually come up with a lot of ideas for our second Virtual Theatre game. We're even talking about him designing a special comic book for us."

"We've got another three months to get everything right. It's absolutely imperative that our games truly are the next generation of graphic adventures. Don't expect any Virtual Theatre shoot'em-ups."

ON THE GROOVY TRAIN

Work has already begun preparing the second Virtual Theatre game. With a provisional title of Underworld, this release is heavily inspired by the cult science-fiction writer William Gibson. "He has some fantastic ideas," thinks Charles Cecil, "Cyberspace is fascinating, it scares the hell out of me. Part of Underworld will actually involve players going into this alternate reality. We envision it at the moment as looking very much like a Super Mario Bros video game with cute little things running around which aren't really cute at all. A fat policeman with a big smiley face would in fact be an aggressive SWAT team."



REACH FOR THE SKIES™

THE BATTLE OF BRITAIN 1940

"NEVER IN THE FIELD OF HUMAN CONFLICT WAS SO MUCH OWED BY SO MANY TO SO FEW."

– Winston Churchill

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FEATURES

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- *Eight meticulously recreated aeroplanes to choose from Spitfire, Hurricane, Bf 109, Bf 110, Ju 87, Ju 88, He 111 or Do 117.*
- *Crucial training missions prior to battle.*
- *Huge array of in-flight options and controls*
- *Unique new combat view.*
- *Full sound board support*
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FIRST STEPS

Welcome to a new series about the PC, hardware and software. Each month, we'll be taking you, step-by-step, through the ins and outs of using, controlling and upgrading your machine. You'll find out what the PC's components are, how to use them better, and how to make the most of PC software to get the best out of the machine.

For this, the first instalment, we'll start right at the beginning, as Chris Long explains just what all the bits in the box are and what they do

Flick the on switch and your PC whirrs into action. Depending on the speed of your machine, there is then either a short wait, or time to make a cup of coffee, catch the post and watch EastEnders before the screen clears and A:> or C:> is visible in top left hand corner. The reason for this delay is that the PC will run through a series of self-tests before deciding that it is in a fit state to receive your commands.

The first thing that happens when you switch on is that the machine will call on the **BIOS** (Basic Input/Output System), which is normally held in **ROM** and thus ever-present in your machine. The BIOS in turn will call up the system files, which will check the machine's **memory**, and then look for three more files to make your PC ready to receive data.

The system files, which go under various names, but most often IO.SYS or MSDOS.SYS, may be unfamiliar to you. They won't appear among the files when you list a **directory**, because MS-DOS configures them as hidden files, designed not to show up in a conventional file list. This is simply to prevent users from changing or deleting them accidentally. If you issue a command to delete all the files on the disk, IO.SYS and MSDOS.SYS will still remain, thanks to their hidden and **read-only** status.

The three further files are CONFIG.SYS, COMMAND.COM and AUTOEXEC.BAT, and these are searched for in that order.

CONFIG.SYS contains additional information about your PC's set-up; specifically any extra hardware you may have added to the machine, and also which country's date, time and currency naming conventions you wish to follow when using the PC. In the UK, for example, you would normally write the date with the day first, followed by the month, then the year. If your machine persistently tells you it's 06.12.91 when you know it's June 12th, then your country command in the CONFIG.SYS file isn't set up for the UK. Or you may not have one. Unlike the next file the PC searches for, CONFIG.SYS isn't essential for your PC to run.

But COMMAND.COM is. This file contains most of MS-DOS's built-in commands, and if you don't have COMMAND.COM, you won't be able to run MS-DOS. Since COMMAND.COM is supplied with your MS-DOS master files, you are unlikely not to have it, unless you've accidentally deleted it (see Possible Problems, below).

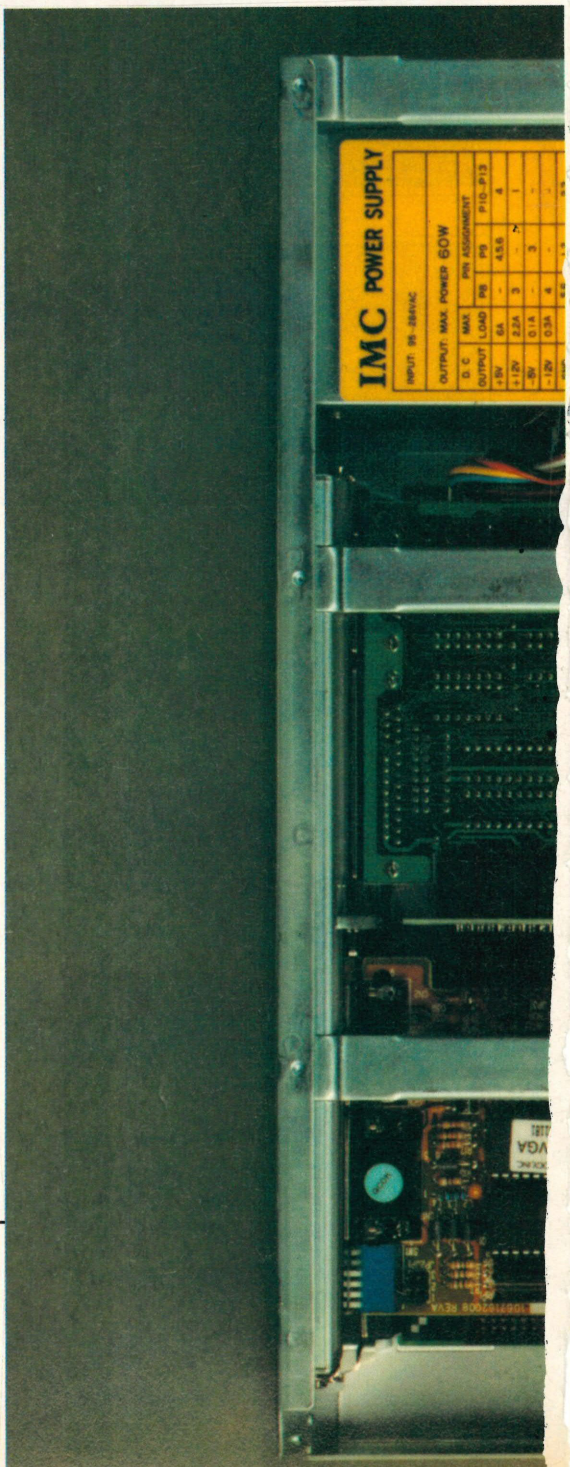
The third file to be called before you can start actually inputting any data is the AUTOEXEC.BAT file, and like CONFIG.SYS, it's not essential to the running of your PC, just helpful. You can create an AUTOEXEC.BAT file to configure the PC to the way you want it. For example, you can issue autoexec commands that will prompt you for the correct time and date each time it is called up, or to take you straight to a program that you always want to run first thing in the morning. In our next instalment of this series, we'll be going into some detail on CONFIG.SYS and AUTOEXEC.BAT files and showing you some of the most useful commands you can create to make life with your PC much easier.

Having run COMMAND.COM and checked for the presence of CONFIG.SYS and AUTOEXEC.BAT, the PC will now show the disk drive prompt – usually C:> for a hard disk-based system, and A:> for floppy-only, and you're ready to go. MS-DOS is loaded, so the PC now has the intelligence to understand your commands, including the commands to run the programs you wish to use.

Disk drives

Loading software programs is done via the disk drives, whether a hard disk or floppy disk. A disk works on the principle of an audio cassette. Information is written and read from the surface of the disk in exactly the same way as an audio or video tape.

A hard disk sits inside the machine, generally invisible to you apart from the light that indicates whether it's actually doing anything at the moment. Floppy



Words in bold text are explained in more detail in the glossary on the next page

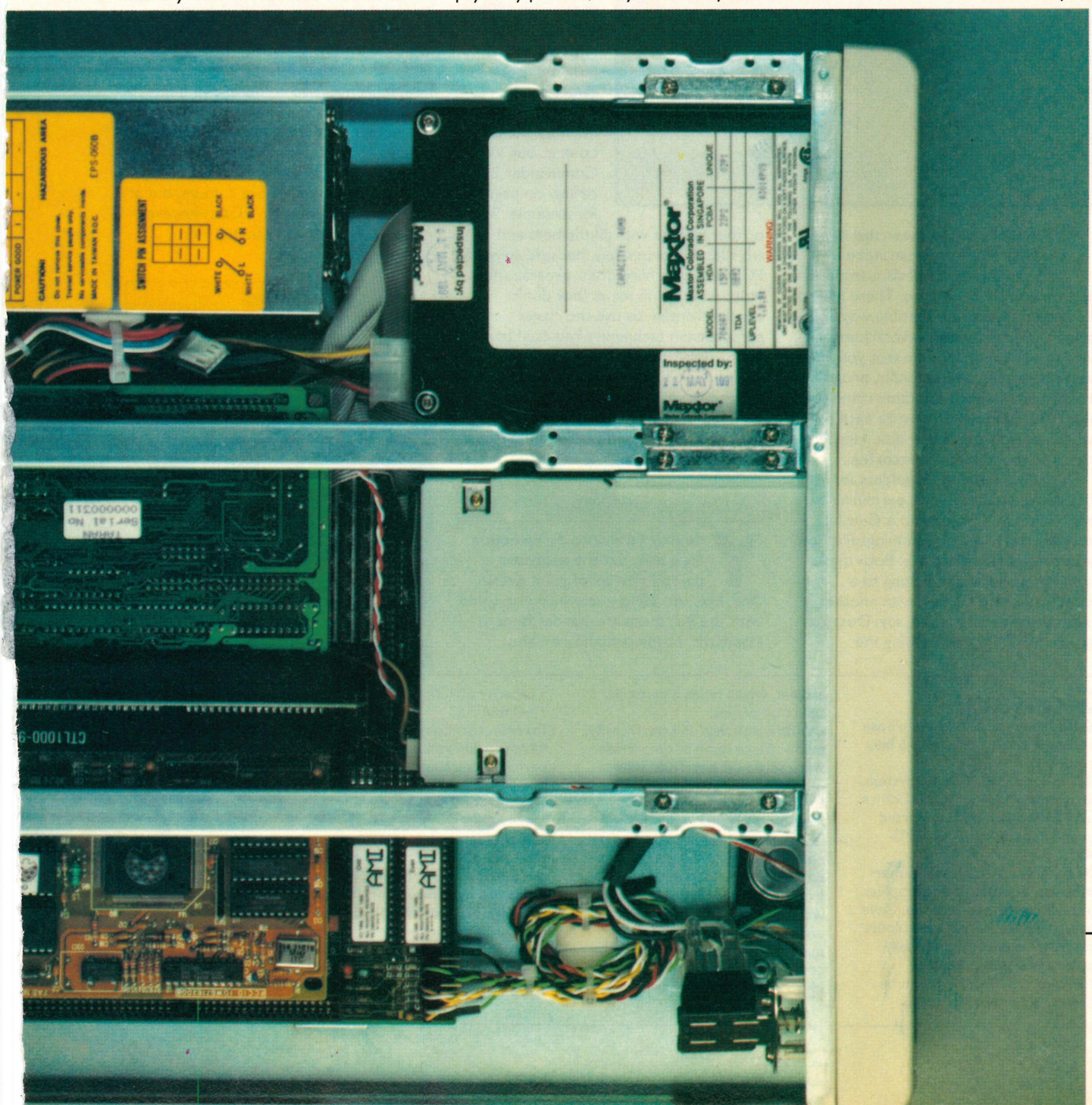
disks comes in two sizes: 5.25" and 3.5". Your machine may have one or two the same width, or one of each. The 5.25" size is the older, with 3.5" fast becoming the standard addition in new PCs. This is because the drives are smaller, and can therefore be used in today's slimline PCs more easily, the disks hold more information, and they are more robust. Only the casing of the 5.25" is truly floppy; 3.5" disks are housed in hard plastic.

Floppy disks come in various capacities: the standards today are 360**K** or 1.2**Mb** for 5.25" disks, and 720K or 1.44Mb for 3.5" disks (a far cry from original IBM disks with 160K or 320K!). The smaller memory disks in each width are called **low density** (or, a tad confusingly, double density) disks, while the disks which contain over 1Mb of information are **high density** disks. High density disks go into high density drives, while low density disks can be used in both low and high drives, in accordance to the riders below. Most PCs sold these days have high density drives; a PC over four years old probably has low density drives – if you're not sure, check with your supplier, or your documentation; alternatively try sticking a high density disk in the drive. If it's readable, your drive is high density.

You should NOT try to **format** a low density disk as a high density disk. It is physically possible, but you are likely to lose your data. This is not to say that you can't format low density disks in high density drives full stop, but you need to add **switches** to your MS-DOS Format command to tell the drive that the disk is low density. Check this one in the MS-DOS manual: curiously it's one of the parts where the manual is actually quite clear.

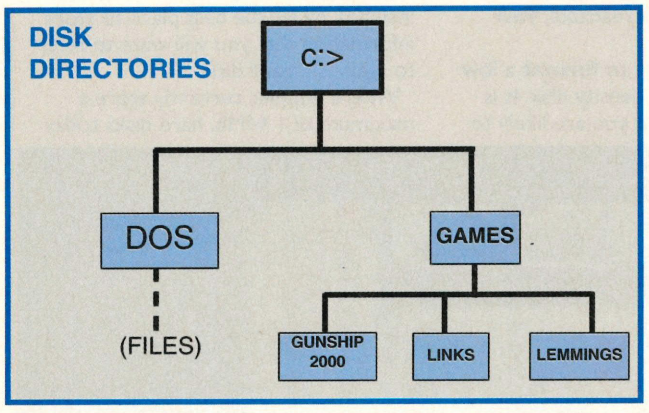
While floppy disks are nigh-on essential for feeding information into the machine (though some **laptops** do without and use a **serial link** to another desktop instead), by far the best place to store information that you will want to refer to again is a hard disk.

Where floppies currently store a maximum of 1.44Mb, hard disks today



start at 40Mb capacity. They also access the data that you call up much more quickly. The hard disk capacity means that you needn't be bothered by those interminable disk swaps to load the next level, or infuriating pauses in gameplay while the floppy drive is accessed, groans a lot, and then grinds out the next screen.

Hard disc Directories



Thanks to the sheer size of a hard disk, you can store hundreds, if not thousands, of files on a single hard drive. These have to be organised in some sensible way: for a start, trawling through several hundred files to search for the one that you want could take ages, and secondly, programs containing files with the same name (eg, INSTALL.EXE) will overwrite each other when copied from floppy disk. Hence directories and **sub-directories.**

This effectively creates folders for your programs, so that all files pertaining to, say, Gunship 2000, go into a Gunship sub-directory, and all Lemmings files into a Lemmings sub-directory. Both these sub-directories could belong to a directory called Games, with another separate directory called, say, Dos, for all the MS-DOS files keeping the **operating system** tidily away from the games (see diagram). Keeping the hard disk tidy in this way saves huge amounts of time and hassle, and helps prevent accidental deletions.

Directories and sub-directories can also be used on a floppy disk, even if there is frequently less need for them, since the files for one program are usually split across a number of floppies, rather than a number of programs fitting on to the one disk.

If 40Mb sounds like a lot of memory, you'll be astonished to see how fast your hard disk fills up. The machines sold today with 100Mb plus are usually directed at business users, but games can be outrageously memory-hungry. Look at our Wing Commander 2 review on page 40, for example: 26Mb or thereabouts with all the bells and whistles. Unfortunately, because so many PC users have hard disks, programmers write with this in mind; they don't absolutely *need* to use the clever compression techniques required by floppy disk-based machines, such as the Amiga and ST. Increasingly, indeed, there are games which must be installed on to hard disk to run. If your machine lacks a hard disk, this should really be the first upgrade you consider.

Screen

You may be able to do without a hard disk, but the **monitor** is part and parcel of your system. And, like just about everything else to do with the PC, there are standards, non-standards, obsolete standards, and general annoying quirks to be aware of.

The first PC was launched not just with a **monochrome** screen, but with no facility within the machine to display anything other than text characters. IBM's later attempts to give the PC colourful graphics have been variable: **CGA** might just as well stand for Crap Graphics Always, while **EGA,** while a huge improvement, is limited. Now, with **VGA,** the PC is finally capable of producing graphics to compete with more graphically-led machines, such as Amiga. With a VGA card and colour monitor, programs can make use of 256 colours (on-screen at once if they insist) at a screen **resolution** of 640 x 480 **pixels**. Most full-price games now being released have a specific VGA mode.

Non-IBM modes, such as Hercules and Tandy still enjoy support. The Hercules Graphic Adapater gives high resolution in monochrome (two colours) and is fine for text work and limited graphics work. It's worth mentioning MCGA (Multi-Colour Graphics Array) which is installed in the low end IBM PS/2 machines and offers more colours, but at a lower resolution than VGA. However, most VGA cards you can buy will support this standard.

Ports

Around the back of the machine you should find a number of sockets, or **ports**. PCs will



Glossary

16-bit: refers to a machine whose processor can handle data 16 bits at a time.
BIOS: Basic Input/Output System. File normally held in ROM. Comes into play when the PC is started up, and initiates running of MS-DOS.
CGA: Colour Graphics Adapter. IBM's first attempt to add graphics to the basic PC specification. Gave users a grand total of four colours on screen at once, and virtually made text displays illegible.
Directory: a 'folder', or can be likened to a drawer in a filing cabinet, which holds a particular selection of files.
Double density: as Low Density, below. Once upon at time there were single density disks, now obsolete.
EGA: Enhanced Graphics Adapter. Graphics mode for the PC with a highest resolution of 64 colours at 640 x 350 pixels. Rapidly being superseded by VGA.
Format: making a disk ready to work on your computer by creating invisible (to the eye) marks and lines on it to allow the computer to read it.
High density: disks formatted to a capacity of 1.2Mb if 5.25", or 1.44Mb if 3.5".
Interfaces: the sockets and pins which enable you to connect peripheral devices to your computer.
K: short for kilobyte, which is 1,024 bytes.
Laptops: portable computers, now virtually standardised at around 16" long and wide, with a Clamshell hinged lid which lifts up to reveal keyboard below, and screen on the underside of the lid. generally weigh about 15lbs, and use NiCad rechargeable batteries.
Low density: disk with capacity of 360K if 5.25", 720K if 3.5".
master files: the original files containing a software program.
Mb: short for megabyte, which is 1,024 kilobytes.
Memory: the place that stored data on the hard disk moves to so that it can be manipulated by the processor.
MHz: the computer's clock speed is measured in megahertz, ie, the frequency of the cpu's internal clock in 10^6 cycles per second.
Modem: stands for Modulator/Demodulator. Device which enables computer data to be transmitted and received via



usually come with a parallel port and one or two serial ports. The parallel (or printer or Centronics) port is usually only ever used for printers, the name parallel deriving from its design: the data comes out of the plug (into the printer) several lines at a time. The serial port dishes its information out in single file and you will also find this referred to as the RS232 port. It is often used for communications, with a **modem** attached to it, or to connect a mouse, and also, less commonly, printers can come with serial **interfaces.** Game ports (to take joysticks) are sometimes included in a basic PC, but usually have to be bought at a later date.

Processors

Your machine is most likely to be powered by an 8088, 8086, 80286, 80386 or 80386SX processor. All these are manufactured by Intel, and in that order – the earliest was the 8088; the 8086 was the first true **16-bit** PC processor; the 286 seemed like a big breakthrough and was hugely successful; the 386 is still the main choice for the power user (although 486s are catching up fast in the high-end business market), while the 386SX is an extremely useful development, with many of the features of the 386, but at a price tag not too different to the 286.

The main difference between processors that the games player will notice is in speed. With 8088/8086 machines running at, usually, 8**MHz**, 80286 machines at between 12MHz and 16MHz, and 386SXs at 16MHz or 20MHz, there is obviously scope for enormous variation. A game which runs smoothly at 12MHz may drag along at 8MHz and have you panting to keep up with it at the 33MHz which a machine with a 386 processor may well run at.

As a rule of thumb – and a lot of this depends on the programmer or designer of the individual game– games will normally run comfortably fast at 16MHz, without too much loss at 12MHz. In the USA, however, where PCs in the home tend to be of a higher specification than ours, many games are designed to be run on faster machines.

This is one reason to go for a 386SX-based PC if you are thinking of buying a new machine; currently it's the most cost-effective processor in terms of price vs performance.

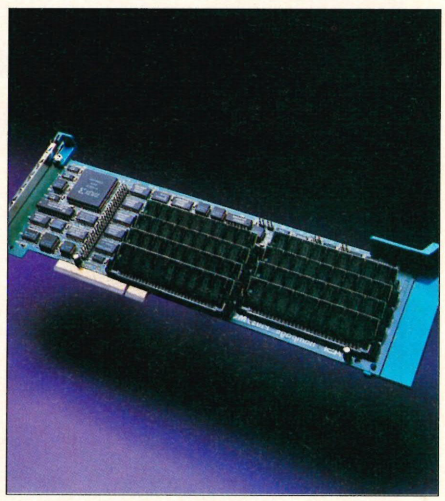
Memory

Inside your PC, usually on the main processor board, will be rows of memory chips constituting your **RAM**: Random Access Memory. This is where programs are loaded from the hard or floppy disk when you run them, and where the data you type in is held until you specifically save to disk.

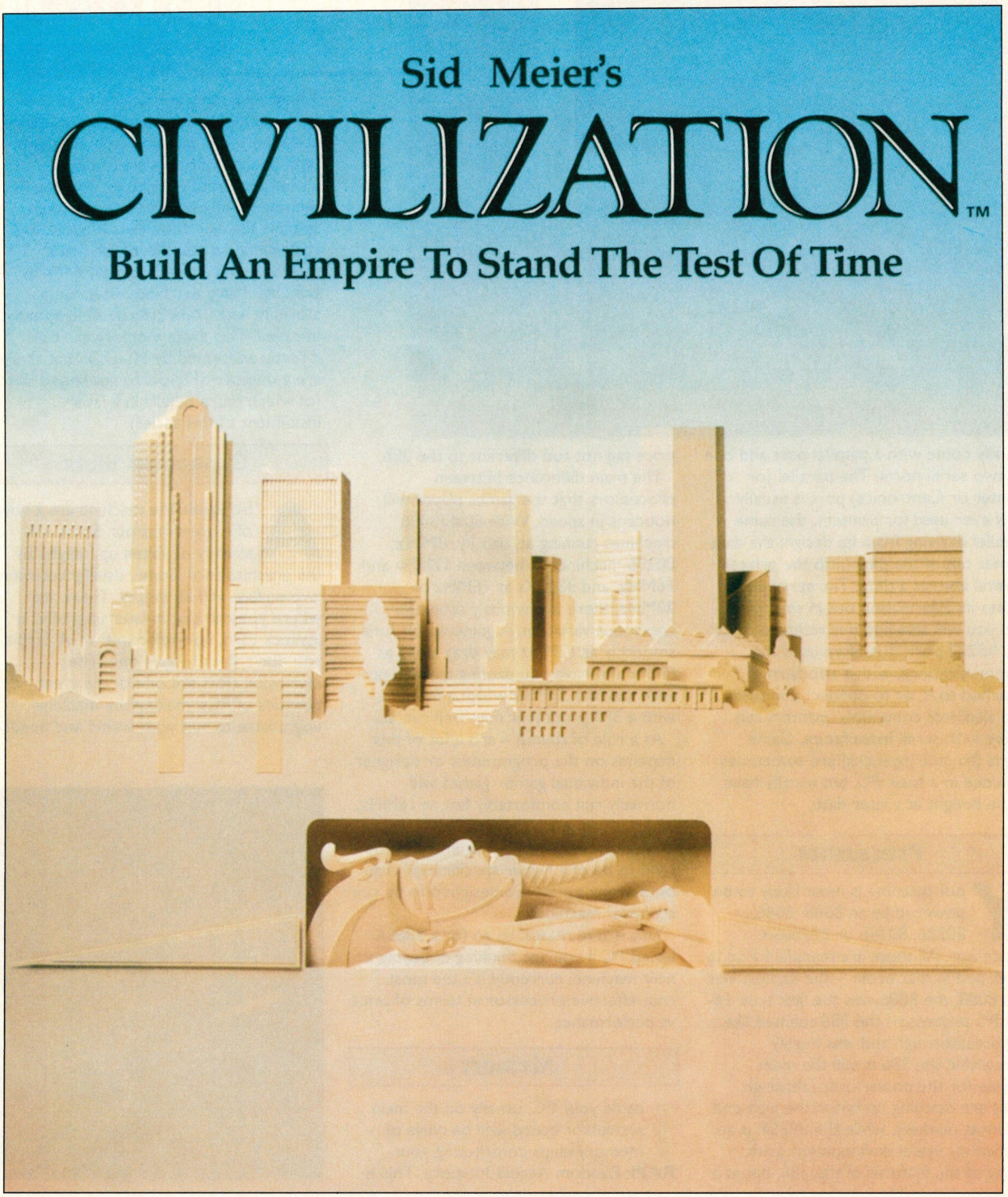
Like just about everything else in a PC, memory is upgradable. The minimum suitable for use these days is 640K, and you will find a number of the major games use up as much of that 640K as possible. Many machines now come available with 1Mb, 2Mb or 4Mb already installed. This extra memory can't be directly addressed by MS-DOS but there are a number of tricks to get round this (of which more details in a later instalment of this series).

Expansion Slots

Also inside the machine are a row of expansion slots. Some will already be taken up, maybe by the graphics card. Some, usually between two or five, will be empty. These are where you can slot in later upgrades: a joystick card, **soundboard**, VGA card if you don't already have one. The expansion slots are one of the great beauties of PCs: making the machine upgradable to suit your wants and needs.

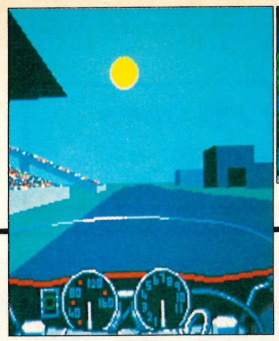


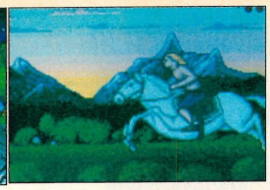
the telephone lines.
Monitor: probably the most common word for the screen. You'll also see 'display', VDU (bit outdated) or console (very outdated).
Monochrome: two-colour graphics or text. On older PCs, this may be orange or green on black; these days, white on black or vice versa is more common.
MS-DOS: Microsoft Disk Operating System. Provides the PC with the essential routines needed to manage the screen, keyboard and files, and to load and run programs.
Operating system: piece of software that runs on the computer and organises it so that software programs can be run on it.
Pixels: the dots which make up each image on screen..
Ports: the sockets at the back of the PC used for connecting peripherals.
RAM: Random Access Memory. See memory, above, and also note that when the computer is switched off, the contents of RAM are lost.
Read-only: a read-only file or disk cannot be written to, ie, the contents can be viewed, but not added to or altered.
Resolution: the amount of detail (and thus clarity) on screen. More pixels (above) means better resolution.
ROM: Read Only Memory. Memory which is sealed on a chip inside the PC. Switching off the computer does not affect the contents of ROM.
Serial link: Sends data to or from the computer one chunk at a time.
Soundboard: Board which fits into a free expansion slot which adds music and sound effects to programs which have been designed to make use of it. Most often used to attach modems or mice.
Sub-directories: folders, or drawers within drawers, contained within a single directory (see diagram).
Switches: with some MS-DOS commands, you'll have the option of adding switches (usually with the / key), which alter or add to the command in question. Much more detail on useful switches in next month's instalment.
VGA: Video Graphics Array. Currently the best standard graphics mode for playing games.



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This is where the fun starts: 19 games put through the mincer and tested to destruction (literally, in one notable case).

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 Wing Commander , 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 you how many disks come in the box, so that ppy-only owners will know how much disk-swapping is likely tobe involved.

● Tech specs

...familiar to PC Leisure readers, this is a 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 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.

Wing Commander 2 40
One of the most eagerly-awaited PC releases: we find out whether Origin's magnum opus lives up to the hype.

Civilization 47
After Railroad Tycoon, Sid Meier tackles the world, and puts you in charge of rewriting history.

Team Suzuki 54
Gremlin revs up for some fast and furious motorbiking.

Mad TV 57
Run your own TV station, courtesy of Rainbow Arts.

Martian Memorandum 60
Power, corruption and lies – set in the near future in Access's interactive movie style.

Guinness Disk of Records 64
On CD-ROM, the famous reference book of the tallest, strongest, longest, etc.

Family Choice 65
A selection of games put on a single CD-ROM by Britannica.

Might and Magic III 66
Fantasy role playing from New World Computing.

Spellcasting 201: Sorcerer's Appliance 70
Ex-Infocom writer Steve Meretzky exercises a dry wit in this graphic adventure.

Secret Weapons of the Luftwaffe 72
Lucasfilm takes to the skies.

Pools of Darkness 76
Final instalment of SSI's Forgotten Realms Epic.

Shanghai II 78
The Chinese puzzler returns with even more fiendish gameplay.

The Adventures of Willy Beamish 80
Cute kid or little brat? Dynamix introduces you to Willy in this interactive cartoon.

Wrath of the Demon 83
Graphic spectacular from Readysoft.

The Big Deal 84
Compilation of card games.

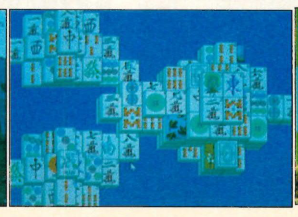
Casino Gambling 84
From inside Trump Castle, no less.

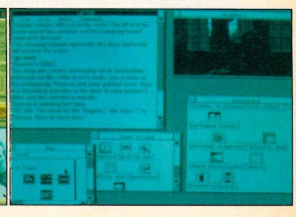
The Magnetic Scrolls Collection 86
Old favourites given a new look with the Wonderland graphic interface.

NFL Football 87
Complex and authentic American Football simulation.

Terminator 88
Not T2, you understand, but Bethesda Softworks' rendering of the original.







■ Wing Commander 2 ■ Origin
■ (0444) 831761 ■ £39.99



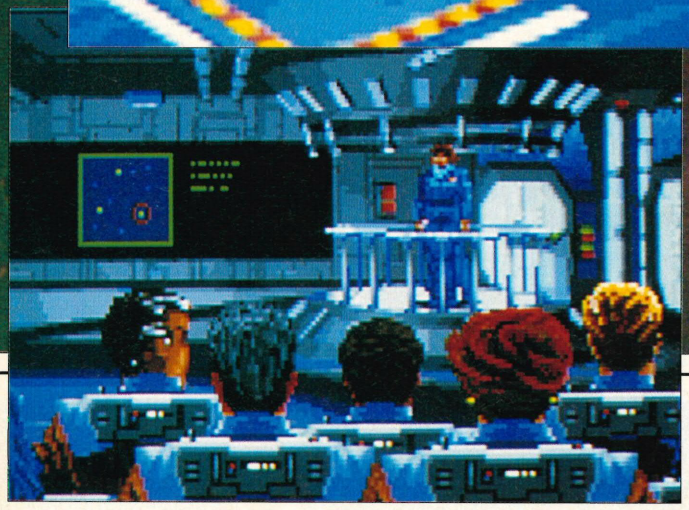


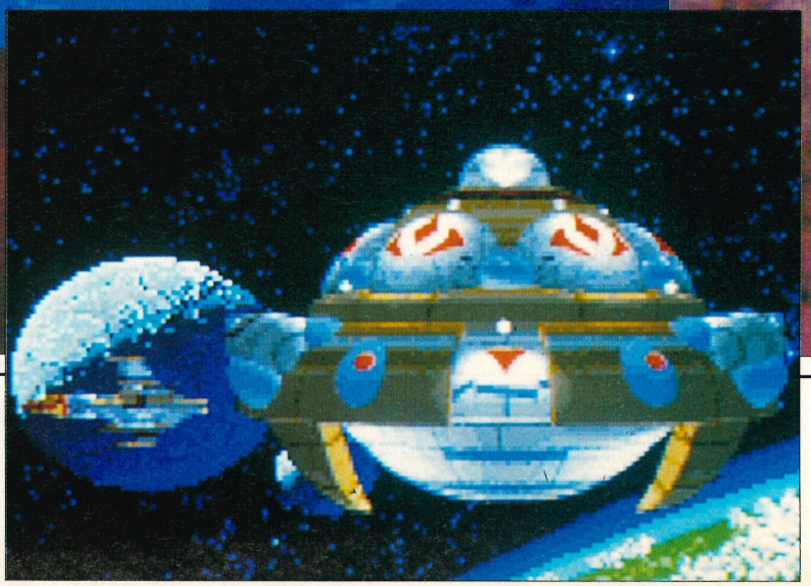




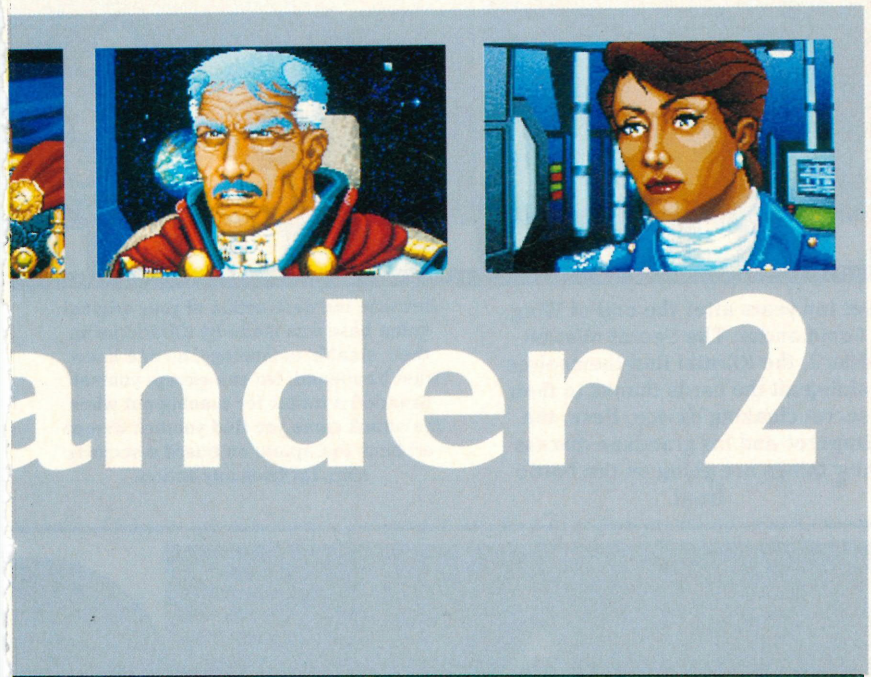
Wing Comma







...and an extra £14.99 gets you the Speech Accessory Pack.



ander 2

Is this the game of the decade? Prepare to launch your (powerful) PC towards new worlds of technological entertainment.

There are computer games and then there are computer events. Wing Commander 2 falls lavishly into the latter category. Even a simple perusal of the disk box fills you with a sense of heightened expectation.

With the imminent release of its space combat extravaganza, Origin has got its claws well and truly embedded in your excitement glands. As far as I can remember, there has never been a game that has had so many people talking about it, so many rumours running around it and so much amazement about the technical aspects that it contains. I have a friend who is a devout Commodore fanatic and who, despite all of my persuasions that the PC is a superior machine, steadfastly refuses to believe anything is better than his Amiga. He was shown a demonstration of WC2 in a local computer store and walked out seriously thinking about buying Amstrad's new games PC.

WC programmer Chris Roberts is quickly earning a reputation for excellence of game design across the pond – and much ill-will from anyone who doesn't own a PC powerful enough to run national defence systems. As soon as you open the box you are greeted with a red Warning! sign followed by an awesome list of necessary hardware and memory requirements.

Installation time (so the card reads) can take anything from 45 minutes to two hours depending on machine speed and memory availability, but only if you want to decompress the files. I highly recommend decompression, despite the wait, as the effect is quite noticeable once the game is up and running. If, however, you can't wait to immerse yourself in the world of space combat, be prepared to tap your fingers for around five seconds every time a scene changes or the disk is accessed. This soon becomes tiresome, especially in mid-combat.

So, you've got your expanded memory running to its full capacity. The Roland and Soundblaster cards are fully installed and rigged up to separate





The main brunt of the action takes place out in the depths of space, inside a varied collection of fighters.

Wing Commander 2

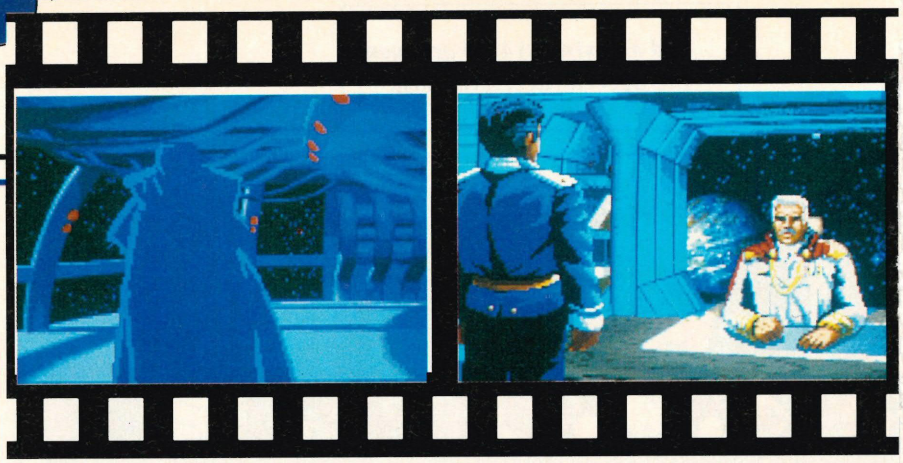
speakers and the game is fully installed and decompressed and raring to go. I got a similar sense of excitement when I went to see Terminator 2 in the cinema recently. I knew I was in for something special and the film had such a reputation around it that I was on the edge of my seat as soon as the curtains were pulled back. That's kind of how you feel when 'Wing Commander 2: Vengeance Of The Kilrathi' blazes across the screen.

The first time you play, everything is excellent. No matter how hard you want to be cynical, you can't. Your PC has never been used like this before and maybe it never will again. The speech is crisp and clear, the music is incredibly atmospheric and the graphics knock your eyes for six.

The thing is, once you've seen them three or four times the novelty starts to wear off. Fortunately, and this is where the sequel is infinitely better than the original, there is a new sequence before and after every new mission. Origin has thoughtfully made saving games a thing of the past. Wing Commander 2 does it for you. If you should die (all too easy until you get the hang of things), you are given the choice of continuing and seeing the death scene or restarting the mission and trying again. If you should quit the game, it saves your position before you go and allows you to continue when you reboot. Seems obvious, really, but it's depressing how many softcos forget to make leaving a game this easy.

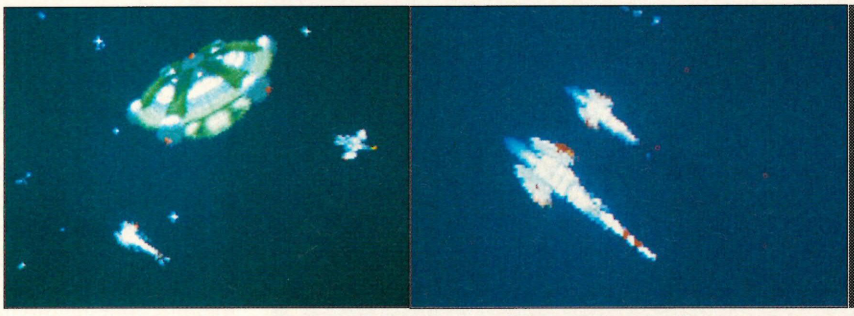
Anyone that's played WIng Commander 1 (and let's face it, that's quite a few of you) may feel a little cheated after completing the first mission as it's almost identical to the first flights in the original. Not a lot appears to have changed in the combat areas. Of course, now you've got your wingmen talking to you in digitised speech and there are a few graphical differences in the backgrounds but it all still looks and feels the same.

TWO MINUTES OF FLYING...



Set ten years after the end of Wing Commander: The Secret Mission Disks 2, the Kilrathi find themselves holding all the cards thanks to their secret cloaking device. Here, the Emperor and his grandson discuss how things are going on the battle front.

Because the destruction of your original home base was made by Kilrathi using their 'stealth' technology, no one knew what happened. No one except yourself. Branded a traitor for running out when the attack came you find yourself demoted back to Captain on board a security ship, far from any action.



Various exterior views are available to you during space flight, all helping to add to that cinematic feeling.



This feeling doesn't last much longer than the first few sorties, as you soon find that the story links nicely to the way your flights go. You find yourself zipping from one

ALTERNATIVELY...

Wing Commander

You'd be hard pushed to find much difference between father and son, except that with the sequel you get a cinematic bit after every mission. Wing Commander (the original) is both cheaper and less defined than its offspring, with a remarkable similarity in its missions.

Fly to point one and encounter bad guys, fly to point two and encounter asteroids or mines and fly to point three, encounter some more bad guys and then go home. If you don't already have the original and have made your mind up about buying one of them, stick with the sequel. It may be more expensive, but it's got that little bit extra.

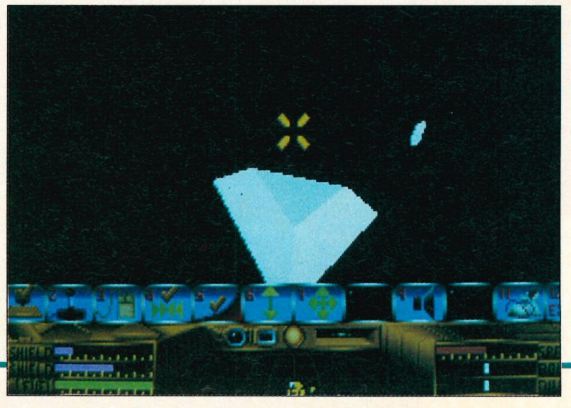


Elite (Plus)

A large body of opinion holds that no game has ever been or ever will be as good as Elite. David Braben's classic space trading game is Britain's only real answer to Chris Roberts' American threat and has kept gamesplayers occupied since, it seems, the beginning of time.

Elite is less of a story, more of a game (or so some would say. Believe it or not, there are a few people out there that don't like it). You simply fly around the galaxy(s), buying and selling cargo from the various planets, while avoiding having your rocks blown off by pirates, aliens and occasionally, policemen.

It is one of the few games that can really call





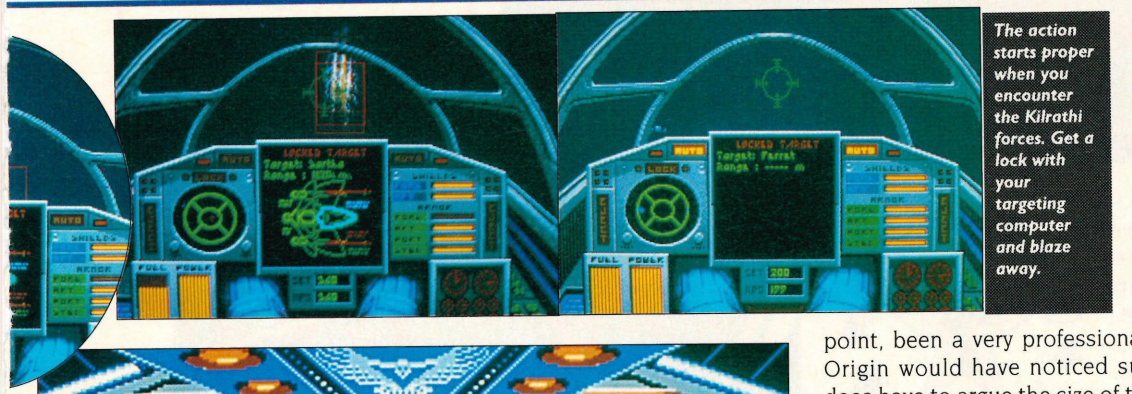
It's not long before you are thrust back into action though, as the Kilrathi make a surprise attack on a supercarrier close to your base. When you return you find most of your old friends on board.

Before each mission you get a small piece of scene setting, setting the ground for what's to come, followed by the launch of your fighter. And yes, all of these pictures move with silky-smooth quality.

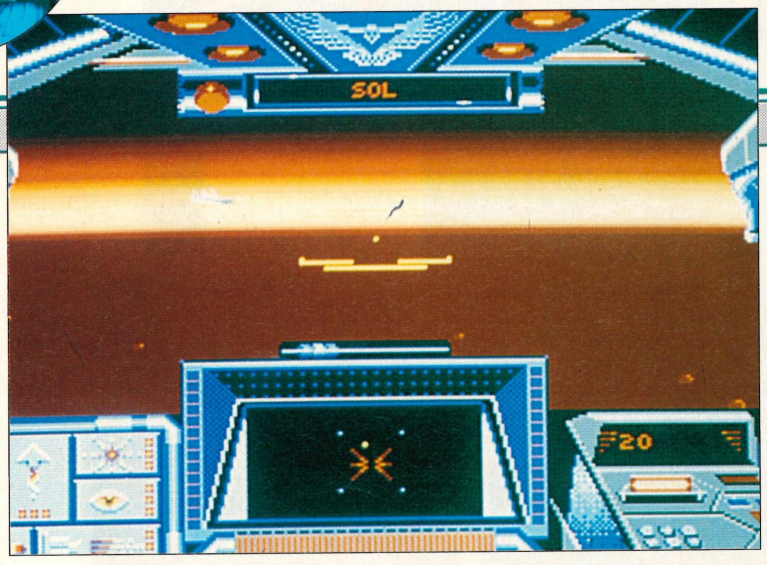
base to another, sometimes not stopping to land, until forces beyond your control force you back into the front line after 10 years of security detail (see panels for more on the story).

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.



The action starts proper when you encounter the Kilrathi forces. Get a lock with your targeting computer and blaze away.



itself a classic (it started on the BBC for God's sake) and while it lacks the presentation and storyline of the Wing Commanders, it more than makes up for it with the action.

Stellar 7

Battlezone was probably the original 3D combat game, a futuristic tank skimming across a wire-frame landscape, blowing away the enemy. Dynamix actually converted... sorry developed Stellar 7 back in 1980, when PCs were still running in monochrome, and found itself with something of a cult hit on its hands. Dynamix recently re-vamped the graphics, sound and gameplay and re-released the title on an unsuspecting world.

Although it's not as big as Wing Commander, Stellar 7 uses much the same method to get its story across. You fly a 'mission' (in this case a level of bad guys followed by a large alien mothership), after which you are treated to a brief cinematic bit. There are only seven levels in total but it's still a good 'tribute' to Atari's arcade classic. Oddly enough, none of Sierra's newsletters, press releases or catalogues ever mention Battlezone. Funny that.



Heart Of China

Heart Of China?? Don't worry, this isn't as tenuous a link as you might think. When it comes to storytelling and producing cinematic quality games, none do it better than Dynamix. Despite the distinct lack of space combat in HOCs 1920s tale of ancient China, the comparison can be made between how well each company tells its stories.

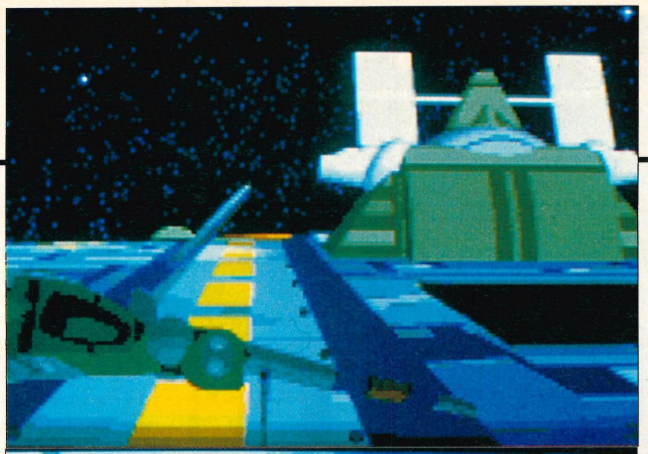
HOC is another of those machine guzzling games, just waiting to occupy more space than Saddam Hussein. While Origin use a 'tell story, play game, tell story' approach, Dynamix (and its parent company Sierra) make the game the entire story.As American games concentrate on apparently outperforming yer average PC, you can't help but find yourself becoming less involved with what actually happens on screen, marvelling instead at how truly three-dimensional the Tom Selleck lookalike main character is, thanks to your Roland MT-32. Come back Pac-Man, all is forgiven...

Wing Commander 2

such a reputation around it that I was on the edge of my seat as soon as the curtains were pulled back. That's kind of how you feel when 'Wing Commander 2: Vengeance Of The Kilrathi' blazes across the screen.

The first time you play, everything is excellent. No matter how hard you want to be cynical, you can't. Your PC has never been used like this before and maybe it never will again. The speech is crisp and clear, the music is incredibly atmospheric and the graphics knock your eyes for six.

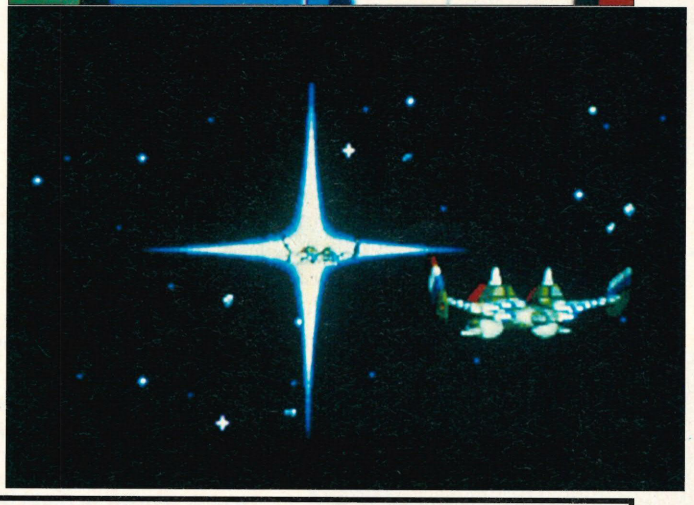
The thing is, once you've seen them three or four times the novelty starts to wear off. Fortunately, and this is where the sequel is infinitely better than the original, there is a new sequence before and after every new mission. Origin has thoughtfully made saving games a thing of the past. Wing Commander 2 does it for you. If you should die (all too easy until you get the hang of things), you are given the choice of continuing and seeing the death scene or restarting the mission and trying again. If you should quit the game, it saves your position before you go and allows you to continue when you reboot. Seems obvious, really, but it's depressing how many softcos forget to make leaving a game this easy.







For the most part you'll only encounter enemy fighters, but several missions involve the larger space craft to some extent.



Anyone that's played WIng Commander 1 (and let's face it, that's quite a few of you) may feel a little cheated after completing the first mission as it's almost identical to the first flights in the original. Not a lot appears to have changed in the combat areas. Of course, now you've got your wingmen talking to you in digitised speech and there are a few graphical differences in the backgrounds but it all still looks and feels the same.

This feeling doesn't last much longer than the first few sorties, as you soon find that the story links nicely to the way your flights go. You find yourself zipping from one base to another, sometimes not stopping to land, until forces beyond your control force you back into the front line after 10 years of security detail (see panels for more on the story).

Up till now everything has been perfect, for machines that can handle it.

PAUL PRESLEY

PC review 7

HARDWARE REQUIREMENTS

ere are a aggering 14 3.5" isks to wade through (I shudder to think how many 5.25" disks you get), taking up a paltry 15 megabytes of space on your hard disk, at minimum. If you go the whole hog and decompress the files (saving time during play but taking anything up to two hours to complete), you'll need about 21 megabytes free.

If you then decide to install the Speech Accessory Pack (in order to get the full cinema experience), you'll need a further seven megabytes of space, and more expanded memory cards than I care to mention.

The simultaneous use of two sound boards is really nice for those that can afford the luxury of both a Roland and a Soundblaster.

TECH SPEC

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



Take your PC through the sound barrier!

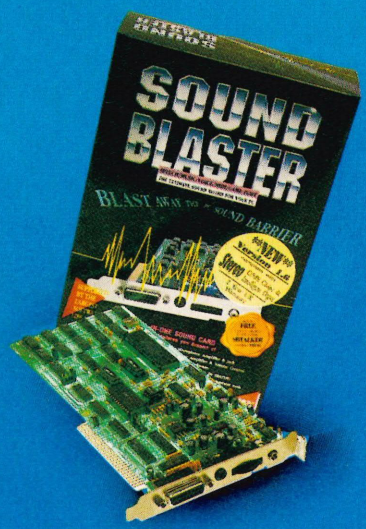
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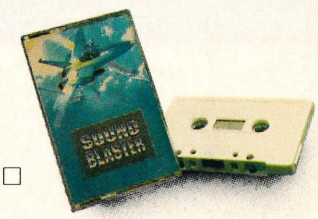
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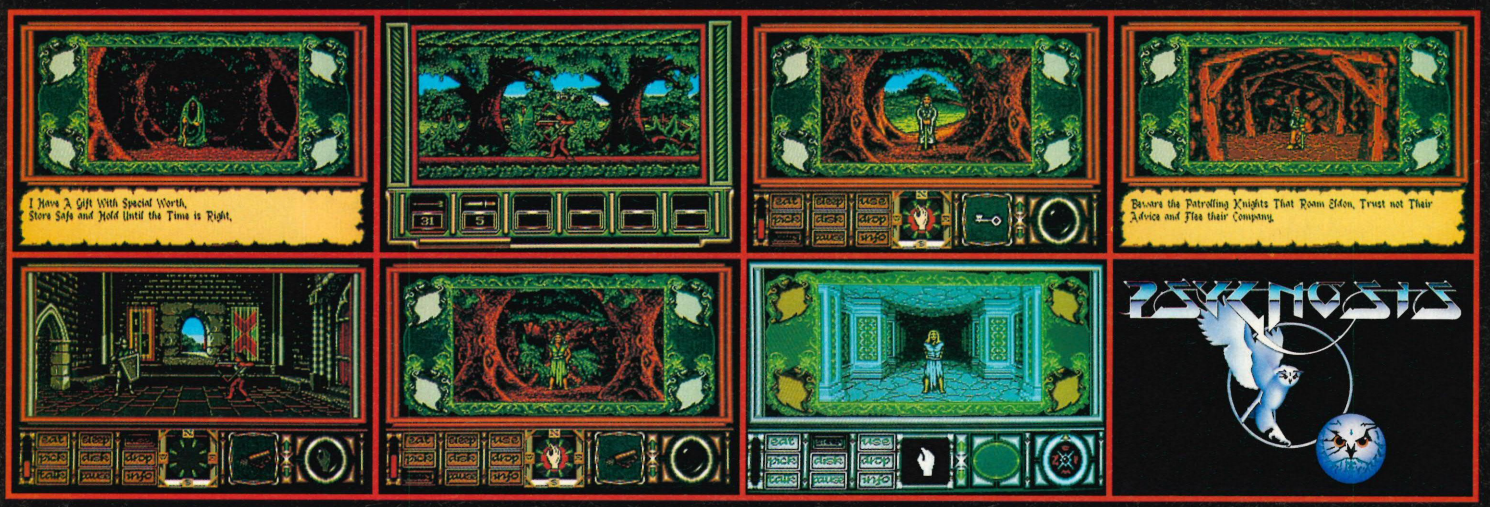
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Screen Shots from the Atari ST and Amiga

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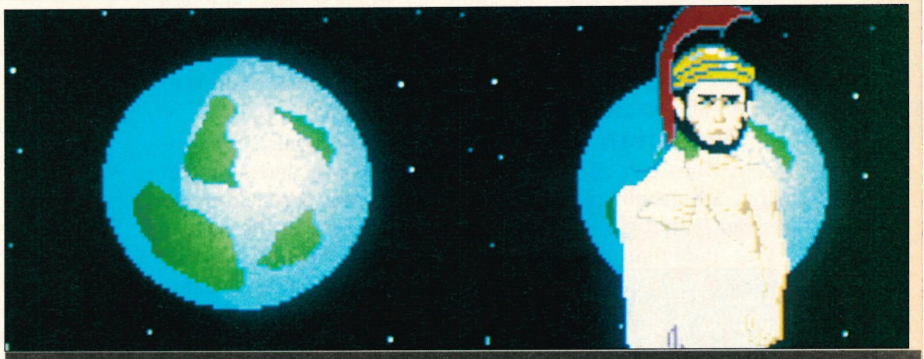
■ Civilization ■ MicroProse
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Civilization

Sid 'Railroad Tycoon' Meier applies his popular graphic simulation formula to the cultural evolution of mankind.

Sid Meier's Railroad Tycoon has already proved that strategy games can be just as appealing to the average player as shoot 'em ups and platform games. The game has already generated a huge following in the States and is taking off in a similar way in Europe. What better way is there to celebrate that success than by doing it all over again with a different theme? That's exactly what Meier has done with Civilization, a sprawling strategy game which simulates the development of civilised society, no less.



Civilization's intro sequence bears a remarkable resemblance to the opening moments of Maxis' Sim Earth. Unfortunately it's not nearly as interesting to watch. Having said that, you may as well watch it when you are starting a new game because the computer uses this time to generate a new game world.

The player is cast in the god-like role of leader of a prehistoric wandering tribe. I say god-like because your sphere of influence stretches far beyond that which your historical counterparts would have enjoyed. You, after all, can view any portion of the game world at will and directly command any portion of your population no matter where they be. Agamemnon would have given his sword arm for powers that far-reaching.

Your objective is initially to settle and then to expand your

TWO MINUTES IN THE GROWTH OF CIVILIZATION

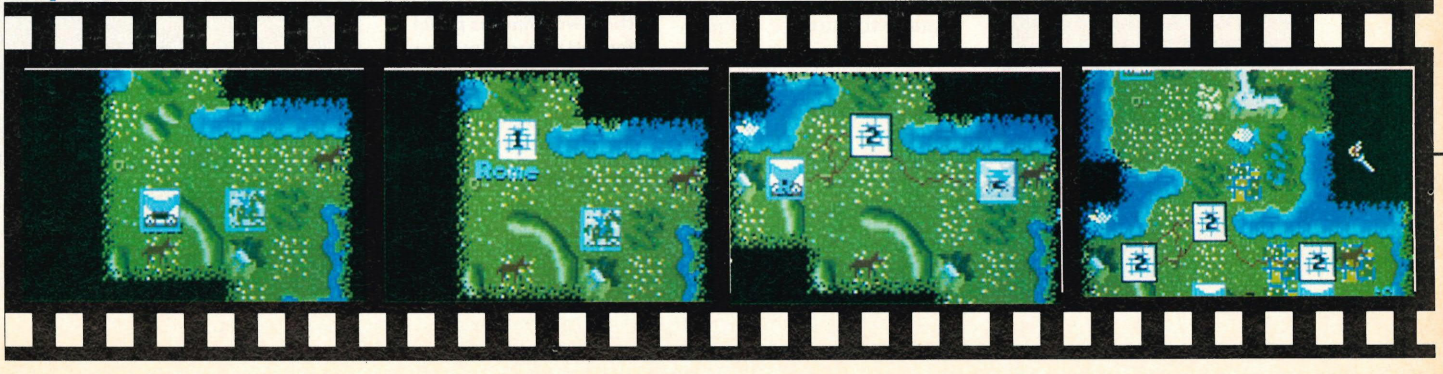
Although the first two minutes of the game are apparently the easiest to play, making the right decisions at this stage can have extremely beneficial effects later on.

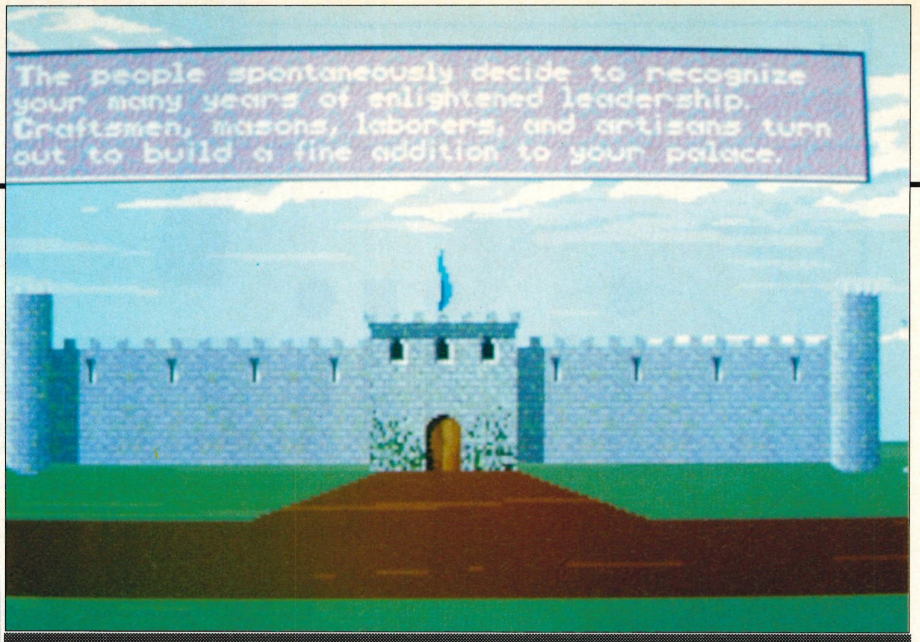
It all begins with one wandering tribe looking for somewhere to call home. It may not be much, but it's all you've got, so make the most of it. And that means finding a decent spot for a capital city. It's no good plonking it in the first flat space you come across...

...what you need is a nice coastal location with lots of accessible flat land nearby. Not only is it easier to send out settlers now, but you can also get straight on with a bit of seafaring when the time comes.

Having established your power base it's time to branch out and set up some supporting cities. Make sure that there is a good network of roads between your cities. They're not absolutely essential, but without them your units will move unbearably slowly.

All that remains to be done is the building of irrigation and mines. It's easy to overlook this activity when you're establishing new cities, but try not to forget, or you'll find your population dwindling.



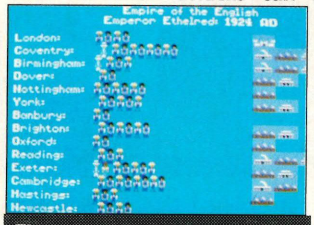


If you're doing particularly well as a ruler your population will club together and improve a section of your palace. This interlude is not essential to the game but is one of several nice touches that make Civilization such a pleasure to play.

population and the lands they occupy. Once you've found a suitable location and established your capital city, you can begin to diversify by sending settlers out to found new cities and build a network of roads between them. Each section of your population is represented by an icon which can be moved around the game world using the cursor keys. Naturally, common or garden settlers are not the only type of unit you can generate. Others include militia for defence and cavalry for warfare, as well as tiremes and sail boats for travelling to other lands.

Building a successful civilisation is not just a matter of founding new cities and laying roads; there are other budding communities out there, all aiming to become the dominant world power. Although you are likely to be left alone in the earlier stages of the game, you will soon have to decide whether to open trade routes with them, or, if they are weak, just crush them with your military forces before occupying their lands.

Barbarian uprisings are another cause for concern. They can be triggered without warning, and although they are usually put down quite easily, your population will suffer if they are unprepared. The other side of the coin is that Barbarian attacks can occasionally provide a useful source of extra income: capture the barbarian leader and his hordes will pay a handsome ransom for him.



There are advisory screens that can be called up on military, intelligence, attitude, trade, science and city status. 'Advisory' is perhaps the wrong word to use, as these are only simple statistical screens.



This city screen is the most complex screen in the game, but will become less formidable after a couple of hours play. Its main use is to order the inhabitants of your cities to 'build' something. This can be anything from settlers through cavalry to temples. Otherwise the information shown is largely to indicate the status of each city – its population, the units stationed there, and its cash and food reserves.

Your technological, moral, and social progress is as important as your rapid expansion. At any one time your wise elders can be studying a particular advancement. Initially these are modest but useful little numbers like the invention of the wheel, or ceremonial burial, but after a couple of hundred generations or so, you should be developing advanced engines of war and new scientific arts like navigation. Civilisation advancement is made more interesting because each development contributes to another. Atomic theory, for instance, can't be developed until you have a theory of gravity and physics. There is a useful menu, Civilopædia that tells you what you need to study to achieve certain advances. This does mean that the progress charted by your civilisation can take a peculiar course if you elect only to study a very narrow band of developments. I found myself in the rather bizarre situation of being one step away from developing computers when I had only just begun to explore the seas.

Exploration is quite an exciting affair because each section of the map is revealed only when it is entered by one of your units. Since your first experience of a new land will often be its discovery by a wandering sailboat you will frequently find that you end up with an entirely mapped coast but an uncharted interior, exactly as was the case with many land masses prior to the last two centuries.

Keeping an eye on the home front is, of course, just you can't get at them either. You may have the odd Barbarian uprising to deal with, but that shouldn't cause any major upsets. Your main concern is to build the size of your population, and its wealth.

ALL THE WORLD'S A STAGE...

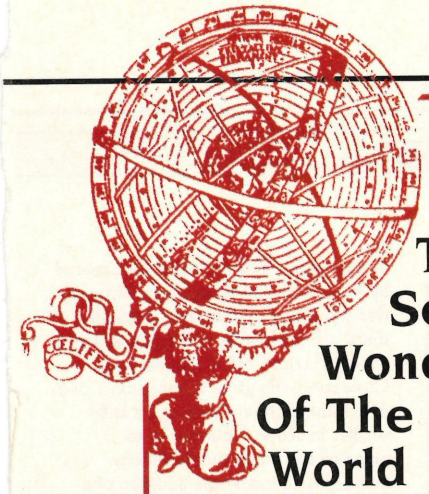
One of the most appealing aspects of Civilization is that the way you play the game changes, as your own and other civilisations' progress. Here I show some of the major stages you can expect to go through...



The Initial Expansion Stage

This seems easy – but see the Two Minutes panel for a warning. You don't have to worry about other civilisations; they aren't aware of you yet. But by the same token





The Seven Wonders Of The World

One sure way of boosting your prospects in Civilization is to be the first to build one of the seven wonders of the world. Each of these positively affects one particular aspect of the game. Here, for the benefit of Trivial Pursuit addicts, are all seven of them and their influences in the game.

WONDER ONE
The Colossus of Rhodes

Built in 280 BC, this huge bronze statue of the sun god Apollo straddled the mouth of the harbour of Rhodes. It was an object of veneration and attracted many Greek pilgrims.
EFFECT: increases trade.

WONDER TWO
The Hanging Gardens of Babylon

These were reputedly designed by Semiramis, the wife of Shamshi Adad V, the regent of the Babylonian Empire, between 811 and 806 BC. The gardens supposedly even had semi-subterranean vaults.
EFFECT: increases happiness of population.

WONDER THREE
The Pharos of Alexandria

This was a marble watch tower and lighthouse, built by Ptolemy II (285-246 BC) on the island of Pharos in the harbour of Alexandria, the centre of the Macedonian Empire. It was used to protect the harbour and aid the ships navigating into Alexandria.
EFFECT: increases efficiency of shipping.

WONDER FOUR
The Pyramids of Egypt

Built during the fourth Egyptian dynasty on the plains of Giza near Cairo, these were burial tombs and monuments for the pharaohs. Each one took several generations to build.
EFFECT: allows type of rule to be changed without opposition.

WONDER FIVE
The Great Wall Of China

This wall was built over 1800 years between 221 BC and 1640 AD. It is 25 feet high and 12 feet thick and runs for 2,150 miles. It's the only single man-made structure visible from space.
EFFECT: ensures peace with other civilisations.

WONDER SIX
The Great Library of Alexandria

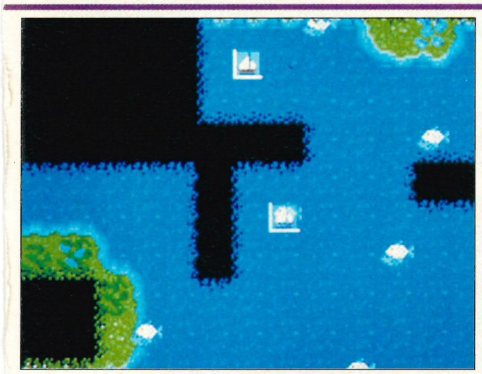
Founded in 300 BC by Ptolemy I, the successor to Alexandria, this seat of learning held over 700,000 volumes.
EFFECT: speeds technological advances.

WONDER SEVEN
The Oracle at Delphi

This was a shrine to Apollo the Sun God, located on the slopes of Mount Parnassus in Greece. The priestess, the Pythia, would make predictions about the future for a suitable fee.
EFFECT: increases the influence of temples.

as important as striking out to conquer new lands. Once you have established cities, it is important to provide a comprehensive network of roads between them, but it is equally essential that your cities are served by irrigation systems and mines for natural resources. Without these the population of your cities will remain static and eventually dwindle.

Maintaining a stable economy is the aspect of the game that is going to stump most players at the beginning – it certainly caused me a few problems. In the early stages of the game, when the population is small and the land rich in resources, you'll have a whale of a time, building granaries, libraries, temples, and city walls left, right and centre. Be warned, though, that this is a very temporary state of affairs. Unless you establish trade routes quickly you will run out of funds and your cities will not be able to maintain the buildings they already have; neither will they be able to produce new units quickly. It's easy to find yourself in a worse state of affairs than some Eastern European countries I could mention. The only way to escape a stagnating econo-



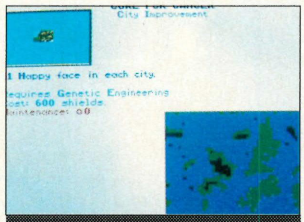
Machine Age.

By the time you've got to the computer age, things have started to get really interesting. The prospect of mass warfare becomes a rather frightening consideration, especially as some civilisations start to develop atomic theory. Injudicious handling of the various game elements can lead to some nasty surprises at this stage.

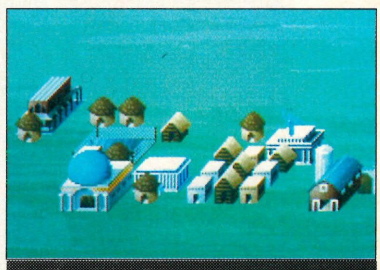
Exploratory Stage.

By now you'll have got about as far as you can on your own patch. Now's the time to go out and find some other lands to conquer or trade with. Best to go 'fleets first', locate the major land masses and then follow up with boats laden with trade caravans or soldiers.





With a game of such scope it's extremely helpful to have some sort of on-screen help function, and that is exactly what the Civilopædia is. You can call up screens on almost every element in the game to determine its function and benefits. These information screens will also appear automatically at appropriate times.



Each city is graphically represented as a collection of huts. As you add buildings they will appear in this view.

my is to sacrifice some wealth and maybe even some cities in order to fund a few emergency trade expeditions.

Like Railroad Tycoon, Civilization rewards those who are prepared to spend a little time experimenting with strategies and adjusting to the foibles of the control system. And it does have its foibles, let me assure you. One of the problems is that on each turn the computer will only cycle through active units, and if you want to do anything with a unit that is not currently active you have to ignore the unit that is currently indicated and search for the inactive unit you want to update. Yes, it really is that cumbersome! And having done that, there's no easy way to switch back to where you were before.

HARDWARE REQUIREMENTS

...n be run from ...e three high ...ensity disks but is best installed on a hard disk.



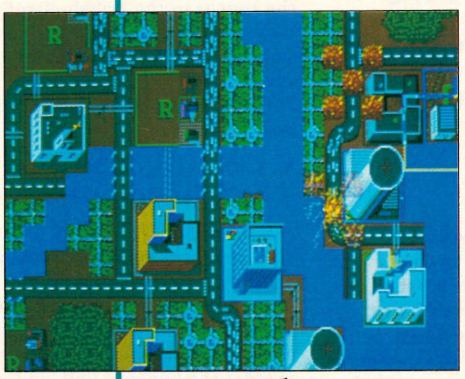
Here's another of those incidental but fun screens, which does little more than give you an indication of your progress. This one appears whenever your fame exceeds that of another king.

Since the pictures on these pages were taken, Microprose tell us that the graphics have been updated for more aesthetic, less strictly functional effect. As it is, however, the graphics certainly aren't bad and there are already some nice static screens, like the one proclaiming you as the best king since sliced bread.

PC review ALTERNATIVELY...

...im City

Infogrames, £30.64

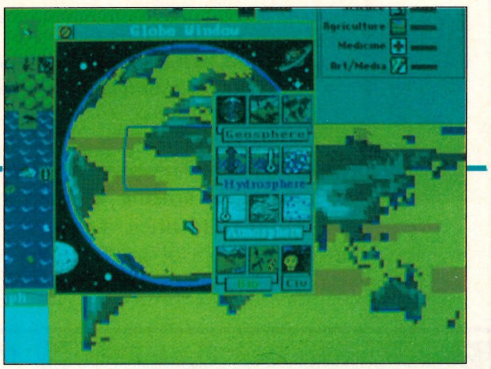


The program that started it all. Created by American developer Maxis, Sim City was the first god program, although there are those who will argue that you couldn't strictly call it a game. Like Civilization, the game is based on a two-dimensional playing area, but it is far smaller in scope. Your aim is to organise and run a successful city. Interest is added by the addition of a variety of disasters like earthquakes and city-wrecking monsters. Aficionados can now take their pick from a selection of scenario disks which enable cities to be constructed in alternative locations from the wild west to the moon.

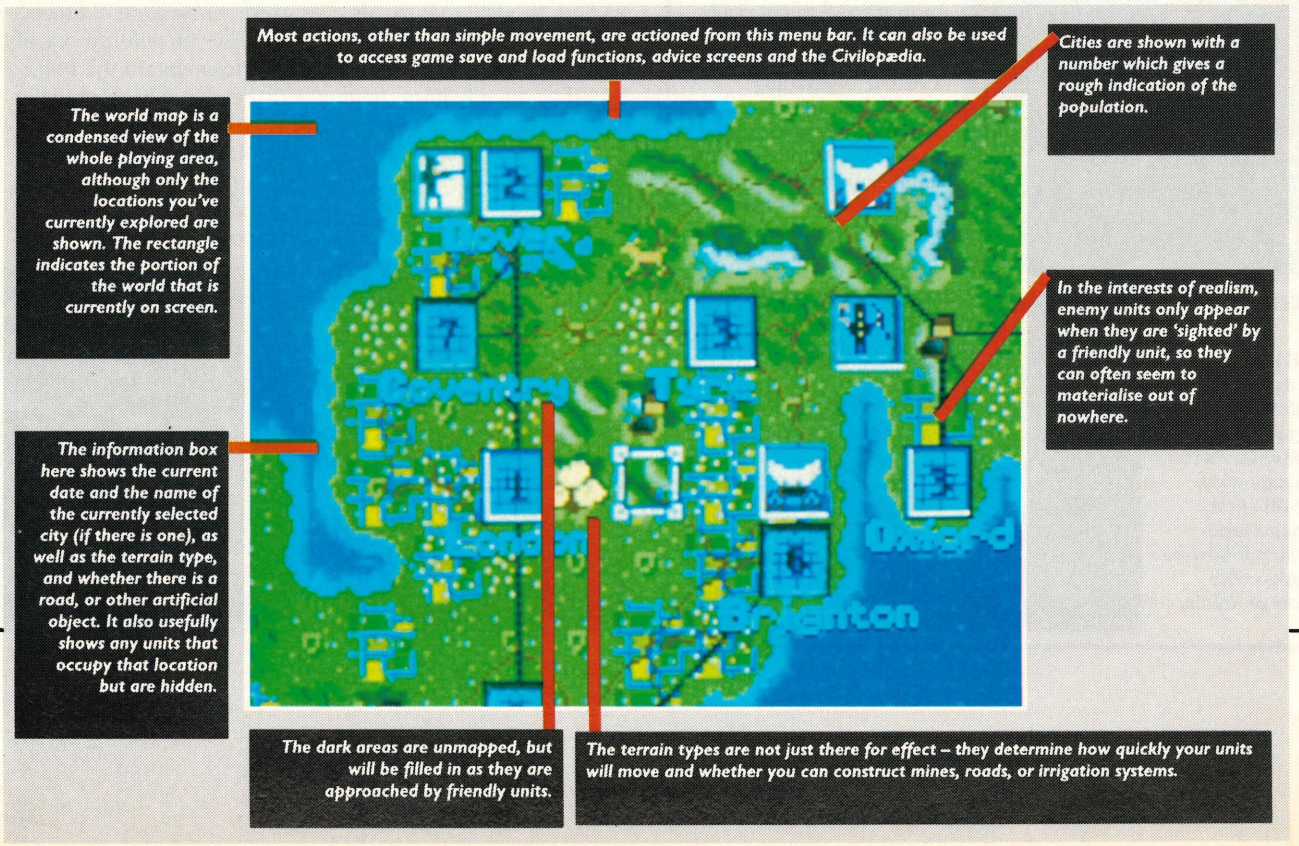
Sim Earth

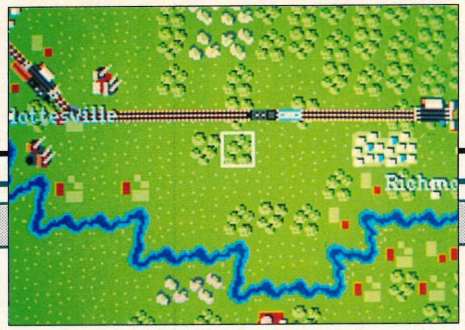
Ocean, £39.99

The sequel to Sim City is a far broader and altogether more serious affair. This time the objective is to nurture the development of life itself. The simulation is based on James Lovelock's controversial Gaia Hypothesis which states that, ecologically, the Earth can be viewed as a single self-regulating



A few hours into the game you'll find the age old 'just 10 more minutes' syndrome cropping up again. The longer you spend with Civilization, the more fascinating it becomes. As



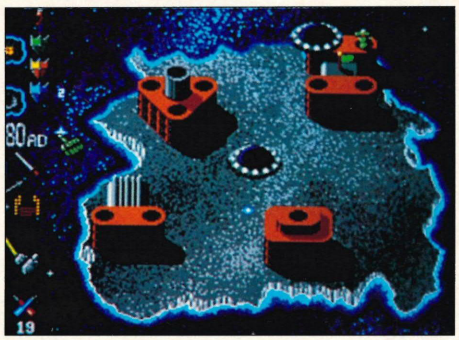


organism in which each part influences the whole. However well-founded the theory is, this is a fascinating program to play because of the endless possibilities. Once again you can deliberately disrupt your creations by introducing disasters. While Sim Earth is superficially similar to Civilization, it is not, strictly speaking, a game.

Railroad Tycoon

MicroProse, £35.75

Civilization's predecessor may be a better option for those who find the sheer scope of the second game a little daunting. The aim of the game is to build a railroad empire. You begin with a single line between two Mid-West or English towns and then try to build a powerful network. Meanwhile there are other tycoons out to do the same thing, so you will have to either strike deals or attempt to ruin your opponents with your business acumen. The gameplay is similar to Civilization, but you'll find the theme a little tidier overall.



Utopia

(Gremlin, Price TBA – Utopia is currently under development.)



At first sight Utopia looks like a 3D version of Sim City, and in many respects it is. The major difference is that in Utopia you are attempting to foster a society built on an alien planet, and in this case the aliens are very unhappy about it. So unhappy in fact that they will do everything they can to prevent your population from settling. Utopia features the same strategic combination of expansion, warfare and economic balance, but it is not quite as huge as Civilization. If you are looking for something a little lighter than Civilization, and with plenty of pretty graphics and sound, then it might be worth your while waiting for this.

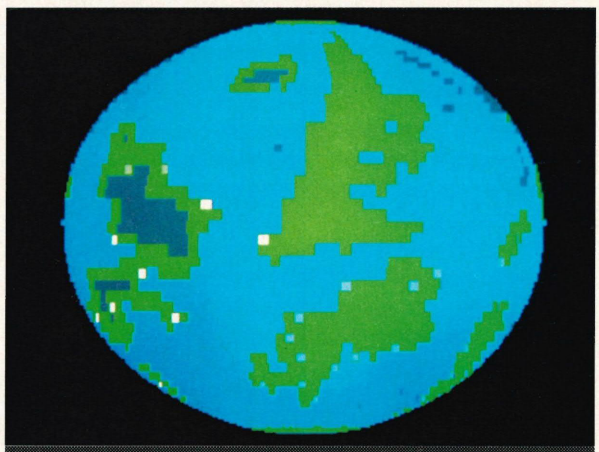
Mega-lo-Mania

(Mirrorsoft, TBA – Mega-lo-Mania is currently under development.)

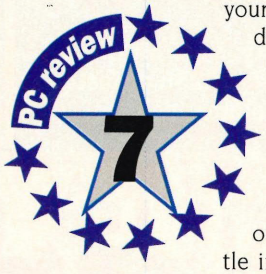
Warfare is the name of the game in Mega-lo-Mania. It is similar to Civilization in that your little band of warriors start off in one sector of one island and then set out to conquer the whole world, but Mega-lo-Mania doesn't feature any of the other aspects. Once again it is up to the player to manage the technological development of the tribe, but in this case that development is only applied to weapon production and warfare. Like Utopia, this game doesn't have the same depth as Civilization, but it does pander to those who like their strategy games to be audio-visual treats.



In the latter stages of the game, you will begin to send out and receive emissaries. Often they will be from powerful civilisations demanding a tribute in return for peace, but if you become strong they will more often than not come in search of a treaty.



An additional, but not very useful view is the world screen. It does show a more realistic relationship between the land masses, but that has little bearing on play.



your society advances, the possibilities for further development increases exponentially. At the same time, the way you play the game changes as the game goes through each stage of history (see All the world's a stage, p48). The whole is a gloriously entertaining affair, both atmospheric and absorbing. Granted it offers very little in the way of aural gratification, and it can get a bit sluggish in the later stages, but these minor inadequacies are easily forgiven when the rest of the game is this engaging. This is a game of great scope which will keep you glued to your machine for many, many hours.

LAURENCE SCOTFORD

Although there is a keyboard option, playing Civilization without a mouse will be an unbearably fussy process.

TECH SPEC

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

THE MARK



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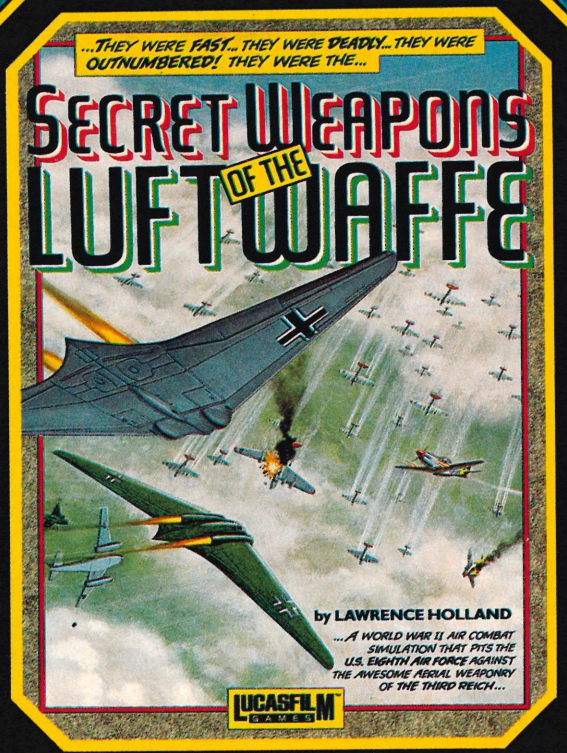


Screenshot from PC

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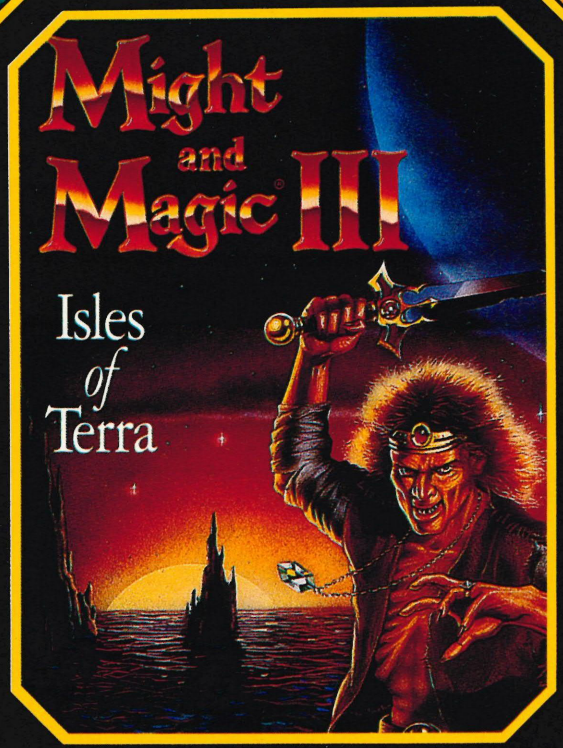
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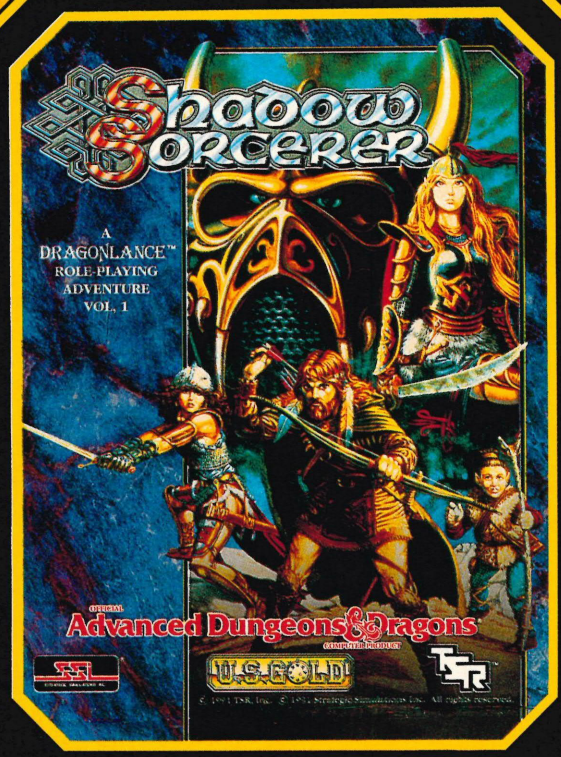
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Screenshot from PC

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Screenshot from Atari ST

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Screen shots are only intended to be illustrative of the gameplay and not the screen graphics which vary considerably between different formats in quality and appearance and are subject to the computers specifications.

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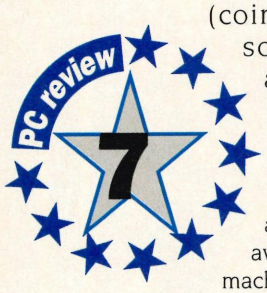


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Team

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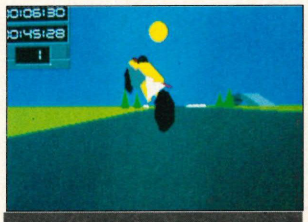
Gremlin's manual describes Team Suzuki as the 'ultimate motorbike racing simulator'. At first glance I'm inclined to agree, as this is certainly a quality piece of software and Gremlin is hot on the wheels of reality with it. That said, I must admit I found that my first ride on a real bike (coincidentally also a Suzuki) was somewhat easier and less hazardous than my first whack with the racing machines on this sim.



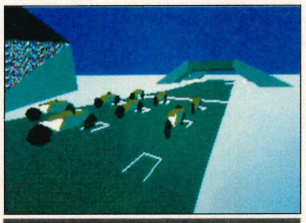
There are three classes of motor bike available. Forget those cumbersome 1000cc superbikes that roar around our public highways, the mounts available here are true lean, mean racing machines, a 125cc with six speed automatic gear box and a 250cc and 500cc both with six speed manual gear boxes.The difference in acceleration and stopping power is quite significant at each power level though practical top speed doesn't greatly differ (say 10 to 15 mph. per class).

There are four options for bike control: keyboard only, joystick only, mouse only, or mouse and keyboard. Going into and coming out of corners at speed demands very precise commands so I would recommend starting off with a joystick if you have one, or as a close second, the keyboard, as unfortunately a mouse will provide no real points of reference for stability and can all too often result in a wobbly ride with a lot of pointless floundering in the trackside grass. Racing bikes run on slick tyres (without tread, to give them more grip on a dry tarmac surface) and grip is consequently dismal off track. Avoid doing this too often in practice or race situations because as you rampage over the grass damage points are inflicted on a percentage basis ... 100% and you crash! Fortunately though this does not happen on the training track. There is also a wrong direction indicator which flashes on screen whenever the bike deviates from its set race format, something which can happen on a regular basis as you burn rubber circles on the road out of frustration or sheer confusion!

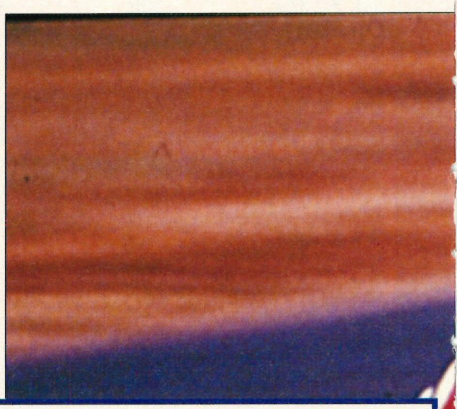
Why frustration and confusion? Well, Team



In the Miami sunlight riding gets hot and the track gets difficult.



Don't ya love glasnost? Soviet tracks are a nice addition here.



TWO MINUTES OF REVVING UP...

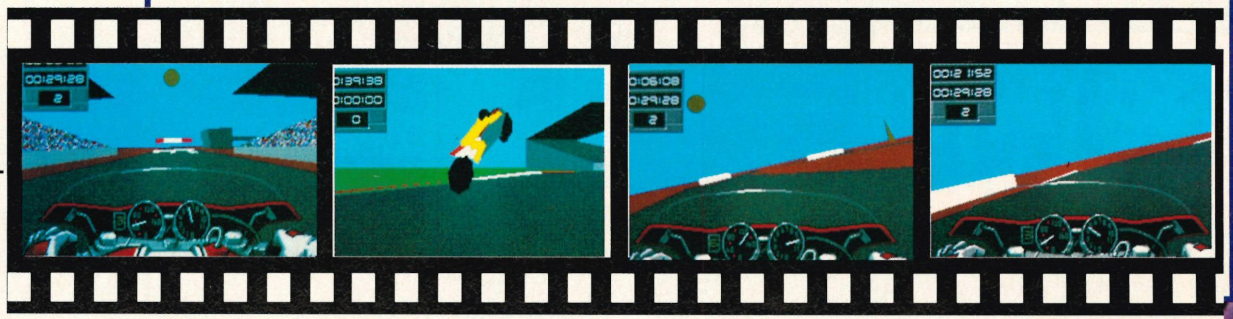
...in Team Suzuki, although I favour joystick or keyboard as a starting point, I found the . exciting and rewarding method of control once you get reasonably used to Team Suzuki is alternate mouse', or complete mouse control. It takes a lot of practice to use this method of control but it can be the fastest and most immediate. When learning to play Team Suzuki, the training course is not in fact the easiest course available, as there are very sharp bends close to the starting line. Try using Daytona in the practice 'Tracks 2' option although you do receive damage points for going off the road, it is a much more straightforward race track.

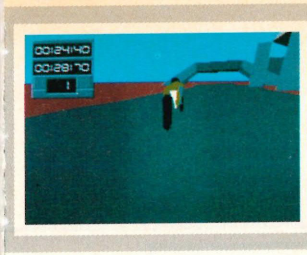
1. Roll mouse forward with finger on right button, increasing engine revs, move up a gear and start picking up some speed.

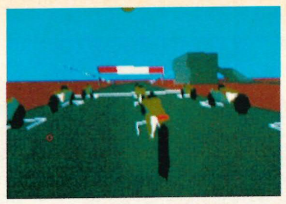
2. Now for some excitement: on full revs hit the left mouse button, move up another gear and do a wheelie, that'll impress the spectators!

3. Now the fun starts, 120 mph into a tight bend. Reduce revs slightly, hitting the right button, start shifting down the gears to 3rd, or even 2nd, depending on how sharp the bend is, roll back on the mouse and click the left button.

4. Take the corner close to the inside bend at a steep angle, rolling right and forward on the mouse, increasing revs again. Now start hitting the left button to go up through the gears again.





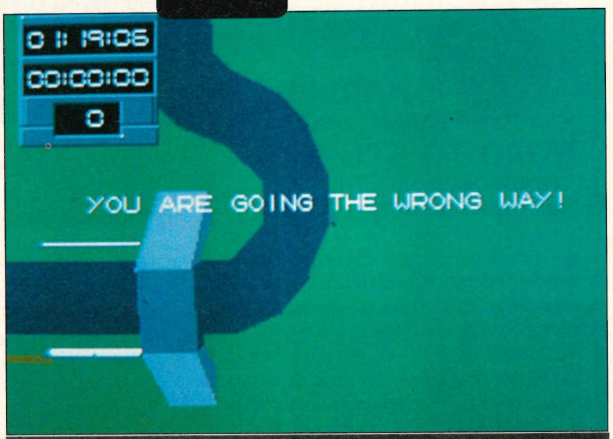


3D and vertical views of Team Suzuki, the choice is impressive...

3D

Suzuki

with motorbikes, ending the manufacturing ascendancy (till then) of the Italians, British and Americans.

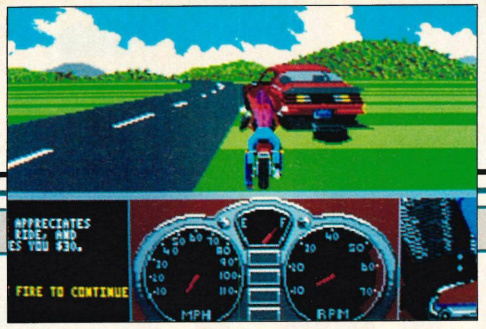


A vertical view of the racetrack isn't really much use while you're racing but it does give you an overall look at the track and how sharp the bends are.

Suzuki is one of the most difficult simulations I have ever played and that includes many flight simulations. It is not an 'arcade' style game as most motorbike simulations have been in the past, going as fast as possible and just trying to avoid the obstacles. It is, as Gremlin has stated, intended to be as realistic as possible. In many ways it is too realistic. Without the extra sensory faculties of touch, feel (and, dammit, the laws of physics which control your actions on a real motorbike) it's very difficult to gauge real time bike speed and cornering angles and because of this the game's realism is flawed, through no fault of the programmers, I hasten to add. These are things which are impossible to emulate on a home computer. The problem is that Team Suzuki demands you make realistic riding decisions in this atmosphere which, believe me, is going to take a long time.



Apart from an obvious lean to the right or left steering function, there are four other engine and bike controls which won't surprise anyone; increase revs, decrease revs, change up gear, change down gear, and that's it! If you want to go faster, move up through the gears and gun your throttle into the high revs band. If you want to slow down, then change down through the gears and decrease revs, let's face it, proper brakes are only for



PC review ALTERNATIVELY...

HARLEY DAVIDSON-THE ROAD TO STURGIS.

MINDSCAPE

Team Suzuki is a real life motorbike simulation, but what if you're after a bit of good clean fun going as fast as you can while avoiding obstacles then you may need to look elsewhere. While there is a shortage of good motorcycle games available for the PC, Mindscape did come up with this little gem for us. Harley Davidson – the Road to Sturgis, has been available for a few years now and it's really a timeless piece of software. The American dream of freedom, liberty and the complete indulgence of personal goals is the central theme of the game and quite honestly it is fun as long as you are into hell's angels, hippies and of course Harleys.

Part role playing game and part riding skills test, the game involves riding east-west across northern U.S.A. to reach a bikers' gathering in Sturgis, Arizona. The role playing section involves stopping off in towns along the way, customising and repairing your bike, womanising, brawling and taking part in biker competitions. The riding part involves riding on grassland highways, through deserts and cities while avoiding potholes, abandoned tyres, hard drivin' truckers and of course the law.

Unlike Suzuki this bike requires mechanical work, looking after your engine and transmission as well as riding, although as far as realism goes Suzuki is the more genuine article.

Graphics are colourful and everything looks good. There are no 3D views here but then again there is a lot more variety in playing screens. Neither game is really affected by machine speed unless you go under 8Mhz or over 24Mhz but at either extreme it was Harley which became too slow or too fast, there wasn't really that much difference with Suzuki.

in the past, going as fast as possible and just trying to avoid the obstacles. It is, as Gremlin has stated, intended to be as realistic as possible. In many ways it is too realistic. Without the extra sensory faculties of touch, feel (and, dammit, the laws of physics which control your actions on a real motorbike) it's very difficult to gauge real time bike speed and cornering angles and because of this the game's realism is flawed, through no fault of the programmers, I hasten to add. These are things which are impossible to emulate on a home computer. The problem is that Team Suzuki demands you make realistic riding decisions in this atmosphere which, believe me, is going to take a long time.

MONO?



Looks as though our lad Lemmy has come last, oh well!



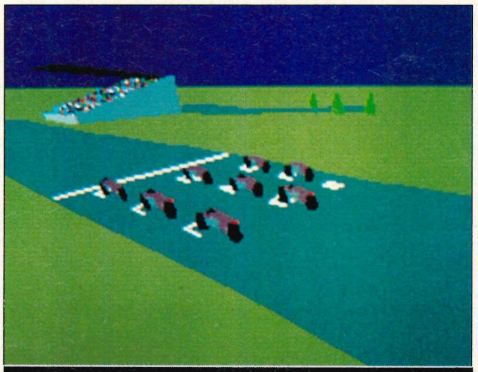
Choose your tracks on this screen – there are 32 available.

Apart from an obvious lean to the right or left steering function, there are four other engine and bike controls which won't surprise anyone; increase revs, decrease revs, change up gear, change down gear, and that's it! If you want to go faster, move up through the gears and gun your throttle into the high revs band. If you want to slow down, then change down through the gears and decrease revs, let's face it, proper brakes are only for wimps. This is all very well on the 125 which is automatic, but with the more powerful machines precisely timing gear changes for maximum acceleration, braking has to be developed into a fine art. Movement and response to control commands from any source is slick and I detected no delays here whatsoever, once again bearing out the realism of the simulation.

The graphics on Team Suzuki are very good. Race tracks, 32 in total with promised expansion packs, are well laid out and you can change the amount of scenery and trackside obstacles by toggling the plus (+) and minus (–) switches on the numeric keypad. The main visual option when riding is a businesslike straight ahead look over the handlebars viewing the rev counter, speedometer and a gear number indicator. Remember N stands for neutral so you won't go anywhere when it's displayed. Putting the bike in neutral also stops it rather quickly which is useful to know, but isn't very realistic if you ask me! Personally I would have preferred a view from a little further back, over the rider, as this would make it easier to judge cornering angles. However, thoughtful Gremlin does allow you to toggle between different views of the bike with [illegible] ubiquitous function keys, including two types of forward view using F3 and F4, and both from behind the motorbike with one at rider level and one above rider level, which can also be zoomed in or out to give wide or narrow views.

HARDWARE REQUIREMENTS

ame setup ludes variable ouse and joystick sensitivity. Comes on a single disk and doesn't need to be installed to hard drive. Disk space used 262k.



The race is about to start, it's up to you from here on in. Good luck! You'll need it!

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

ALAN DYKES

The mouse is the best interface for experienced players, probably the keyboard for novices.

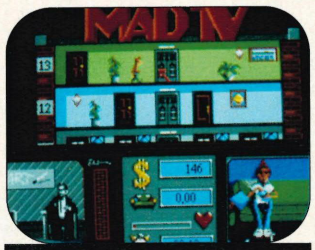
TECH SPEC

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

■ Mad TV ■ Rainbow
■ (021) 702 2323 ■ £24.99

Mad TV

Rupert Murdoch could probably have done with a program such as Mad-TV when he set out to spend zillions on Sky or the Fox network.For a mere £25, it will put you in charge of the Mad TV American network station. Your brief: to get as many people watching the station as possible, while piling up the cash through advertising income.



The offices of Mad TV and its two rival stations are located in this skyscraper.

You compete against two computer opponents who run the rival stations Fun TV and Sun TV. All three companies run their offices in the same building. By moving from one room to another you can visit the different sections of your company. Later on there might be possibilities to cheat a little and spy out the rooms of the competition.



Can you afford to invite the most interesting people for your revolutionary new show Talk for Two?

On the first day you start immediately by selecting the structure of your programmes. Mad TV broadcasts from 6pm to 1am. You have some programmes already, but with those cultural features and documentary series alone you won't catch the attention of millions of households.

After completing the schedule for the first day by clicking the desired feature into the timetable, it's a good idea to visit the movie agency. It offers you a wide range of films, varying in length, quality and price. You must also take care that violent action movies won't be broadcast before 9pm.

Or you could go for commissioning a full-length series. Pick up a concept from the scriptwriter, or devise a chat show, with your own selection of host and guests.

There are several ways to increase popularity – up to date news and a balanced coverage of political headlines and showbiz gossip are two – and therefore collect more image points: any station earning 100 of these send the competition straight down the tubes. A potential audience can also be bought. Stack up your area with extra radio towers and you can reach more people quickly, but again, it's expensive. To get the necessary money you can broadcast one commercial block in every hour.

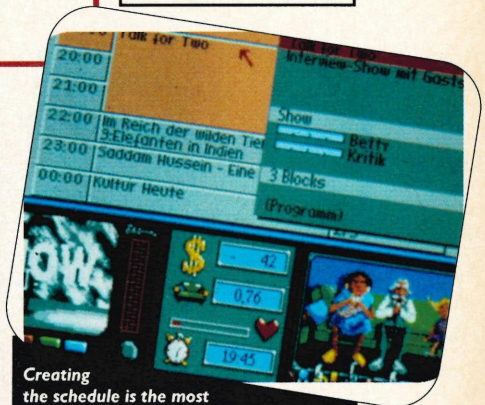
Mad TV is a jolly approach to economic simulations, which often tend to be too serious, and original in subject matter. Its cartoon-style graphics work fine and the easy user-interface makes the game suitable for novices. In the long term there isn't much variety, but it's quite a tough job to win the game, especially at the highest of the three difficulty levels.

Heinrich Lenhardt

HARDWARE REQUIREMENTS

You will need a hard disk to install the game and a mouse is highly recommended.


How about a go with the built-in Tetris-clone? At the bottom of the screen you can see how many people are attracted by your current programme. It seems that a discussion about modern art is not exactly what the majority wants for prime time.



Creating the schedule is the most important part of your job..

TECH SPEC

Graphics are good and clear with chunky characters. Note no joystick control available.

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

The Definitive Simula



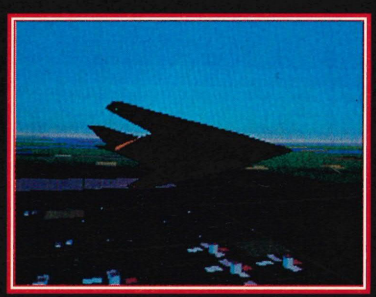
MicroProse Software has done the impossible - taken its classic F19 flight simulator to new heights with F117A Stealth Fighter 2.0, the definitive simulation of America's most radar elusive jet.



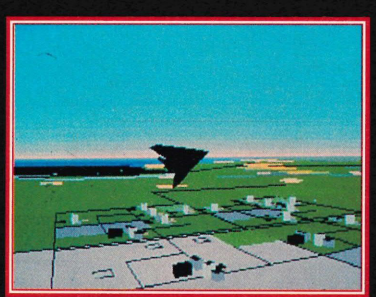
F117A's graphic enhancements are among the most advanced on the market. Improvements include new, more realistic cockpit and in-plane graphics, as well as a replay option that allows pilots to review thrilling flight manoeuvres.



Spectacular night graphics with special night HUD features, sprite explosions and smoke along with cluster bomb explosions intensify F117A's visual appeal. VGA graphics also have graduated horizons, landscapes and seascapes.

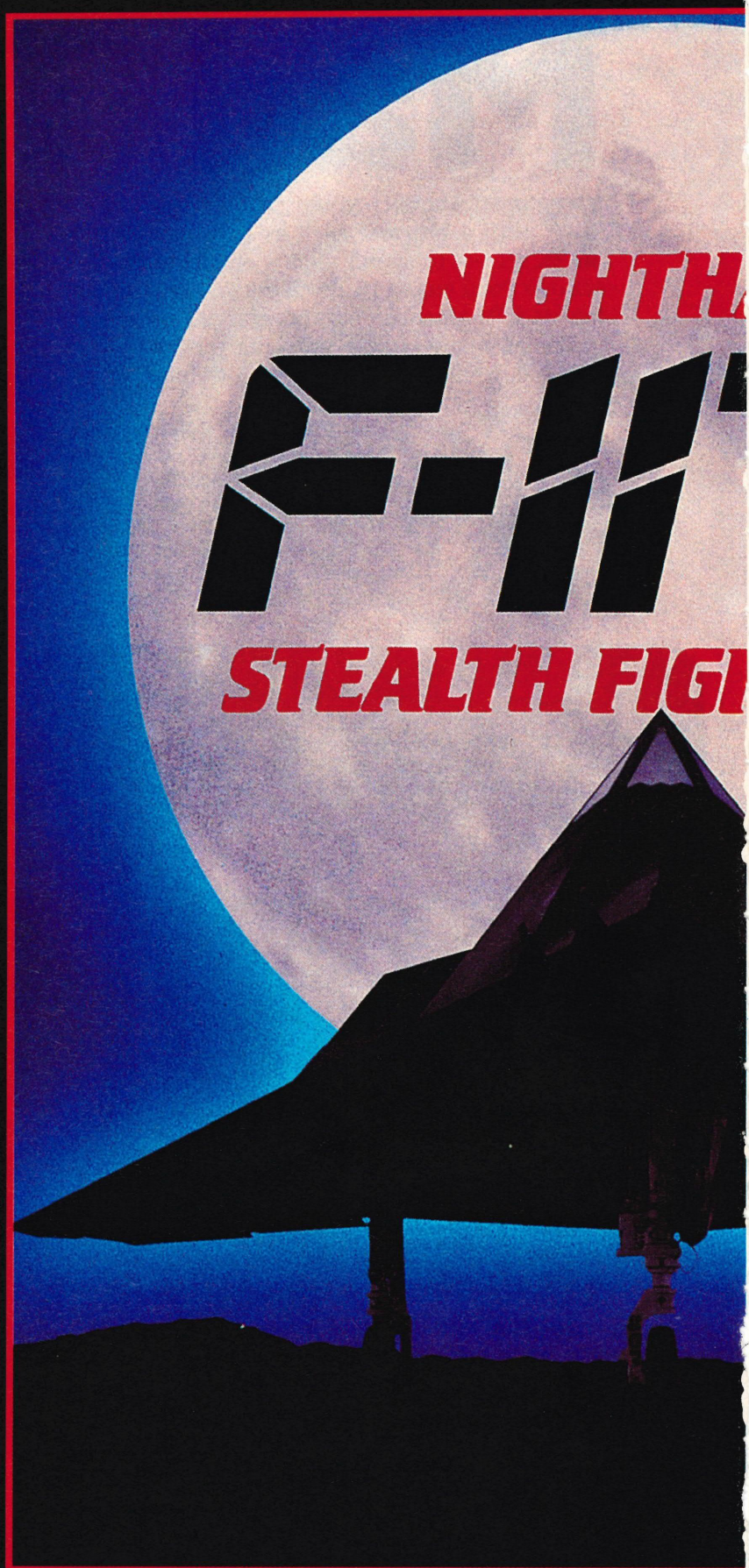


Fly in any of nine worlds including three previously unknown to MicroProse aces - Cuba, North Korea and Iraq - with improved versions of all the existing worlds in the original F19 Stealth Fighter and F15 Strike Eagle. You will even have the ability to load future worlds.



The most skilled computer pilots will be challenged by an improved mission generation system and real life enemy artificial intelligence. F117A also gives you the option of flying the actual Lockheed built radar-elusive bomber or the MicroProse constructed stealth fighter on missions deep into enemy territory.

IBM screen shots shown.



Instantly detectable at all

lation of America's Radar-Elusive Jet



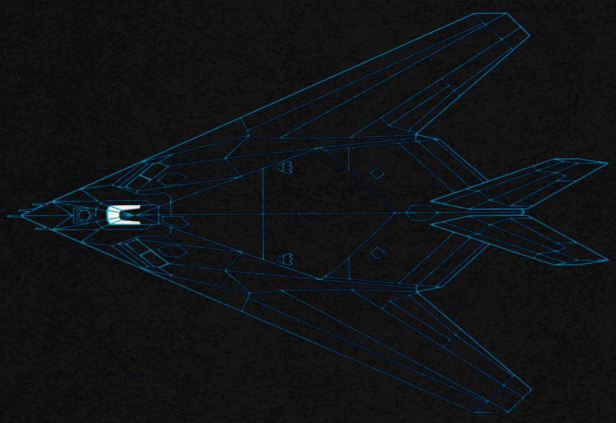
Baghdad, January 17, 1991 - The still darkness of early morning suddenly gave way to the flash and roar of exploding bombs. Iraqi anti-aircraft artillery batteries began firing wildly into the sky, not knowing what or where their targets were. Operation Desert Storm had begun.

Within a few short moments, key Iraqi early warning sites, control centres, and communication links were destroyed by unseen attackers. The attackers - F-117A "Stealth" fighters - had flown through hundreds of miles of heavily defended Iraqi airspace undetected, and hit their targets with precise timing and pinpoint accuracy. Almost instantly, the Iraqi air defence command found itself deaf, dumb and blind.

On the first day, the F-117As - which comprised only two and a half percent of the coalition's combat air forces - accounted for 31 percent of the Iraqi targets hit. The impact of these raids assured the air supremacy of the allied air forces, and allowed them to strike with impunity anywhere within Iraq and Kuwait. Stealth technology had gone public. The F117A had arrived.

In the F117A the kings of simulation cross new frontiers.

MicroProse Simulation Software is available from all good software stores, however should you experience difficulty in obtaining any of our titles they can be ordered directly from us at MicroProse Ltd. Unit 1, Hampton Road Industrial Estate, Tetbury, Glos. GL8 8DA. Tel: 0666 504 326.



MICROPROSE™
SIMULATION • SOFTWARE

good software stores for IBM PC Compatibles.

■ Martian Memorandum ■ Access
■ (021) 625 3366 ■ £35.99



Martian Memorandum



Martian Memorandum from Access (best-known for its golf sims LeaderBoard and Links) demonstrates just how close we're getting, and also how far we've got to go before games can truly be termed as interactive movies.

Access bills this as 'the first ever multimedia entertainment product', which is only partly true: it isn't the first, but it is multimedia. There's 24Mb of video, sound and music squeezed into 7Mb of compressed files. You see digitised video sequences of key characters, hear them talking in sampled speech, and there's a fine, moody soundtrack (provided you've got the necessary sound hardware).

> 'Interactive movie' is a phrase the games industry has been hyping for years - so much so, that it's almost become meaningless.

But as hardened gameplayers know, these high-tech trappings are no substitute for the game itself. On that count, Martian Memorandum is a sadly familiar story. It's a familiar plotline, too: an animated adventure in which you play hard-bitten private eye, Tex Murphy. It's the 21st century, you're on the trail of the missing daughter of a millionaire industrialist, and – as you'll guess from the title – at some point you're going to Mars.

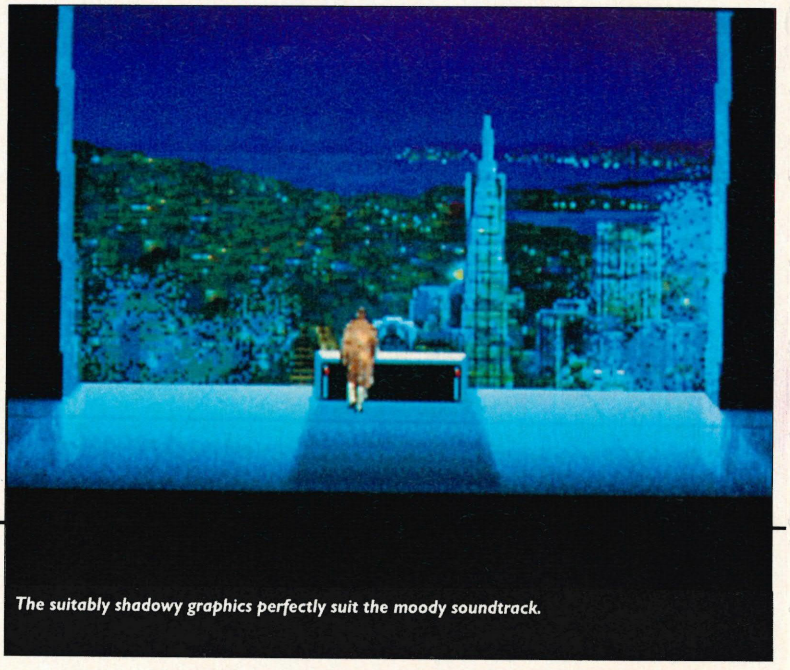
The mechanics of the gameplay follow recent developments in the adventure genre. It's all icon-driven, so you don't have to type anything; and all commands and objects are provided either graphically or in list form, so you don't have to deal with a parser (the bugbear of many a text adventure which never seemed to understand what you wanted to do).

A row of command icons across the bottom of the screen lets you look at, open, collect or use the objects shown in the graphics window. There's a Help icon, too: you get a list of objects in each location, and a series of hints as to whether they're useful and how to use them. You can't get help on the wider issues, though. For example, if you get stuck in dealing with a potentially helpful cop there's no help because there are no objects in that sequence.

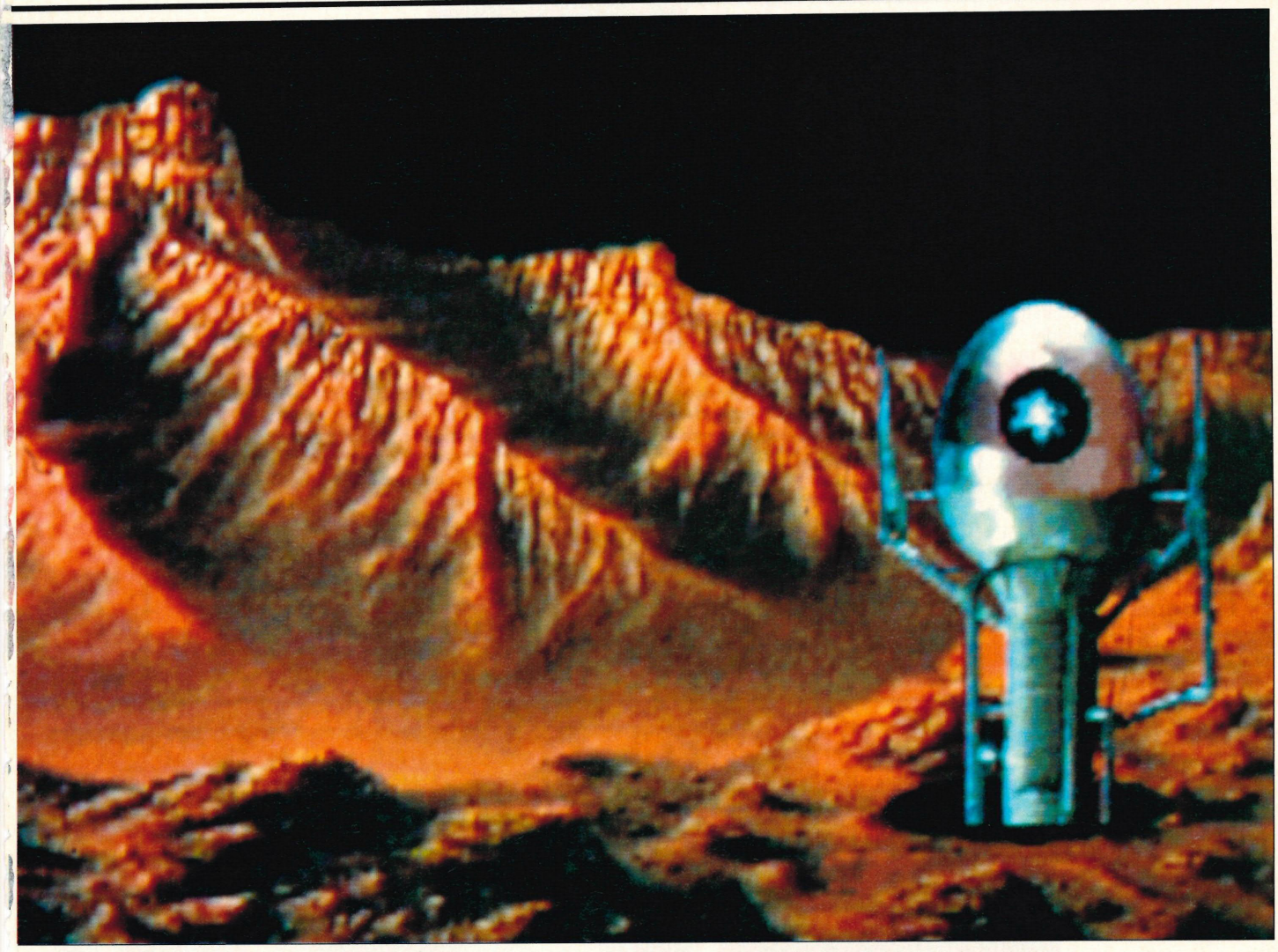
The gameplay also suffers the drawbacks of the icon-driven approach. You're strictly limited in what you can do and where you can go and, worse, since most of the game involves talking to other characters, you've very few topics of conversation.

The high-tech multimedia approach brings some new perils. Initially, it's impressive to interview a suspect and see digitised video and hear digitised speech as a real actor delivers his or her performance. Access has performed a miracle in getting stunning speech quality out of the PC's internal speaker, although even VGA graphics are too crude for convincing video.

The worst faults lie in the character interviews. You're limited to two or three responses: guess wrong and you find yourself out on the street. Guess right, and you get to



The suitably shadowy graphics perfectly suit the moody soundtrack.



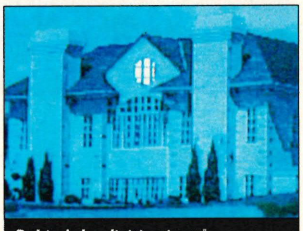
repeat the process until you get some information or well, find yourself out on the street.

Because your suspects and informants are few, you must go back again and again until you get the information you need. This means that you have to sit through the same video and audio as much as 20 or 30 times. It isn't entertainment – it's torture.

Access has made some other basic errors, too. When you install the game there's a default configuration file that assumes you're using a joystick. But the review system had no joystick and Martian Memorandum crashed the machine as a result.



Digitised video sequences add to the atmosphere, if not the gameplay.



Behind the digitisation the scenes are set out in an eerie landscape.



You play hard-bitten 21st century private eye Tex Murphy, with some appropriately futuristic gadgets at your disposal.

The answer – not given in the slender manual – is to delete the MM.CFG file. The game takes you to a configuration screen where you can specify keyboard, joystick or mouse control, and which of the several soundboard options you want to use. You have to repeat the process whenever you want to change setups – there's no way within the game to switch from mouse to keyboard control, for example.

Incidentally, forget about keyboard control: it's a waste of time and incredibly frustrating. There are no keyboard shortcuts (even though Alt–L for Look, and so on, seem obvious); you have to slowly move a graphics cursor using the arrow keys. Consider a mouse or joystick essential.

The final drawback is that Martian Memorandum unfolds in a strictly linear fashion: after an initial batch of clues, each person in the game leads you to another and you simply can't progress unless you follow the chain.

The end result is a game that is initially and technically impressive, but ultimately frustrating. The decompression system is fast and doubtless very clever, the speech and music are icing on the cake.

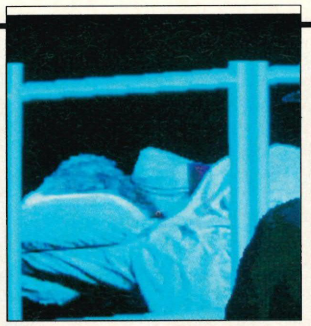
But the digitised video adds very little that couldn't have been achieved with animated computer graphics, and the whole multimedia bit gets tedious when you've seen and heard it once – and you'll suffer the experience over and over again.

Until you complete it, that is. You can expect to finish the game in a couple of evenings' play, and after that there's nothing to bring you back for another try.

When Hollywood made the switch from silent movies to talkies, it was a novelty but it didn't guarantee great films. Martian Memorandum demonstrates that multimedia can also be a novelty – but it won't, in itself, make a game great, and could even make it worse.

Adventure junkies may want to make the investment, but anyone else looking for a change from flight sims, sports challenges and platform games is advised to check out any one of a dozen classic adventures before considering this one (see the Alternatively box above).

PETER WORLOCK



HARDWARE REQUIREMENTS

. hard disk is sential – Martian Memorandum occupies just over 7Mb and simply can't be played from floppy disk.

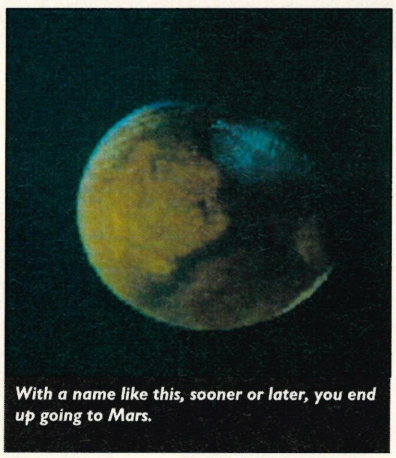
PC review ALTERNATIVELY...

The adventure formats of day are barely recognisable from the text-only classics of Infocom's heyday a few years ago. Improved parsers, graphics, animation and the use of icon control and elements of roleplay have all brought new levels of sophistication and enjoyment.

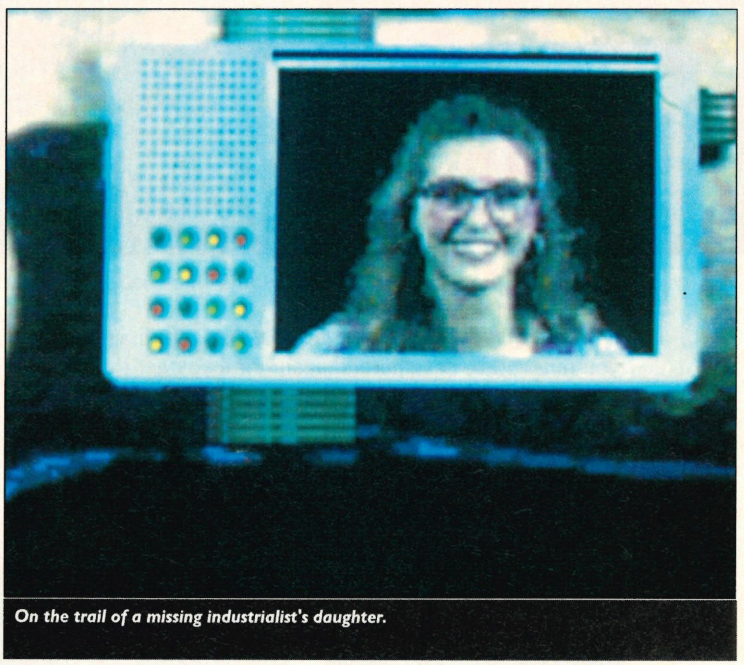
In the direct line of evolution is Magnetic Scrolls' range, currently culminating in Wonderland (£34.99), where the static graphics are an adjunct to the rich text descriptions and the emphasis is on puzzle-solving.

The animated graphics school is exemplified by Sierra On-Line's adventures, including the Leisure Suit Larry, Space Quest and Police Quest series (£34.99). The concept is close to the old text adventures with puzzle-solving high on the agenda, but substituting cartoon-style graphics for text descriptions.

Closer to Martian Memorandum in concept and execution, and far better all-round, is Heart of China (£40.85, Dynamix/Sierra). Adding character interaction to the traditional puzzles, and using animated sequences for effect, it proves that tech-trickery like digitised video isn't necessary to create a great game.

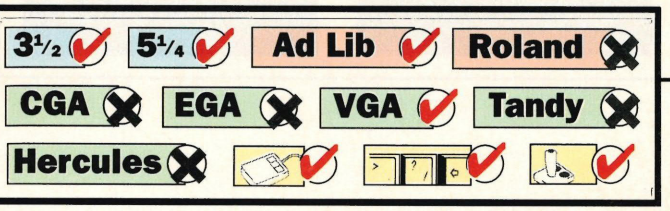


With a name like this, sooner or later, you end up going to Mars.

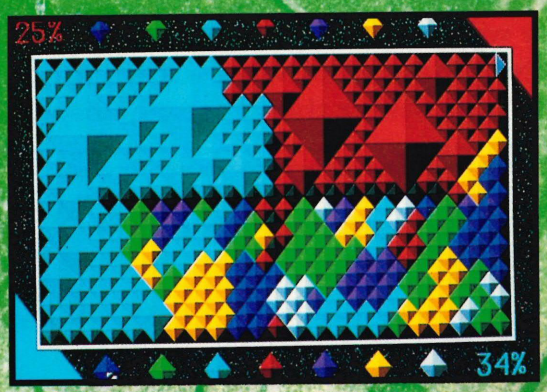


On the trail of a missing industrialist's daughter.

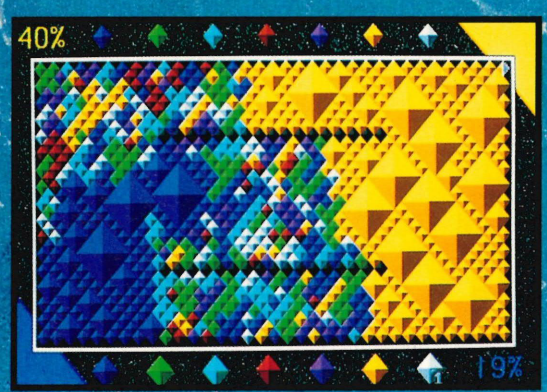
You need a soundboard to get the music, though the speech is available without one.



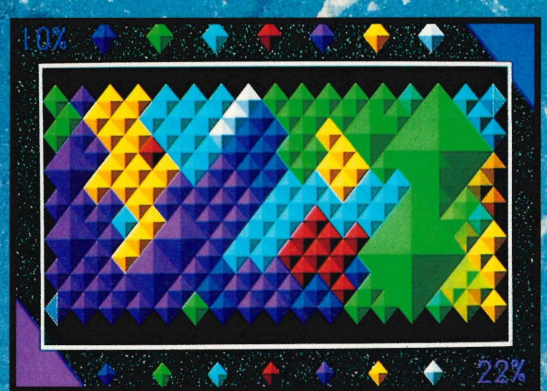
7 COLORS



Your strategy: defensive or agressive as you wish.



Your weapon: an alliance of the colours.



Your aim: to conquer the territory.

PARTICIPATE IN THE WAR OF COLOURS

"In a terrain composed of a myriad of coloured diamonds, I'll challenge you to conquer most of the territory. You will need strategic skills and quick reflexes to succeed in this thrilling battle. May the best man win!"

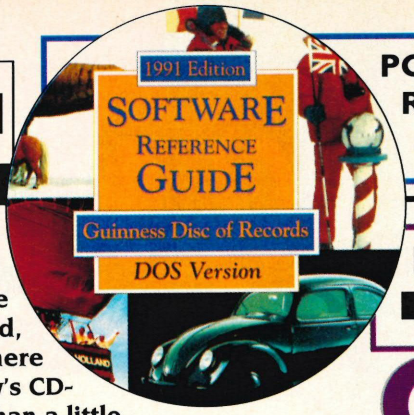
- 1 or 2 players
- Screen editor included
- Endless games
- Single or tournament mode
- Network version (on PC only)

Available on
ATARI ST & STE
AMIGA
PC & COMPATIBLES

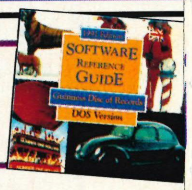
© INFOGRAMES 1991

Original idea and program:
GAMOS Ltd.

INFOGRAMES



PC Review will be carrying regular reviews of CD-ROM entertainment software – titles which are available now, rather than at some unspecified



■ Guinness Disc of Records ■ £69.99
■ Britannica ■ 071-734 9344

Guinness Disc of Records

OK, hands up all those who already have a CD-ROM drive ... just as I suspected, not that many, and so here you are in PC Review's CD-ROM section, more than a little bit willing to be convinced that you need to go out and spend £400 or so for this brave new piece of hardware.

Kick starting a new publishing format is a chicken and egg affair. No-one is interested in producing software unless there is a large enough installed base of players, but the hardware manufacturers have a really hard time selling players without really exceptional software to look good on it.

It was this very problem that lost Sony millions in its battle with JVC in the home video market. What eventually gave JVC the edge in the Beta vs VHS video formats war was software, or more specifically, pornography, as it was the 'convenience' of smut in the home that turned the tide for the nascent home video industry.

Philips faced a similar problem with the launch of CD Audio but, having learnt the lesson of Sony's failure, it sacrificed the potential benefits of going it alone, and got the endorsement of other big consumer electronic companies. It was music buffs that really made CD-DA happen: the people who just had to have the best possible sound reproduction for their favourite Stravinsky and Vivaldi numbers.

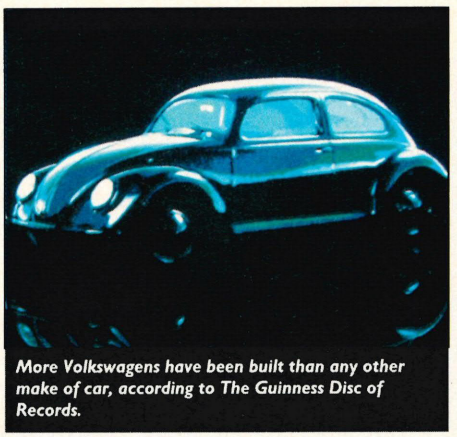
In fact these and other experiences have made the consumer electronics industry completely obsessed with software – in the most general sense of the term. So much so, that the Japanese giants are busy buying into the market as much as possible. Sony has recently acquired Columbia, Matsushita now owns MGM, and Philips has owned Polygram for many years.

The computer industry faces all the same problems with its attempts to get CD-ROM off the ground. The key is obviously finding a hook that captures the public imagination, as smut did for video, or the classics did for CD Audio. This means having some really great software that does things that can't be done through other media. The sort of software that will get people like you and me racing off to Dixons prepared to fork out that £400 to get the player, just so we can own it.

I've got to confess that neither of the products here made me feel anything remotely like this. In fact both had me questioning my own closely held belief in CD-ROM as one of the future's most important publishing media.

The chequered history of the Guinness Disc of Records (GDR) in itself provides something of an insight into the difficulties that CD-ROM is having.

The original GDR was developed by Pergamon Compact Solutions, an arm of the sprawling Maxwell empire which had high hopes of being a dominant force in new media.



More Volkswagens have been built than any other make of car, according to The Guinness Disc of Records.

When I first saw the original version over two years ago, which incidentally was created for the Apple Macintosh, I was knocked out by it. It was one of the first CD-ROM products I had seen that really delivered the promise of multimedia, as it used sampled sounds, some very wacky animations and had some fun navigational devices.

What no-one at Pergamon seemed to realise at the time was that by creating a product that would only run on a 5Mb colour Mac, a rare beast then, they had effectively developed a product that didn't have a market. A PC version did follow, this time with a lot more thought put into running on a standard PC system, but Pergamon Compact Solutions was closed shortly afterwards, the Maxwells having lost interest in the whole business.

The rights to the disc were quickly snapped up by Britannica Software and UniDisk, which, like Maxwell, saw the title as a potential standard bearer. After all, the Guinness Book of Records is one of the best selling copyrighted books in the world, with over 60 million copies sold since the first edition in the 1950s.

The new 1991 Britannica version of the disc (like the book, the disc is re-released every year) is designed to run on a standard 640K VGA machine and simply includes text

date in the future. Here, Tim Carrigan, editor of Multimedia magazine, looks at two current titles, and explains some of the reasons for the apparently slow progress of this much-heralded format.

and graphics of all the entries in the book. Gone are the flashy animations and the sound samples of the original Pergamon product, and not all the entries have pictures. In fact, given the high capacity of a CD-ROM disc (600Mb or thereabouts), I was surprised at just how few entries had pictures.

You don't need VGA just to look up text, but you can only view pictures in this mode.

TECH SPEC

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

You can look up the items through a contents list, or search the records using either a topic search or the novel concept of an idea search. The latter is based on a powerful natural language text retrieval engine developed by Britannica, initially for Compton's Multimedia Encyclopedia, a more voluminous and serious work. The aim of this is to allow someone unfamiliar with database searches to rifle through the database using simple natural statements. For example, you can type into the idea search dialogue box, 'The highest paid performer of all time", and it will identify the search criteria from this statementand then assemble a table of items from the database that to varying degrees of relevance match what you asked for. The other nice idea in the disc is the links to the Merriam-Webster dictionary, which makes it possible to look up any word in a record just by double clicking on it.

HARDWARE REQUIREMENTS

…ne single shiny …mpact disc, plus …course, a ready-installed CD-ROM drive to put it in, and you're off. You'll also need about 1Mb free on your conventional hard disk.

But with just pictures and text, and pictures that in standard 4-bit VGA really don't look that great, it is hard to see how the CD-ROM manages to provide anything that the book couldn't. OK, so you can search and use the dictionary, but in a light-hearted product like this, that isn't much of an advantage, especially as it means giving up quite a lot in terms of quality of the presentation and portability.

BRITANNIC FAMIL CHOIC

■ **Family Collection** ■ **Britannica**
■ **(071) 734 9344** ■ **£69.99**

Family Choice

The Britannica Family Choice has the advantage of actually attempting to do some things that simply aren't possible on paper. This disc is essentially a collection of educational games, puzzles and other fun stuff.

Calling it the Family Choice is a bit of a misnomer as it is really aimed at children, or at least I hope it is, as they are the only people I can see being really interested. Most of the games have an educational bent, so it's the sort of thing that mum and dad can justify buying for junior.

HARDWARE REQUIREMENTS

…side from the …D-ROM drive …self, your computer's hard disk should have a good 2Mb free. Your PC needs to be at least a 286 model.

• **Spellicopter:** this was my personal favourite, as I'm one of the world's worst spellers. It involves using a helicopter to shoot down letters in the right order to spell words, and is definitely the sort of thing I could have done with 20 years ago.



Spellicopter – try not to subject the grey goose to friendly fire.

• **Fictional Adviser:** the exception to my comment about it being for kids. This fun quiz get you to select and rate authors you have read, and then recommends books you might enjoy.

• **Mathmaze**: where the computer gives you the most simple of sums (9+4=?) and you move through the maze to zap the numbers that make up the answer.

• **Body Treatment**: a game where you drag bits of your anatomy on to a picture of the body, trying to drop them in the right place

• **States and Traits**: as above but this this time with state of the US and the US map.

• **Designasaurus**: a game that lets you build your very own, very weird, dino's (and see the Top 100 Classic Games, where the floppy disk-based sequel, Designasaurus 2, is featured).

… and loads more.

Each of these games has its own merit, though the quality is distinctly variable. Needless to say, I found none of them to be the sort of things that would have me racing out to spend £400 for a CD-ROM drive.

Somewhat restricted in its requirements, especially as your VGA card and monitor must be colour.

TECH SPEC

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



■ Might & Magic III ■ New World Computing & US Gold ■ (021) 625 3388 ■ £40.99

Role-playing games usually provide excellent playability while skimping on the graphics and sound. Might and Magic III bucks the trend unfortunately by having the gameplay fail to live up to the presentation



Might & Magic III

When the demo of M&MIII first did the rounds, it was guaranteed to create a crowd around the PC. Sampled speech, realistic combat noises, and animated graphics of a very high standard made even these cynical hacks sit up and take notice. When the finished game arrived in the office, it was rushed on to the hard drive for some, um, "extensive play testing". Did it live up to expectations?

The previous two instalments of the saga - dating back to the MID 80s- used a fairly basic interface to explore the towns and dungeons, while the combat occurred in real time, which involved giving each character a pre-set option (including attack, run, cast a spell, etc). The current game has not departed from this concept radically, but the designers have yanked the game into the 90s by its bootstraps by reworking the screen and gameplay to compete with, and hopefully outstrip, its rivals (see the 'Alternatively..' box).

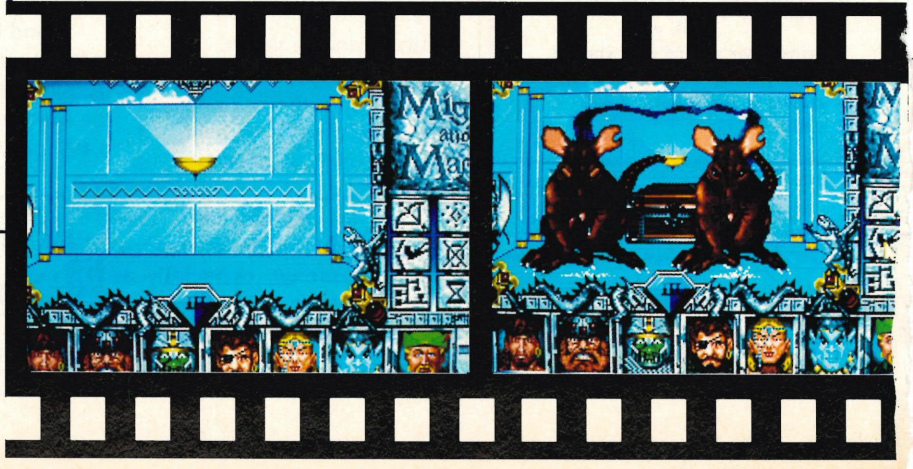
The scenario behind the action is the usual sub-Tolkien drivel, and the first quest is - wait for it - to return the lost Ultimate Power Orbs to the King. Having recovered from the shock of that startlingly original plot line, it's time to create six characters for the party. Again, there's nothing new in the classes available - paladins, mages, robbers etc - or their races, such as dwarf, elf and gnome. Even the statistics that determine each character's abilities are familiar, although they are a development of the system seen in the earlier games. Another added advantage of this tried-and-tested formula is that it aids understanding for those with experience of other computer or pen-and-paper RPGs, which is no bad thing in itself.

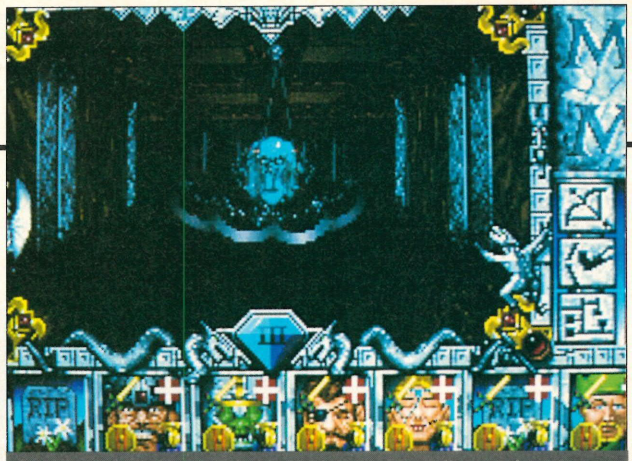
The largest section of the display is the 3D window, through which the player sees and explores the world of the game. This has been used by RPGs such as the Bard's Tale series, the SSI games, and so on, but what makes this special is the quality of the graphics, particularly the animation. Mon-

TWO MINUTES OF HACK 'N SLAY

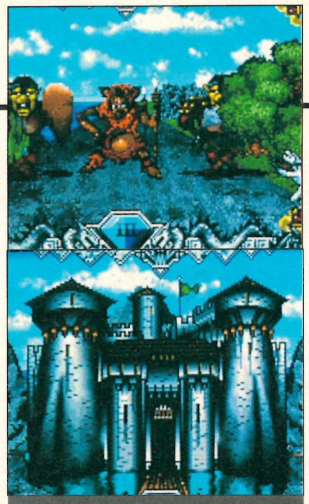
gremlin on the right of the display waves its arm, indicating the presence of a secret room directly ahead. Time to access the Bash command to see what's behind it...

Whoops! Another tough fight against the inhabitants of Fountain Head. Clicking on the 'Quick Fight Options' icon brings up menus for each player.





Solving puzzles is an integral part of the game, especially once the party discovers the underground passages of Fountain Head.



The environs of the first town prove full of monsters both new and old. Find Castle Whiteshield as quickly as possible.

HARDWARE REQUIREMENTS

Although an EGA machine will run the game, best results are from a reasonably fast VGA machine - especially with a sound board. You'll need a fair amount of hard drive space, 4.2 Mb and the low density 5.25" version comes on 10 disks! Keyboard control is easy, so those players without a mouse (or the memory to run one) won't suffer at all.

sters move in a menacing way, fountains gurgle and splash, and the sub-games like the jousting practice all have the same eye-goggling quality seen in the demo. The music is wonderful; I played the game for a few hours with a Roland board, and felt no desire to turn off the music option (even when I felt like smashing the PC to smithereens out of frustration - but I'll come to that). Similarly, the spot effects make good use of any sound system available, and I don't believe I've heard better sound from an Ad Lib.

On opening the manual, the first disappointment hits you. it's written in that irritating olde worlde style: for example, " Gird in the finest of armour.with the mightiest of weapons trained he in the arts of war", and so on. Give us a break! What's wrong with plain English? This style would be bearable if the manual provided a modicum of information, but unhappily it takes 32 pages to give the player facts that could have been explained in two or three - and it's only 32 pages long! Might and Magic II had a clear, straightforward manual that explained all the concepts behind the game, so why not in this (supposedly superior) sequel? The reference card also supplied tries to make up for the lack of hard info on the game system, but there's not enough to provide value for money, and still fails to outline basic principles, so it's down to good old trial and error to discover playing methods.

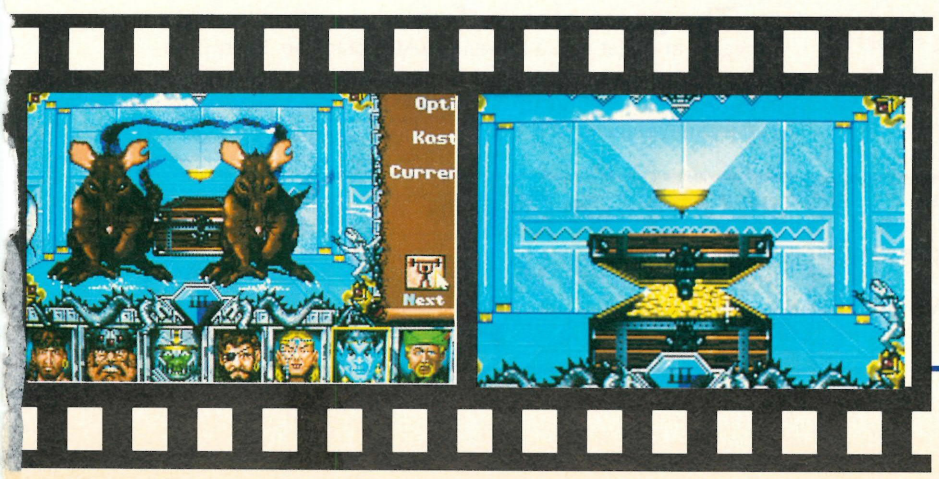
PC review 7

Combat is a vital part of any role-playing game, and Might and Magic's system of real-time combat is rather restrictive. There are two choices for the player; either set options for 'quick combat', which means that each character only performs one set task over and over again, or try to select an action for the party members every round. M&M II cycled through each player, offering options for each († la Bard's Tale), rather than try to 'simulate' real-time combat, which is only really possible with an Eye of the Beholder/Dungeon Master style display - you know the kind, "click here repeatedly to bash the monster on the head".



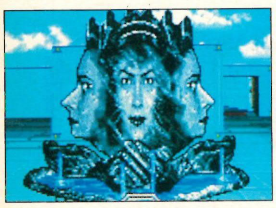
Character generation is straightforward, and it's worth finding out about hirelings - having another character or two can mean the difference between success and failure.

I'm all for tough RPGs - I know some people who completed Eye of the Beholder in a day - but having my party eradicated by an overgrown mouse for the twentieth time (all within the first few minutes of starting) is just too much. Oh well, it's another chance to see those lovely fangs closing over the screen again. Don't get me wrong, it's possible to get ahead, mainly by saving after EVERY SINGLE successful action or combat, and that's not how role-playing should be.



First-level mages and clerics have a very short life-expectancy in M&MIII, so let's get them to scarper at the first opportunity.

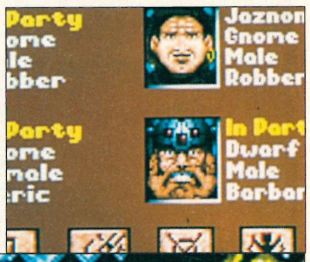
Success! The foe is vanquished, with little damage (harrumph) to the party. Now, time to check the contents of the chest.



outline basic principles, so it's down to good old trial and error to discover playing methods.

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The caverns under the town mask the secret behind Fountain Head's problems, but the vampire bats will need to be overcome before the party can solve the riddle.

well, it's another chance to see those lovely fangs closing over the screen again. Don't get me wrong, it's possible to get ahead, mainly by saving after EVERY SINGLE successful action or combat, and that's not how role-playing should be.

This means that getting the characters past the first level of experience is pretty difficult, but asking the bartender for a tip usually results in finding a code word for the magical transporter, which whisks the party away to a combat arena for practice - or, more likely, death. Most



RPGs commence with a fairly easy starter dungeon, to introduce the players to the system, but not this one, which is a shame as it discourages the player from continuing the game. There's no excuse for M&MIII not allowing for that, as it's being promoted as a huge game, so why not give players the chance to explore for more than a couple of minutes?

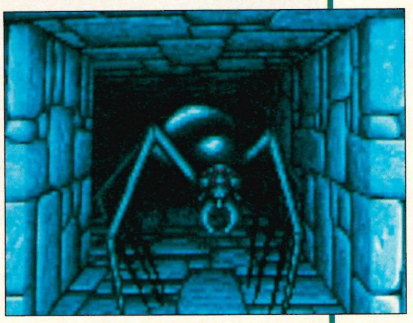
The game also suffers from constant hard drive access - and that's on a top-end, 20Mhz machine. Every time an option screen appears, the game freezes for a second or two, which gets annoying quite quickly. I've not played with an expanded memory machine,

MATT REGAN

ALTERNATIVELY...

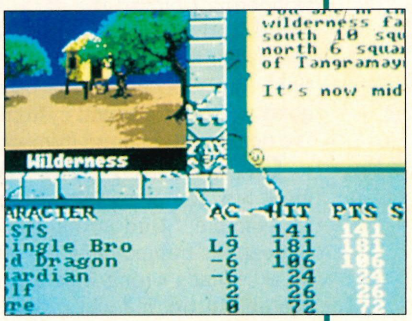
Eye of the Beholder

SSI's venture into the 3D-perspective, real-time RPG field was a critical success, and married their long in the tooth Advanced Dungeons and Dragons games with PC players fed up with waiting for Dungeon Master to appear on their machine. It's perhaps a little too easy, but allows for novices in a way that's sorely missing in M&MIII. The sequel, titled Legend of Darkmoon, looks to be a further improvement on the game, with outdoor locations along with catacombs and tunnels.



Bard's Tale series

This series reached its finale with BT III, and the graphics and gameplay betray the length of time the series has been going. Still, the games (especially III) offer longevity and interesting plots, and can lay claim to being one of the first RPGs for the PC. The Bard's Tale Construction Kit, due for release soon, again gives the series a new lease of life.



Ultima VI

Lord British's Ultima series just gets better and better. The overhead views, and idiosyncratic gameplay, has alienated some people from the games, but fans (and there are plenty of them worldwide) insist that they are the most detailed and accurate RPGs on the market. The spin-off games, like Savage Worlds and Martian Dreams, prove the versatility of the system, and provide a much-needed break from the incessant Tolkien-inspired fantasy genre.

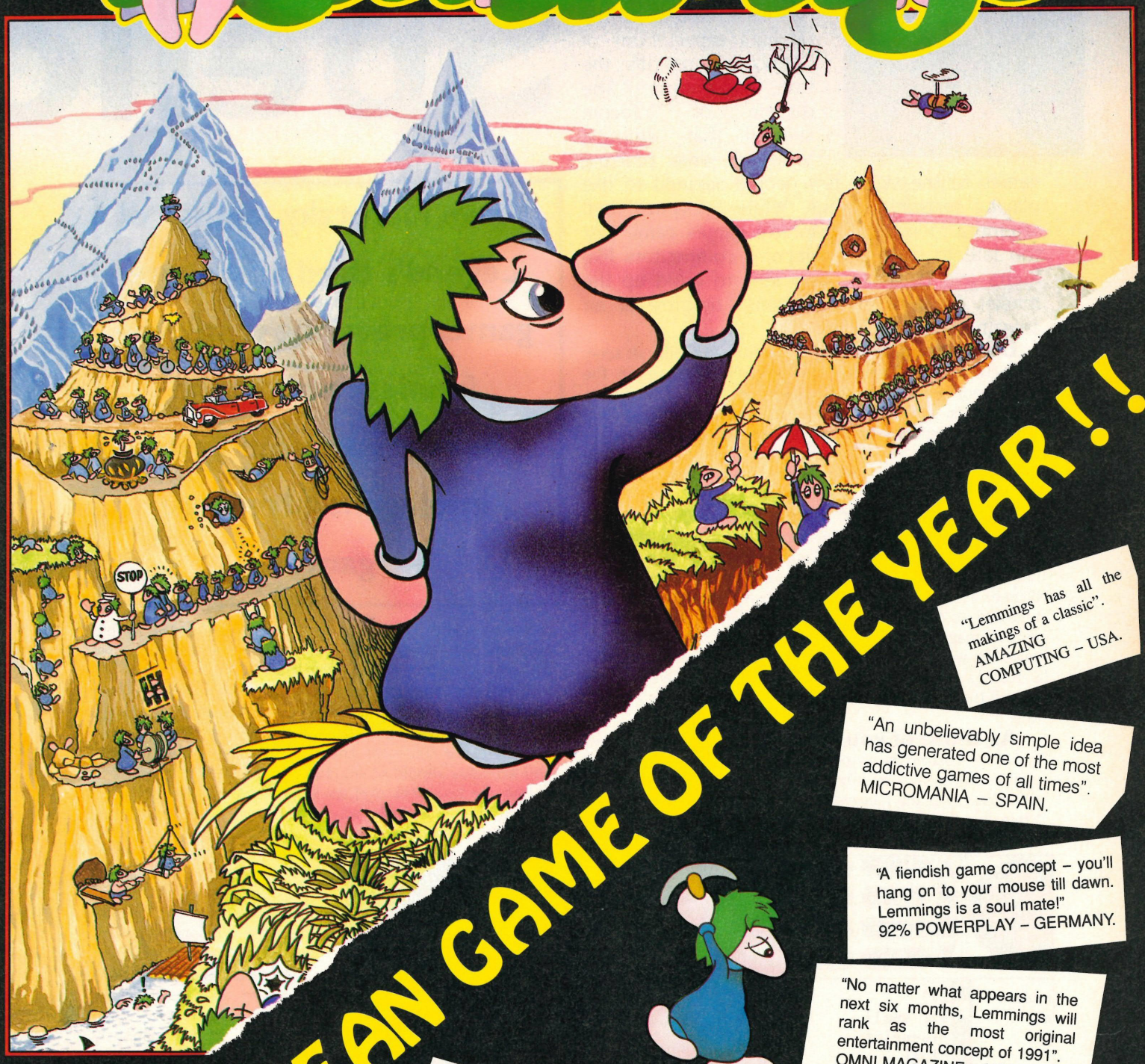


TECH SPEC

The bigger the better, really. VGA and Roland give the best results, although EGA will suffice.

3½ ✓ | 5¼ ✓ | Ad Lib ✓ | Roland ✓
CGA ✗ | EGA ✓ | VGA ✓ | Tandy ✓
Hercules ✗ | ✓ | ✓ | ✓

Lemmings™



EUROPEAN GAME OF THE YEAR!!

"Lemmings has all the makings of a classic".
AMAZING COMPUTING – USA.

"An unbelievably simple idea has generated one of the most addictive games of all times".
MICROMANIA – SPAIN.

"A fiendish game concept – you'll hang on to your mouse till dawn. Lemmings is a soul mate!"
92% POWERPLAY – GERMANY.

"No matter what appears in the next six months, Lemmings will rank as the most original entertainment concept of 1991".
OMNI MAGAZINE – USA.

"This is by far the most addictive, puzzling and entertaining computer game released in the last 5 years".
COMPUTE's Amiga Resource – USA.

"Set to become the most talked about form of computer entertainment ever".
96% THE ONE – UK

"Exceptional!!! This game is truly exceptional! Lemmings is the most original video game since Packman".
98% TGM – ITALY

"Lemmings, game of the century? Who knows! Game of the decade, its almost a certainty . . ."
MICRONEWS – FRANCE.

"Certainly the funniest, the most addictive and most playable game available on Amiga and ST. The Game of the Year".
100% GENERATION 4 – FRANCE.

■ SPELLCASTING 201: The Sorcerer's Appliance ■ Legend Entertainment/Accolade ■ Tel: 081 877 0880 ■ Price: £39.99



Spellc

Steve Meretzky, author of Legend's third adventure game, proves he is still the funniest man in the business and can write intelligent adventure game

If there's a genre that has to live up to the high expectations of hard-core fans, it's the text adventure. The demise of Infocom showed that although reviewers were praising games to the skies, few people seemed to like playing text-only games. While Infocom's final attempts to provide graphical games came just too late to save the company, competitors like Sierra and Lucasfilm were able to build up the market and sell enough games to grow at an amazing rate.

Die-hard adventure gamers had a difficult time. Magnetic Scrolls, Europe's only serious developer in the genre, took a two-year sabbatical to design its new system which began with Wonderland. Around the same time Legend Entertainment premiered its text and graphics system with Spellcasting 101: Sorcerers Get All the Girls, a zany fantasy-parody by Infocom wunderkind Steve Meretzky (Planetfall, Hitchhiker's Guide to the Galaxy).

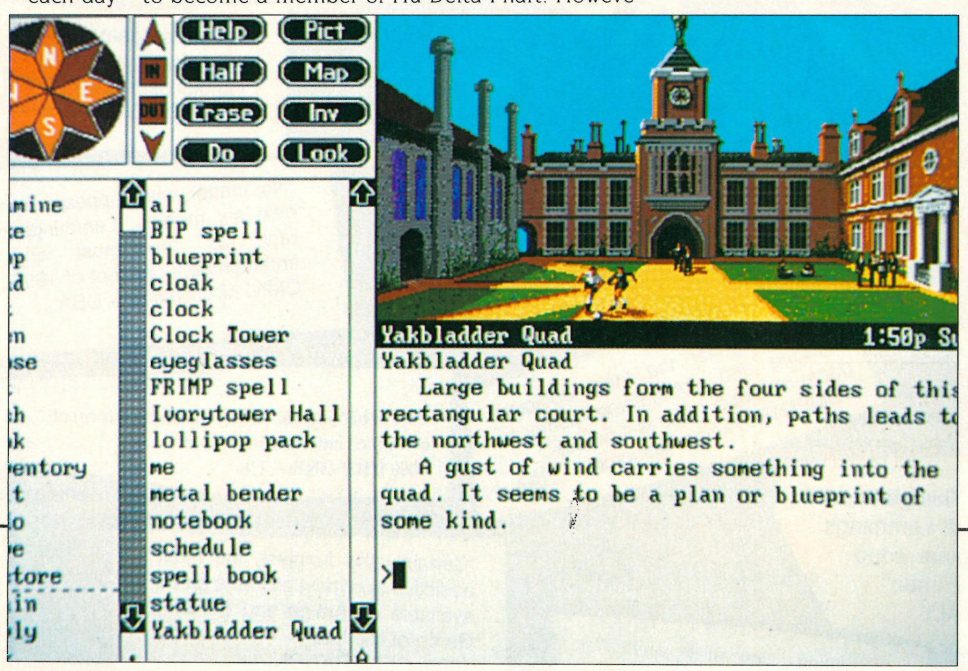
Now, one year later, Legend ships its third game, Spellcasting 201: The Sorcerer's Appliance, a sequel. In the first game, young Ernie Eaglebeak sets off to become a full-time magician with a diploma (and get the girls, of course). He uncovers a plot by his evil stepfather, Joey Rottenwood, to destroy the world with the Sorcerer's Appliance, an evil magic-generating machine. Ernie foils Joey's plans, saves the world and in this game starts his second year at the Sorcerer's university. Don't worry, you don't have to have played the first game to enjoy and solve the riddles in this one.

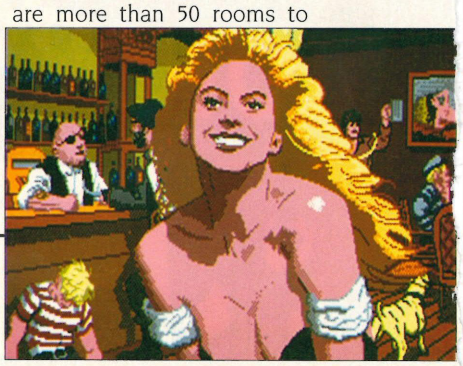
As those of you familiar with American universities know, it's customary to join a fraternity at the beginning of your second year – by submitting to a host of 'trials' (practical jokes in reality) by your peers. During initiation week Ernie has to successfully complete five such pranks – one each day – to become a member of Hu Delta Phart. Howeve

HDP's president, Erik Moltenrock, does not want the (in his opinion) over–rated hero of last year in his fraternity and decides to sabotage all of Ernie's trials.

Ernie's facing another problem too. Otto Tickingclock, president of the university, gives Ernie the great quest of unravelling the mysteries of the Sorcerer's Appliance. Nobody at the university knows how it works, what it does, and what you should or shouldn't do with it. The good news is that the two plots overlap: while experimenting with the Appliance, Ernie finds ways to counter Erik's sabotage attempts and become a frat member by Friday. While this is going on, he discovers clues that something else will happen on Friday, unless he can find all the clues to the working of the Appliance and save everybody (again).

Most of the game is played on the university grounds, which have been expanded tremendously since the first game. There are more than 50 rooms to





asting

201: The Sorcerer's Appliance

PC review

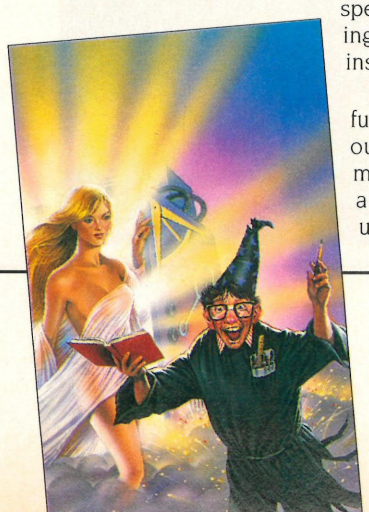
explore, not counting an underground maze and areas outside the university grounds. The simulation lab is back, where Ernie takes part in sub–adventures inside the main adventure.

If you've ever played text adventures, starting Spellcasting 201 is easy: just type your commands. If you're somewhat lazy, need a hint or are just a slow typist, you can make use of the excellent menu system. First choose a verb and object, and prepositions and further verbs/objects if needed. Even quick typists and adventure pros are advised to keep an eye on the menus, as they show the room contents and inventory at a glance. Looking through the list of verbs provides clues too.

The overview map is complete with a "you are here" symbol, to supplement the excellent pictures. If you need to see more text, you can remove the menu bars or even the graphics to get the good old Infocom–style look. The game runs in EGA or VGA, with the latter providing slightly better colouring, but that's about the only difference. There is also an unattractive monochrome CGA mode, which is just as playable, but looks grotty. It's playable even on slow PCs, and at 12MHz the parser will not keep you waiting. Only the loading and decompressing of the graphics takes significant time.

The system is very comfortable and easy to use. The game itself is a delight for adventure buffs; you get classic puzzles and lots of them too. Your first assignment is to put a moustache on a statue – very easy if you could climb it, but someone has smeared oil all over it. The solution to the problem is hidden somewhere in the Sorcerer's Appliance; decoding its modus operandi will be the key to a lot of the upcoming problems.

Each day the assignments get tougher and the puzzles more and more complex. Beginners can succeed at the early challenges, but they won't bore the pants off more experienced players. Setting the game in a university creates a superb background, as the player takes part in courses on spellcasting, alchemy, and even on playing the moodhorn, a strange musical instrument.



Whatever the situation, fun and jokes are everywhere. Throughout the game, Steve Meretzky includes many jokes about the fantasy genre and university life, but things progress in a completely logical fashion – and some of the puzzles even depend on the humour. If you pride yourself on a good sense of humour, the game will keep you laughing right to the end. The Naughty and Nice gaming modes have been kept from the prequel, with Nice mode being 'good clean fun', and Naughty mode adding a bit of spice with dirty jokes and some interesting encounters with women. It never gets too risque though, but despite this lack of offensive material some parents might not want their kids to play it in this mode.

All in all this text–based adventure makes full use of its modern interface. If you like the genre, this is an essential buy, and will appeal to those who prefer graphics and icons to solely text. It may not be very innovative as the basic structure of text adventures is over a decade old, but it's one of the

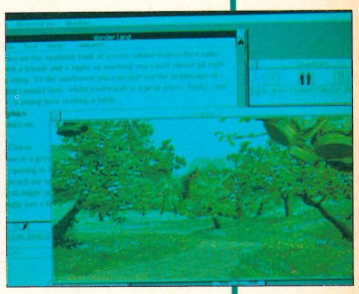
TOM SCHMIDT

PC review

ALTERNATIVELY...

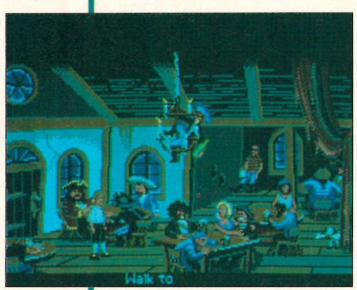
WONDERLAND

The only competitor in the field of text adventures is Magnetic Scrolls with the game Wonderland (and see the Mag Scrolls Collection review this issue). Spellcasting 201 scores well against Wonderland: it's funnier, more logical and the system is easier to use. It also needs less hardware. Also in Wonderland you have to type, as some commands are not available from the mouse, while Spellcasting 201 is playable without ever having to touch the keyboard.



LUCASFILM ADVENTURES

The big two in graphic adventures, Sierra and Lucasfilm, offer more in the way of graphics, as well as being easier to use than the Legend system. But all the latest Sierra games are solvable in a matter of hours and never last longer than a weekend. Lucasfilm games score better in this department, but a text adventure involves more time. In terms of value for money, this keeps you at the computer for longer than the purely graphical games, but on the downside, while Spellcasting eliminates typing, you still have plenty to read – and if you're not used to carefully reading large amounts of text to spot hidden clues, the other adventures might be more suitable for you.



HARDWARE

REQUIREMENTS

...ur review copy ...me on five 3.5" ...sks and required installation on a hard disk: playing from floppies is not possible. Fully installed it takes up about 4.4Mb, although this can be reduced to about 3.8Mb by removing the CGA graphics, and removing the sound frees up another 800K.

The game runs well on any PC or AT, although a 12MHz AT or above makes the game really comfortable.

3½ ✓ 5¼ ✓ Ad Lib ✓ Roland ✗

CGA ✓ EGA ✓ VGA ✓ Tandy ✓

Hercules ✗ ✓ ✓ ✓



■ Secret Weapons of the Luftwaffe
■ Lucasfilm/US Gold ■ (021) 625 3388 ■ £40.99

Secret Weapons



Lucasfilm returns to the Second World War, this time to portray the aerial conflicts in the latter part of the war. Using a "what if..." approach, the game looks at some of the planes Hitler was developing and their potential effect on the war.

Between 1943 and 1945 the skies of Europe were filled with the aeroplanes of the Allies and the Luftwaffe, as they vied for supremacy and victory, both sides believing that strategic bombing held the key to winning the war. Destroy enough of the opposition's factories and production capacity, and they would become incapable of maintaining their war effort.

As well as fighting a war on two fronts, the Luftwaffe were hampered in their attempts to adequately defend against the combined might of the US Eighth Air Force and the RAF, because Hitler refused to allow them to build sufficient fighters, clinging to his philosophy of offensive action rather than defense of Germany. The Luftwaffe had one ace in the hole, however: German scientists had been working on jet and rocket-powered engines since 1929, and the first viable prototypes appeared early on in the war. The Messerschmitt 262 and363 were ready for mass production, and the Komet 163 rocket fighter was having its teething problems resolved. Hitler insisted that the Me 262 should be used as a bomber, despite its extremely limited range and natural propensity for dogfighting.

The Allies, meanwhile, were developing new, longer-range fighters, such as the P-51 Mustang, which greatly increased the quality of coverage on the bombing raids over Germany. The RAF concentrated on night bombing, while the USAF flew during the day, allowing for more accurate bombing with their revolutionary new Norden sighting system. Huge sorties, involving hundreds of Flying Fortresses and fighter escorts, continued to devastate German wartime production, stretching their resources even further.



Knowing where the enemy airbases are located can help in a bombing raid, but knowing the limits of your fighter protection is even more important



The start of a campaign requires more than just good flying skills - a plan and a sense of survival come in handy too!



of the Luftwaffe



After the critical and commercial success of Their Finest Hour, Lucasfilm has turned its sights on the later stages of World War Two. Although the emphasis is on the technologically advanced German planes, there are plentyof US fighters and even the B-17 (the Flying Fortress) to choose on the Allied side of the conflict. Which begs the questions, is this game a radical departure from its predecessor, and have Lucasfilm learned any lessons from their earlier product?

Their Finest Hour was a classic dogfighting sim, concerning itself mainly with Spitfires and Me109s, as the bombers (particularly the Stuka) were not hugely enjoyable to fly. After all, the Luftwaffe were forced to withdraw Stukas and Me110s because of their vulnerability to the RAF fighters. SWOTL also concentrates on fighter aircraft, but the inclusion of B-17s (which flew in exact formations in order to maximize the fire areas of their guns) puts a new perspective on air combat, forcing the player to realise the terror of sitting in a large, slow bomber as fighters buzz around looking for an opening.

Flying for medals glory and survival in the campaign game gives a longevity to the game for those who wish to eliminate the opposition single-handedly, but the layout of the game encourages a mix-and match approach. I enjoyed switching between sides, between fighters and bombers, and between prop-driven aircraft and the jet and rocket craft. Practise with the host of aircraft comes through the training options, which allow for specialisation, eg, rocket firing in the Me 262, and is crucial due to the very different handling and tactics required, depending on the aircraft.

A special mention has to go to the

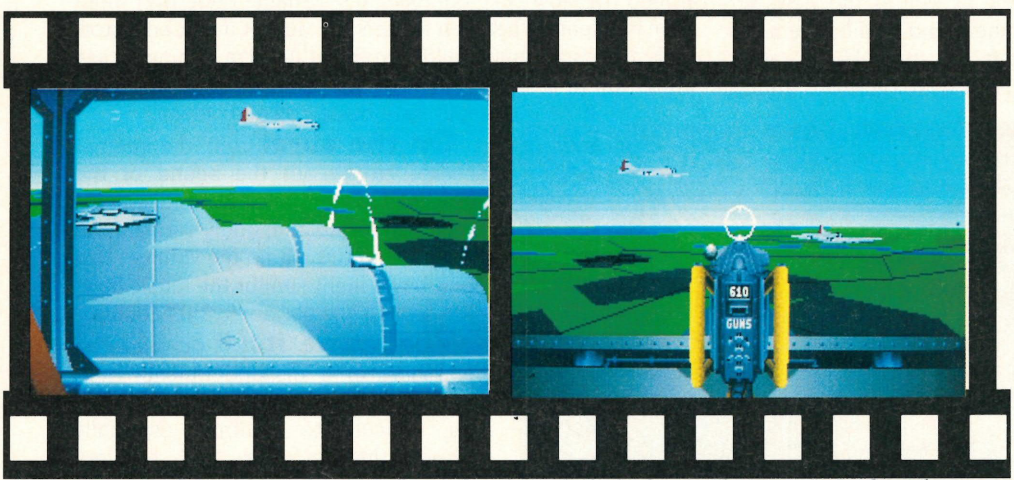
TWO MINUTES OF BOMBER PROTECTION...

PC review

Inside the B-17 Flying Fortress it's your job to fend off the incessant attacks of ..y fighters while staying in formation and to bomb the designated targets. ..ere's a sample of the acrobatics required..

The formation is cruising along at top speed (about 160mph), when the first fighters are spotted behind the bombers.

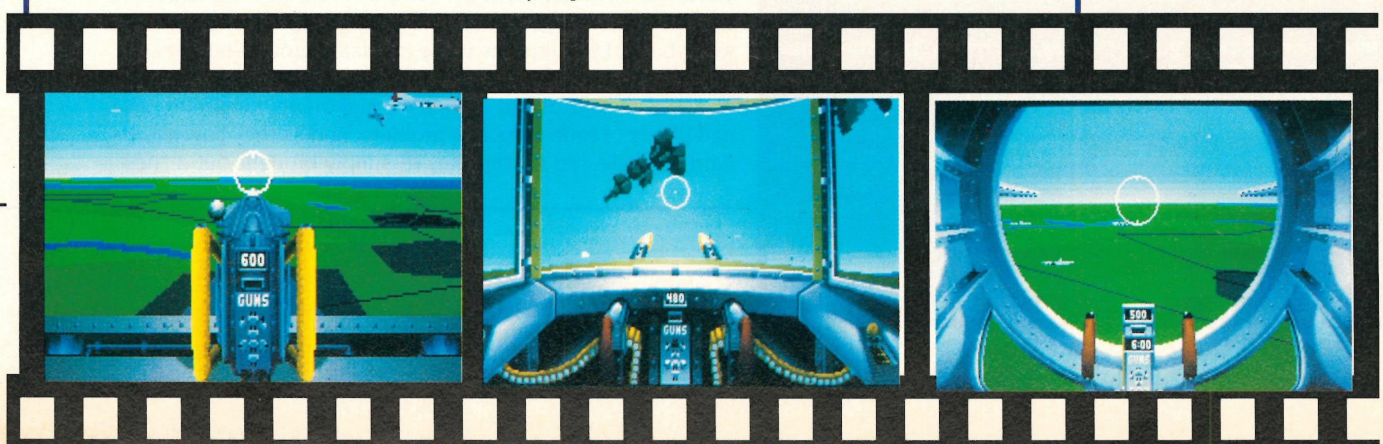
Switching to a side gun, you see the Messershmitts' rockets have yet to be launched. Then, the neighbouring plane explodes!



At the moment, the fighters are strafing your left hand wingman. However another gruppe of Luftwaffe aces are coming up behind you, so switch again..

.Bullseye! The pilot made the fatal error of straying too close to your guns, and goes down. Now that leaves only five other planes out there - with a couple of hours left to go in enemy airspace.

The target site is a few miles away, but the Norden bomb site allows the bombardier to control the plane itself. Unless more fighters attack, it should be mission accomplished.



PC review

ALTERNATIVELY...

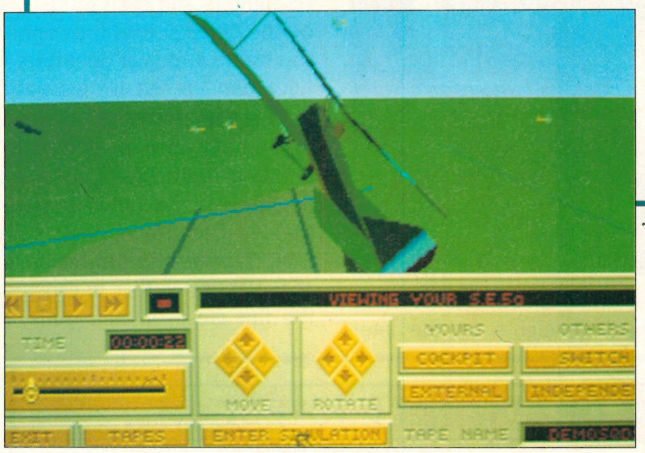
THEIR FINEST HOUR
Lucasfilm/US Gold £40.99

Lucasfilm's previous foray into WWII sims, this also features sprite-based planes and an excellent manual. There's also an add-on disk available - Their Finest Missions - which increases the longevity of the game.

RED BARON
Dynamix/Sierra £39.99

Dynamix's simulation of aerial combat in the Great War attracted critical acclaim not least for its intelligent use of digitised photographs and historical accuracy. It's the little touches that make this such a joy to play, such as the cloud





excellent manual supplied with the game. The first half of this 200 page-plus opus is a history of the conflict, detailing the various political and logistical problems of the Luftwaffe, RAF and Eighth Air Force, as well as describing the strategies used and the course of events during the three years of Allied bombing of German targets. The manual avoids being partisan and includes quotes from pilots and generals of both sides, along with stunning photographs of the planes and the men who flew them. This helps to humanise the subject, and makes for exciting reading, providing a concise and readable history of the period. The second section details the simulation controls, and includes hints for effective playing and statistics on the planes covered.

PC review

Graphically the game is very appealing, with different cockpit layouts for each plane as well as the views for the B-17 gunners and bombardiers. As the enemy craft are sprite based rather than the more usual vector graphics, things are much prettier to look (or shoot) at, although this makes the game slower than its filled vector equivalent. Reducing the ground detail speeds things up, but if there are too many objects on the screen this doesn't help a great deal. The explosions are particularly nice, and even if they're not as gosh-wow as those in Wing Commander II, they are certainly better than a series of polygons supposedly representing billowing smoke.

The jets are what make the game, running rings around the slow poke bombers. It's a shame there isn't more plain dogfighting between fighters, because it might be historically inaccurate but would have been fun. I'm itching to see who'd win in a straight fight, and whether the Me 363 could really have beaten off all-comers.



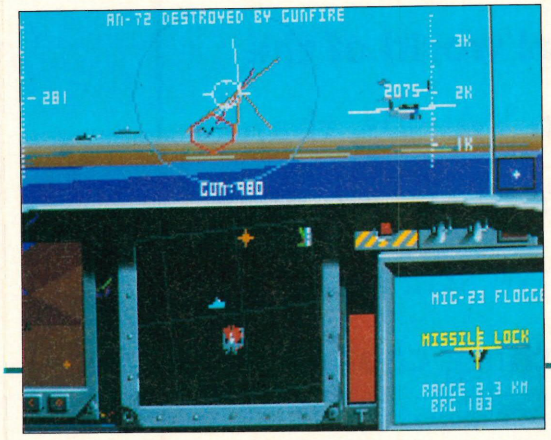
On the aural front, the internal speaker croaks out the sound of the engines and cannon fire, and with a board (except Roland, oddly enough) the FX are worth turning up the volume. You don't buy a flight sim for the music however, and it's the playability that counts.

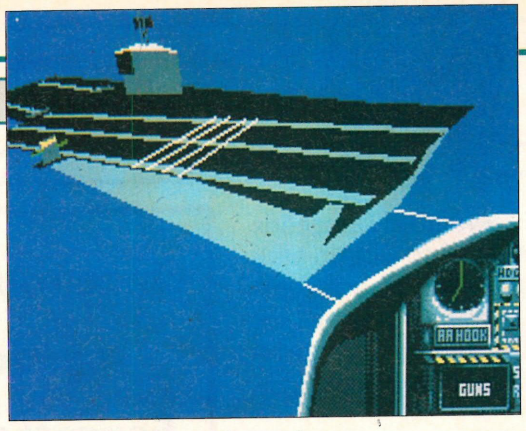
The game itself proves to be something of a disappointment. Their Finest Hour was a fairly good game, but was difficult to control, especially through the keyboard, and required either a very powerful PC or the loss of many features in order to run smoothly. None of these errors have been properly fixed for this sequel, and the same echo effect occurs while playing - you push left, nothing happens, so you push left again, then the program decides to catch up with you and you find the plane in a fatal, ground-hitting spin. This is exactly the kind of problem a flight sim shouldn't have, as it makes control and accuracy a nightmare. Lucasfilm have had plenty of time to fix this problem, and as they haven't, it's hard to shake the feeling they've simply brought out a "new

Interspersed in the manual are anecdotes from the fliers of the day. One raid by B-17s received a mauling from anti-aircraft gunners over Germany, but the plane nick-named Tondelayo returned to base seemingly unscathed. On inspection it was found to have been hit eleven times in the fuel tanks, amazingly without any of the shells exploding. The crew examined the shells, and inside each one was found a note from the Czechs forced to work in munitions factories saying, "This is all we can do for you now".

have kept this game as simple as possible for ease of play, and this combines the thrills of modern jets (attacking ground and air targets) with that "get stuck straight in" approach often missing from modern sims.

FLIGHT OF THE INTRUDER





Spectrum Holobyte/Mirrorsoft
Setting a flight sim in Vietnam is unusual, considering the plethora of 'Nam movies there have been, but this game from the makers of Falcon shows that it's ripe for many more. The A-6 Intruder and F-4 Phantom are the stars of the show, and missions start off from carriers and then proceed across the mainland. Neatly sidestepping any connection with carpet bombing and napalm, FOTI is a fairly good game that bodes well for future historical sims.

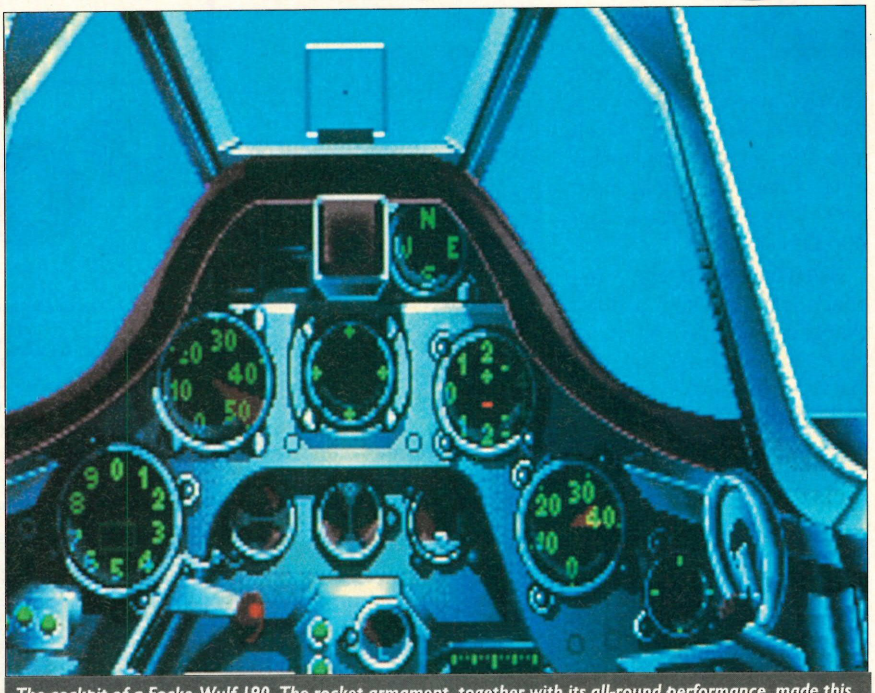


HARDWARE REQUIREMENTS

Needing 2.6Mb of hard drive space, this isn't a particularly greedy game, but you may need to alter your config.sys files, etc, if you've only got 640K memory. The package is either four 3.5" disks or three 5.25" high-density disks.

game with the same code which perhaps could have been an add-on disk to TFH.

The new planes especially the Luftwaffe's jets, add a new dimension to the combat, and it's absorbing to learn the limitations and advantages of these aircraft. In fact, there's so much in this game that it nearly makes up for the slipshod control system - nearly but not quite. Owners of TFH who have loved that game will obviously rush out and buy SWOTL and will certainly find this value for money. Yet if you're not one of these people, it may be worth your while hanging on until the release of Reach For The Skies (previewed this issue) before making a purchasing decision; flight sims are never cheap, and this one is not so outstanding that it can be recommended without hesitation. Good game, Lucasfilm, but next time approach the subject with a novel outlook and some new programming code.



The cockpit of a Focke-Wulf 190. The rocket armament, together with its all-round performance, made this one of the most successful fighters of the war.

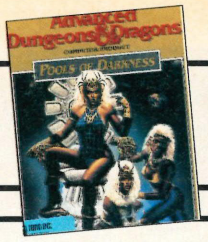


MATT REGAN

You'll really need a top-end machine to get the best out of this. Expanded memory is very helpful too.

TECH SPEC

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



■ Pools of Darkness ■ SSI/US Gold
■ (021) 625 3388 ■ £30.99

Once more we're off to the mystical world of the Forgotten Worlds, thanks to SSI. It's been two years since we started... has anything changed?

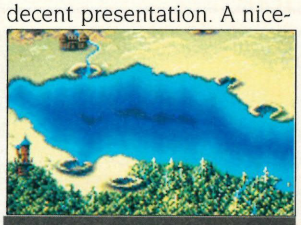
Pools of

Until now, fans of SSI's Advanced Dungeons & Dragons series have had to put up with lousy graphics, mediocre sound and terrible presentation. There are two main reasons for this, the first being that SSI is an American company, producing for an American market that virtually live inside their PCs.

The second reason is that by tradition, people who play role-playing games aren't supposed to expect much from their games, as it is believed that they are all statistic freaks that can turn a sheet of numbers into a full-blown personality in a matter of minutes.



Pools of Darkness is the first of the standard AD&D games to feature anything close to decent presentation. A nicely illustrated intro sequence with suitably moody graphics sets the scene and leads nicely into the main game menu, which brings everything right back down to the usual bog-standard style.

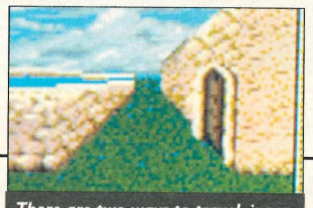


Travelling across country brings up the overall map of the area.

Unfortunately the bones of the game haven't changed one iota. All that's been improved are the cosmetics, now using 256 colours on VGA cards for the illustrations and making good use of the sound boards for effects. Apart from that nothing's different. The control method is the same, the icons are the same, the fight sequences are the same (although with more powerful weapons and magic) and story is pretty much the same.

Of course, for newcomers to the series this won't mean much, although you've picked a pretty bad time to join the rest of us as Pools Of Darkness is the last in the Forgotten Realms Epic series. The first of the four games, Pool Of Radiance – spot the clever link between the two titles? Smart cookies these Americans, you know – saw your characters freeing the city of Phlan from an evil tyrant (presuming you completed it of course). Since then you've been able to take the same characters through two more games, across many different lands, building their strengths and powers all the way, so that they'd be ready to face this final challenge.

Throughout the series your band of characters has been plagued by the same evil force. After Phlan was freed, your characters found themselves under his



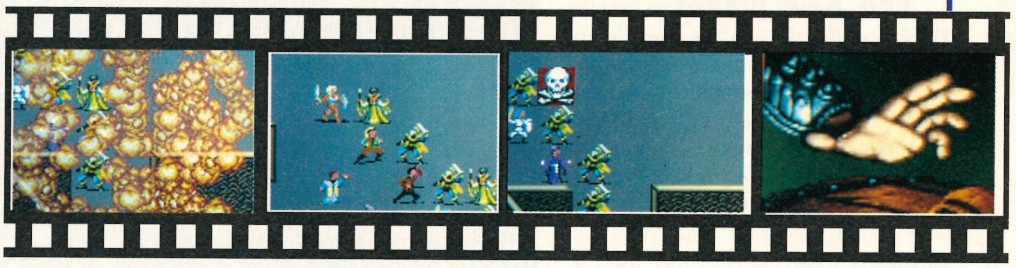
There are two ways to travel, inner city and cross country.



Encounters bring a closer view of the obstacle. Not everyone is unfriendly, but stay on guard.

PC review TWO MINUTES OF COMBAT...

combat being one of the most important elements in an RPG it seems appropriate to demonstrate one of the better systems available. This is one area that SSI has managed to deal with competently, even if the graphics leave something to be desired.



As with all good battles, if the enemy is some distance away, it's a good idea to take them out with ranged attacks. Here, your magic-user makes use of a fireball spell.

With the initial round of attacks out of the way and the enemy close enough to hit with swords, you prepare to wade in and do some damage.

With your round over, it's time for the bad guys to strike back. All you can do is sit back and hope your armour absorbs the damage.

With the enemy despatched, the spoils go to the victors. Usually this means any petty cash the bad guys were carrying and a chance to rifle through their weapons.



The end of the good city of Phlan. Luckily, your band of heroes happened to be outside the city when the water struck.

Darkness

control due to strange blue tattoos on their arms. Having defeated this particular threat, you were pitted against the evil Dreadlord in Secret Of The Silver Blades. Of course, he proved to be no match. Now it turns out that these were all down to one force (I'm not even going to try and spell his name).



The game starts peacefully enough. You're wandering through the now-restored streets of Phlan just as it suffers a killing blow from above. In fact the entire land sees itself under attack and as the only fit band of heroes for miles around, it's up to you to put things right.

The thing is, having done this three times already, you're more likely to want to do something different instead of playing the same thing all over again. Admittedly, the continual character building has brought the series somewhat closer to the tabletop game, but I'd still liked to have seen SSI update the game system as time went by, instead of just the graphics.

If Pools Of Darkness had been released before Origin swung into full effect, SSI would probably have been onto a winner. Sadly, the series has been going on too long and it's more a case of flogging a dead horse. Thankfully, this is the last in the series and with any luck SSI will put some major development time into its future products.

PAUL PRESLEY

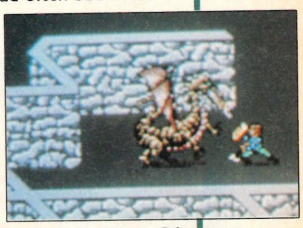
HARDWARE REQUIREMENTS

…s with all of the …l games, …nstallation is necessary, taking up a measly (well, for these days) 3.5Mb of disk space. Apart from that, there's no real problem running Pools of Darkness on even the slowest of machines. One problem does occur with a mouse though. Certain mouse drivers refuse to work correctly, leaving strange marks on the screen and messing up the control system. Unfortunately the data card doesn't specify which drivers do this, but it didn't work with my Agiler mouse, which leads me to suspect there may be others.

PC review ALTERNATIVELY...

…ool of Radiance
£30.99

The first of SSI's Forgotten Realms series took everyone by something of a storm. Although the crude 3D encounter window had often been seen before, the isometric battle scenes, the strict implementation of the AD&D rules and the strong storyline made it a winner in every role-player's eyes.



Unfortunately, with Pools of Darkness –over two years later – the series doesn't appear to have made any technological progress. Of course, the characters (and consequently, the enemies) are harder and the spells sound and look more powerful, but that's about it. The only decent aspect to have stood the passage of time is the in-box journal.

The Bard's Tale
£34.99 Trilogy

From an initial viewpoint Interplay's Bard's Tale series and AD & D games are very similar, with the same 3D exploration view and the character list along the side of the screen. But all similarities are lost when you enter combat. Instead of a graphical representation, you are merely treated to lines of text describing the action, which can be affected by a series of commands after each turn. To me it's all pretty basic, but the series itself is so popular that Interplay (through Electronic Arts) is releasing a Bard's Tale Construction Kit.

Ultima VI
£25.99

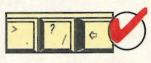
Let's face it, when it comes to RPGs, Origin is a master of the art. Since Ultima VI hit the streets, the previously 'ugly duckling' of American software houses transformed into the proverbial 'beautiful swan', with products such as Wing Commander and The Savage Empire.

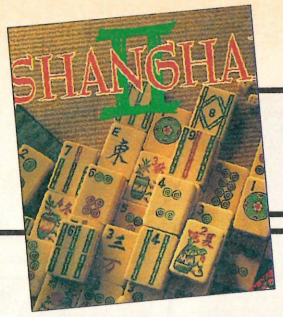
For my money, no one has ever managed to capture the spirit of true role-playing games better than Origin, mainly because the essence is on the surroundings, the characters and telling a story as opposed to coming up with fabulous monster after fabulous monster. Of course you pay for such quality (sometimes in excess of £40) but it's worth it. The games last for ages and conjure up an amazing sense of atmosphere. This is really the RPG that all others have to be judged by.



TECH SPEC

It's nice to see that VGA to its fullest. Other formats suffer little and, as always, speed is of little consequence.

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



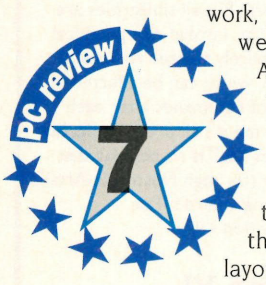
■ Shanghai II ■ Activision
■ (010 33) 1 49 10 99 95 ■ £35.99

Shanghai II



Shanghai II isn't so much a sequel as a substantial development of the idea. The original took 144 tiles, of Chinese Mah-Jongg pattern, laid out in a wide pyramid, so that the tiles were three deep in the centre and in a single row towards the edges. The task was then to remove matching pairs of tiles, so long as they were free, ie, not impeded by other tiles on either the left or the right.

It doesn't sound much, but it had a Tetris-like effect on aficionados. Offices ground to a standstill, alarms were set for six in the morning for a quick hour's play before work, that sort of thing. Shanghai II could well have the same repercussions. Activision has prettied up the presentation, to the extent of offering different tile sets, such as playing cards, or flags of the world. More dangerously, in terms of the potential for addiction, it has abandoned the notion of using just one pyramid layout and the sequel offers 13 different ones, graded according to difficulty. For the seriously hooked, it has added a construction kit, so that you can devise your own set-ups.



It has also added a new variant on the Shanghai theme, with the secondary game, Dragon's Eye. Here you start with a partially filled, smaller grid and tiles in your hand. Against either the computer or a friend, one of you takes the part of dragon slayer, the other of dragon master. The slayer makes tile matches between the grid and their own hand to keep the grid as empty as possible, while the master must use the tiles in hand to block the layout, attempting to fill it up.

The best puzzle games have an essentially simple pretext. So Activision has taken the straightforward Shanghai and made it rather more complicated

Two people can also play against each other in a Shanghai tournament. In the original game, each player scored according to the time it took them to complete a single layout, which whiled away quite enough hours as it was. In Shanghai II, Activision has made the tournament a mighty affair: four rounds each of four games. Each round begins with a Dragon's Eye game, with the player alternating between dragon slayer and master, followed by an 'easy' layout, where tiles are spread out loosely on the screen, an advanced layout where there are clusters of closely



The monkey is one of the easier patterns to clear ...

LAYOUTS



... while the rabbit has much more the way of blocking tiles.

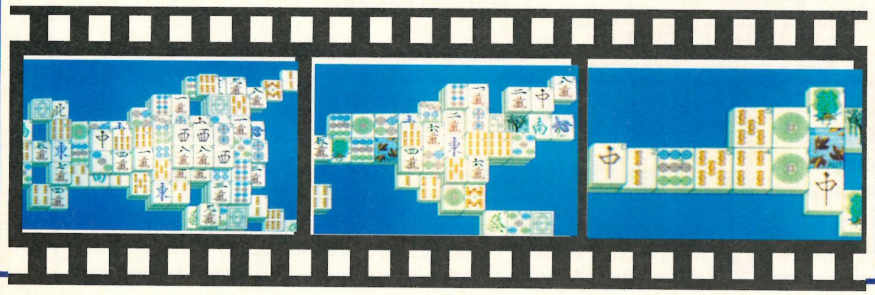
TWO MINUTES OF PAIRING OFF ...

An Shanghai. This is the layout which always seems to defeat me, the horse. Because the tiles are so bunched together, there is ample scope for the lower tiles to match those on top of them, thus blocking their removal.

With so many pairs visible on the top row, you are almost forced to remove these early on to free those underneath, and hope that their matching pairs aren't blocking other essential tiles.

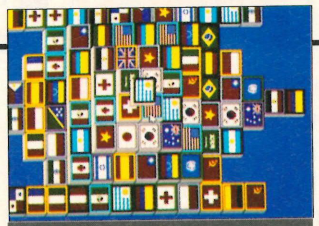
Midway through, and although there are plenty of tiles picked off around the sides, there are still many unrevealed embedded deeply in the layout.

These last few visible pairs are all blocking each other. Either give up and decide the whole thing's impossible, or grit your teeth, back up some moves, and see if there's another way to free up this bottom row.





The sports set of tiles is divided – somewhat arbitrarily – into suits of team, individual sports, and track and field. Dragons are replaced by skiiers and skaters, other special tiles by water sports, officials and medals.



The flags of the world set includes the United Nations and Red Cross flags as its 'special' tiles.

TILE SETS



The designs of the hanafuda set have been used in Japanese playing cards for centuries.

The tile set

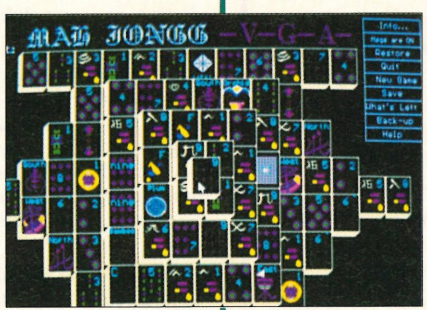
The original Mah-Jongg set consists of three suits, bams, dots and craks, each numbered one to nine, plus wind, season and dragon tiles. There are four of each tile (ie, four 9s of dots, four seasons, and four of each wind and dragon), so each tile has three possible matches in the layout. The other pictorial sets all follow this suit, denomination and special tile arrangement to make 144 in total.

packed tiles three or four deep, and a master layout, where the layout is densely packed and you are unlikely to clear the tiles at a first attempt.

Shanghai II is packed with oriental finishing touches: a yin-yang symbol instead of the cursor when the hard disk is being accessed, suitably twangy music through the AdLib soundboard – though after an hour of grinding through a particularly difficult layout, it's a relief to turn it off – animation on some of the tiles as you click them off, and naming the different tile layouts after the animals of the Chinese zodiac (and take it from me, the rabbit, horse and tiger are all pigs when it comes to clearing them). Like the naming of constellations, though, you would never know that this particular pattern of piled tiles was meant to represent a dog, say, unless you were told.

HARDWARE REQUIREMENTS

anghai II
ɔmes on four
ɔ.25" or two 3.5"
disks. While you don't have to install it on a hard drive, I'd strongly recommend it if you have one – it has a proper installation procedure and modifications can be made to the installed configuration if you later upgrade your machine. It will take up around 1.3Mb once installed.



The game gets a hold on you when you realise that there is more than one way to solve a layout. Rattling through the easier patterns seems an innocuous way of spending half an hour or so when you really should be doing something else. Hit a tricky patch when there are 40 tiles left in the layout, two identical tiles have just been revealed slap bang next to each other, and it occurs to you that if you back up to 86 tiles and remove them in a different order, then you'll free up the bottom row ... that's when that leisurely half hour suddenly becomes three or four.

My only real gripe with Shanghai II is that it's not the fastest game in the world. Playing on a standard 12MHz machine, there's a definite pause between clicking on a matching pair and seeing them vanish, and the movement of the mouse can be a bit jerky at times. Owners of anything which runs at 16Mhz upwards needn't worry about this too much, but if your machine is slower, this effect will only be exacerbated. Aside from this, £35.99 – something of a premium price for any type of game – is a bit steep for a puzzler, however well implemented.

CHRISTINA ERSKINE

PC review ALTERNATIVELY...

Sarakon
(Virgin, £19.99)



Similar in concept, Sarakon also uses pseudo-ancient Oriental tiles in which you must click off the matching pairs. But Sarakon is essentially a race against the clock to clear a layout – all the layouts are solvable, and each layer or row of tiles is self-contained, so you don't have the blocking play of Shanghai. Makes more demands on fast mouse-clicking than mental strain – though fewer demands on your budget.

Shanghai (the original)
Mah-Jongg
(various, Shareware)

The original Shanghai has been deleted from Activision's catalogue for some time, but a number of Shareware games, usually bearing the name Mah-Jongg, are available. These tend to the single layout style of Shanghai I, without the layout, pattern set options, variants in gameplay or the construction kit.

The sound is a nice bonus, but hardly integral to the game. VGA has truly crisp clear patterns on the tiles.

TECH SPEC

3½ ✓ | 5¼ ✓ | Ad Lib ✓ | Roland ✓
CGA ✗ | EGA ✓ | VGA ✓ | Tandy ✓
Hercules ✗ | ✓ | ✓ | ✓



■ Willy Beamish ■ Dynamix/Sierra
■ (0734) 303322 ■ Price: £39.99

Willy B

From the Oriental mystery of Heart of China, to the homespun Willy Beamish - Dynamix's latest adventure



Title screen

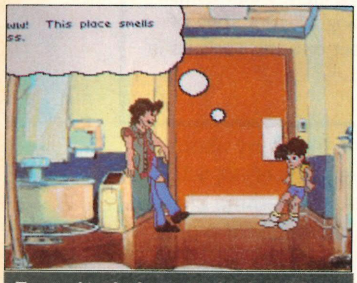
From the interactive movie style of previous Dynamix offerings, we now have the interactive cartoon, designed and written by a team with a host of TV and animation credits to their name. Starring Willy Beamish, an all-American, video game-obsessed kid of indeterminate years, and an aw-shucks sort of appealing grin, the game sends you and Willy on a quest to dredge up the money to enter the Nintari World Championships, win the contest and find fame and fortune as a top games-player.

Willy plays as a graphic adventure. No typing is required, since you need only point at a relevant location for Willy to walk to it, click (or keypress) at an object to examine it or pick it up. Where distinct game choices are to be made, Willy is given a preset list of responses in a dialogue box:choose the right one and you will be a step further on, choose the wrong one and, more often than not, you come to a swift end.

This has its good and not so good points. On the positive side, it makes moving around and exploring much quicker and more intuitive. If you want to go to the bathroom, clicking at a point at the top of the stairs is far more natural than typing "Go to bathroom" all the time fearing the computer will only respond with "I see no bathroom here" or something equally inane.



Use the mouse or keyboard cursor to select which of Willy's possible responses to use.



Trapped in the lavatories by the infamous Spider - Willy is in for a good duffing up here.

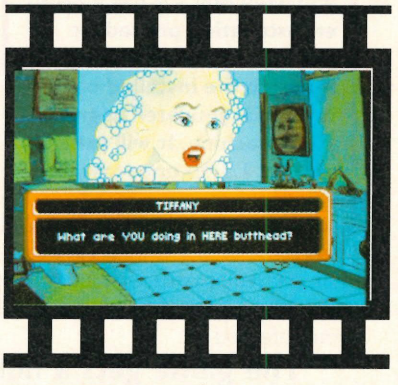
To counter this, it does seem to have the affect of making the game rather less flexible than some of the very best type and look adventures. At any one time in Willy Beamish, there is only a limited number of things he can do, or places he can go. Come the occasions when Willy has to make a decision, he only gets two or three options, one of which is usually fairly certain to land him in either hospital or military school (two of the best locations for effecting a quick exit from the game).

Without the constant "What now?" prompt, your role in the game becomes more passive - though this is not the same as your sense of involvement becoming less - with interludes of your puzzle-solving in-between the animated sequences as the story pushes itself along. At some stage during Willy Beamish, you will have to suspend any idea that this is an adventure in the traditiona

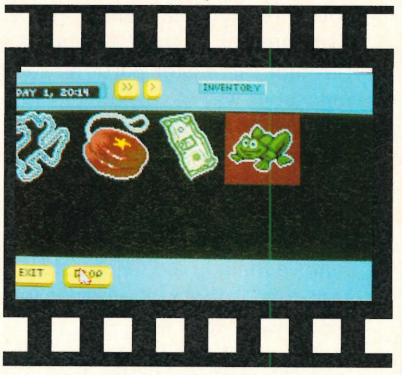
TWO MINUTES OF TIFFANY ...

PC review

Just occasionally, being good doesn't pay. If Dad confiscates the key to your Nintari system and gives it to your sister, Tiffany, for safe keeping, some terrorist tactics are called for.

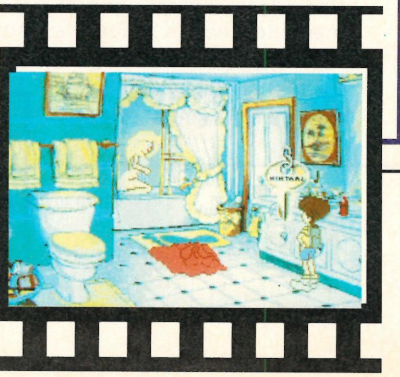


Having been asked to fetch Tiffany's hair conditioner, this is your chance to get that Nintari key back. Don't bother wandering round trying to find the conditioner though.



Tiffany's not too pleased to find you in the bathroom. You'll need to distract her attention in order to get the key safely. Now's the time to unleash Horny the frog in her general direction.

While Tiffany's screaming her head off, pick up the key. She'll still notice you've taken it, but none of her threats have any affect now.



eamish



There are extended dialogue sequences throughout the game, which you can't break into. Here, Willy is settling down to chop some vegetables for his mother.



Willy's bedroom: most of the objects can be examined, with some amusing commentary about each. Bottom right is Willy's treasured Nintari system - and he probably ought to get some practice in.

sense.

This story involves Willy in circumventing a number of obstacles in his way to participating in the video game championships: he must bunk off school early to get some practice in, not annoy his parents or sisters too much, raise the money himself (since his father has just been laid off from work), and uncover a mysterious plot to take control of his home town by the bosses of Tootsweet, by outwitting Leona Humpford and Louie Stoolin.

To help him, he has a number of objects in his ever-present haversack - which he even appears to sleep in - and his pet frog, Horny. The objects can be picked up as Willy finds them en route and are automatically stored in the haversack to be pulled out of this inventory when appropriate.

If playing the game involves quite a lot of watching Willy's world go by, rest assured that it is a beautifully presented, artistically stunning corner of the USA. The interior scenes and Willy close-ups have been drawn by Dynamix's artists, led by Jeff Tunnell, in true cartoon style, with animation to match. In exteriors, Willy himself looks a bit more pixelly, but thebackgrounds have an almost Impressionistic appearance. The animation is also wonderfully cartoon-authentic: when Willy creeps past teacher Ms Glass to slope out of the classroom, he does so just like Tom in Tom and Jerry, carefully pointing one foot after another; when Spider beats him up in the restaurant his legs bicycle round at top speed until Spider has reduced him to a squashed-up ball and bounces him nonchalantly on therestaurant floor (also reminiscent of Tom and Jerry).



When Willy sits down to play Nintari, you'll see a quick run-through of the game on-screen.

This is also one of the few games I've played where the characters actually have some character, rather than being a bunch of humanoid-looking pixels. Willy is a cheeky, obstreperous all-American brat – he probably wouldn't evoke your sympathy much if you weren't actually taking his part. His mother, Sheila, is one of Tom Wolfe's "social X-rays," – all make-up and whole food and basking in her husband's status (one of the most enjoyable parts of the game is watching her discomfiture when Willy's father says he's lost his job just after she's been dreaming of being wife of a vice-president). His younger sister, Brianna, looks and acts like the sickly-sweet little girl from The Brady Bunch, his elder sister Tiffany could audition for a Brat Pack movie any day of the week.

Willy's parents attempts to thwart him at every turn make for an appealing game in its own right and the atmosphere of the game builds up well. In some ways, the introduction of the Humpford/Stoole local government corruption plot almost spoils it. Willy's character as a child out of tune with his domestic surroundings is further built up by the text in the dialogue boxes which pop up when you click on objects around the Beamish house: "the rustic French-style dining room table which makes a perfect elegant addition to anyhome", for instance. Since Willy may not be the world's most attractive child, some work has gone in at Dynamix to get you on his side.

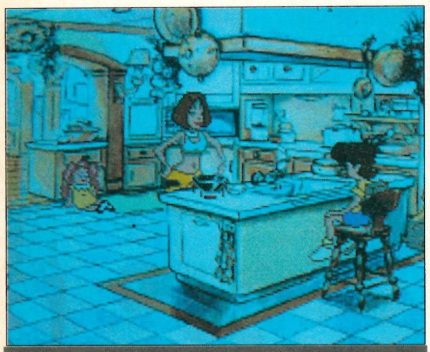
It isn't just the graphics and animation that make Willy a visual treat. The amount of detail given to presentational touches are astonishing. When Willy plays his Nintari games, you get an (unfortunately not playable) on-screen representation of the game. When the Tootsweet commercial is on television, you get a close-up whirl through that. There are animated "Meanwhile ..."and "Later ..." screens instead of a laconic "Time passes". You can even pick up the messages on the answering machine.

Watching Willy Beamish is, therefore, entertaining and absorbing (though the in-game save facility is welcome, since once you've sussed out the early stages you don't really want

HARDWARE

REQUIREMENTS

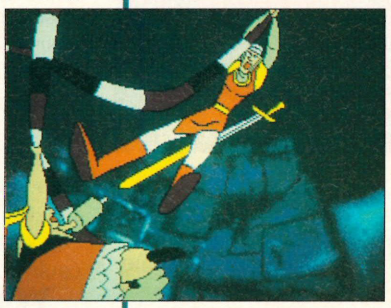
omes on eight ." disks and needs be installed on to a hard disk, where it will take up around 9Mb. Will also needs a PC with 640Kmemory, and you should remove any memory-resident programs before loading, because it requires 547K to run.



The kitchen chez Beamish. The glamorous woman behind the worktop is actually Willy's mother.

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Watching Willy Beamish is, therefore, entertaining and absorbing (though the in-game save facility is welcome, since once you've sussed out the early stages you don't really want to repeat them over and over again each session just to get to point B). Playing the game has its frustrations.

Since an awful lot of moving from location to location is done automatically, without any requirement for your input, you are spared the long trudge from school to Willy's house, or from the house to the middle of town. But there is also a good deal of scene-setting, or amusing interludes, particularly conversations, where you can't influence things one way or the other, and I kept wanting to interrupt. Dinner on day one in the Beamishs' house seems to go on for hours, and, sure, Gordon Beamish got made redundant and Willy fed the dog and Brianna whinged, and Gordon's redundancy is pretty relevant to the rest of the game, but I was still hunched over the mouse, yelling, "Get on with it!" at the computer. But then, I felt much the same about Leisure Suit Larry V.

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

CHRISTINA ERSKINE

ALTERNATIVELY...

Heart of China

Sierra (£39.99)

Much more sophisticated in terms of the story, but again a similar style of playing, Heart of China has you uncovering dastardly plots in the Far East in the 1920s. The graphics arebeautifully moody, smoky and mysterious - about as far away from Willy's animated cartooning as you get - and the atmosphere seeps from every screen.



Dragon's Lair

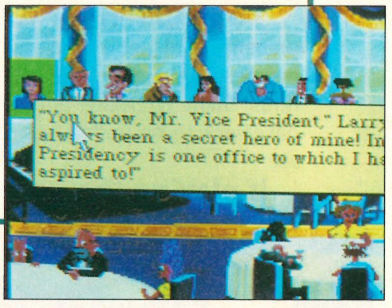
Readysoft (£44.99)

For graphics of the Willy Beamish cartoon style and quality, comaprisons can be made with the Sullivan-Bluth originated animations, ofwhich Dragon's Lair 1 and 2, and Space Ace are available on PC. Here it's even more of a case of watch the game go by, and when you do get a chance to press a key or click the mouse, it's a life and death decision each time. The questions over playability in these games still remain, but they are a stunning example of what the computer can produce graphically.

Leisure Suit Larry V

(Sierra/Dynamix, £39.99)

If the idea of an interactive cartoon appeals, but you'd a prefer a more mature central character, then, erm, Leisure Suit Larry probably isn't your man. Larry is 35-ish, balding, and in a series of adventures (of which LSLV is the fourth, since somebody at Dynamix can't count) on a perpetual quest for chicks. Plenty of Carry On style humour, and a similar gameplay style to WillyB: watch the story unfold, and occasionally you'll be called in to direct the plot.

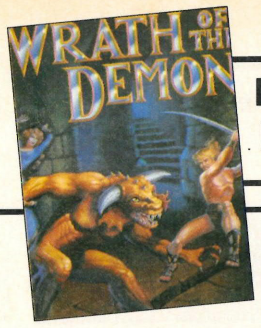


This is one for high spec machines only. Even at 20MHz, Willy-Beamish is no Billy Whizz

3½ ✓ 5¼ ✓ Ad Lib ✓ Roland ✓

CGA ✗ EGA ✗ VGA ✓ Tandy ✗

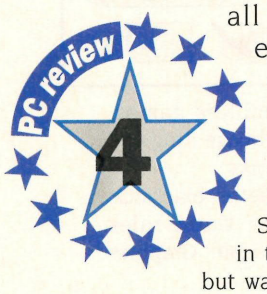
✗ ✓ ✓ ✗



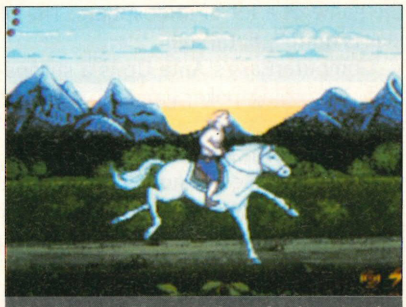
■ Wrath of the Demon ■ Readysoft
■ (0268) 541126 ■ £34.99

Wrath of the Demon

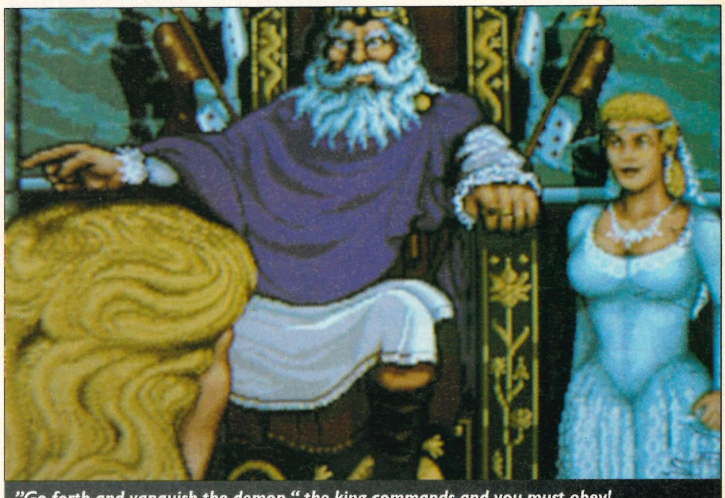
Wrath of the Demon is basically a fantasy beat 'em up straight out of a Tolkienesque storybook, though with human characters. A kingdom and princess are threatened and your warrior is the only person capable of saving the show, so, like John Major, you've been summoned forth to save a desperate situation while the crimson demon is there at all times, trying to thwart your every effort.



An agile lad, your skills include fist fighting, swordsmanship and the odd bit of spell casting, too, so you're well equipped for the job. The main 'minor' enemies are vicious birds, missiles and monsters, big and small. Some monsters are easy to defeat, especially in the first levels, like the small flying dragons, but watch out for the big dragons and bear monsters. Remember you have fast legs so get outta there if you're low on strength. Some of the biggest baddies cannot be avoided so keep using the save option at each level: this way you can develop means of killing them.

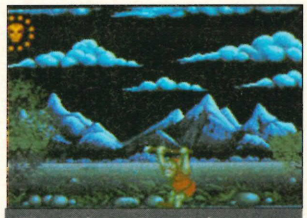


Hey ho there, Silver, watch out for the next pile of stones, or you'll end up in the turf.

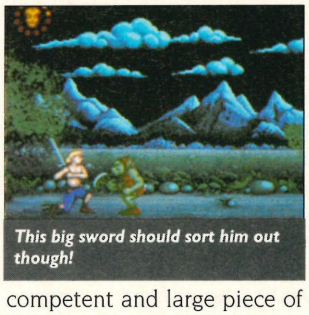


"Go forth and vanquish the demon," the king commands and you must obey!

The first thing I noticed was the quality of graphics. Wrath of the Demon is a very pretty game to look at indeed, with well drawn and animated fantasy sprites (characters) In the very first scene of the game this is amply illustrated by the charging horse and mounted hero, simply beautiful ... try to duck or jump however and you'll find it takes horse and hero an age to respond to your command. I played Wrath at 8Mhz, 24Mhz and 33Mhz and the result was the same though it was easier to see things coming at the lower two speeds. This slow reaction also extends to combat where punching and slashing takes time. Scrappy gameplay was the prinipal disappointment in this otherwise competent and large piece of software from Readysoft.



Oh no, it's a troll and he's green with envy at your fighting skills.



This big sword should sort him out though!



Midnight is alight, only the bravest warrior can save the land now!

Wrath of the Demon needs a lot of practice to get anywhere, as you need to anticipate the arrival and actions of an enemy almost before they appear if you are to get anywhere in the game. The action is pretty standard – collect items, fight the enemy, save the land. What sets it apart are the animation and graphics, what brings it down is the gameplay.

ALAN DYKES

HARDWARE REQUIREMENTS

x floppy disks or Mb of memory. It would be best to run Wrath of the Demon off your hard drive as loading from floppies is incredibly laborious. If you use a joystick the game allows you to set parameters, which is useful, so do it!

Comes on a single disk, and doesn't need to be installed to hard drive. Disk space used 262k.

TECH SPEC

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

■ Casino ■ Accolade ■ 081-877 0880
■ £29.99

Casino

Digitised graphics and sound are the proud boast for this, based on Trump Castle II. These turn out to be fine in VGA – anything else and they're rather murky. In CGA, they're strikingly unpleasant.

Once you're playing the games, it's back to graphics which are thankfully definitely smoother than the original Trump Castle. The digitisation is reserved for scenes inside the castle itself. These have been sneaked in everywhere: to move from one game to another you must wait while it loads in the grand entrance hall screen (complete with dribbly fountain) then click on the requisite room to choose your next game.



Unbelievably it also has the most convoluted Quit sequence I've ever seen. To get back to DOS, you must reload the lobby scene, and click on the escalator. This will take you outside the castle to the Trump Castle bus (what, Mr Trump, no helipad?). Click on the bus, wind through the closing credits, and eventually you will find yourself back at the C:> prompt. If you can live without your high score being saved for posterity, you can exit straight to DOS by pressing Ctrl-Esc. Your digitised fellow gamblers have accompanying speech bubbles which come up with conversational masterpieces such as "Isn't Trump Castle wonderful!".

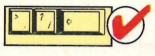
HARDWARE REQUIREMENTS

…ur 5.25" and three …" disks make up the …ackage. If you install it on a hard disk, it'll take up around 1.6Mb.

PC review

As it says on the front of the manual, this is a Trump Castle simulation rather than a serious set of gambling games. Donald Trump may still make it on to the cover of Hello!, but he hardly seems ideal aspirational material for a computer licence these days.

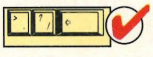
The digitisations are distinctly dodgy in CGA and EGA.

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

■ The Big Deal ■ Accolade
■ 081-877 0880 ■ £34.99

The Big Deal

Some specs vary slightly from program to program. Mouse control in all is by far the most convenient interface.

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

This compendium comprises two gambling games: Casino Gambling and Ante-Up, plus Cribbage King and Gin King, licensed from Software Toolworks.

Trump Castle Casino Gambling covers roulette, blackjack, craps, keno, video poker and slot machines. Game rules adhere to those played at Trump's skyscraper again. Graphics are persistently clunky and low-res, which strips the game of a lot of atmosphere. The blackjack is quite fun, though.

PC review

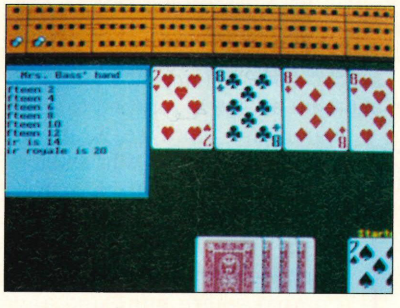
ComputerEasy's Ante Up is a surprisingly absorbing poker game if you have at least EGA graphics. Nobody likes to admit they don't know the ins and outs of poker, and a few hands played here at the Friday Night Poker Club will have you bandying around terms such as "pot's right, cards are coming" with practised ease.

You can play 5-card stud, 5-card draw, 7-card stud and Texas Hold 'em poker variants, and a tutorial option will take you through sample hands for each one.

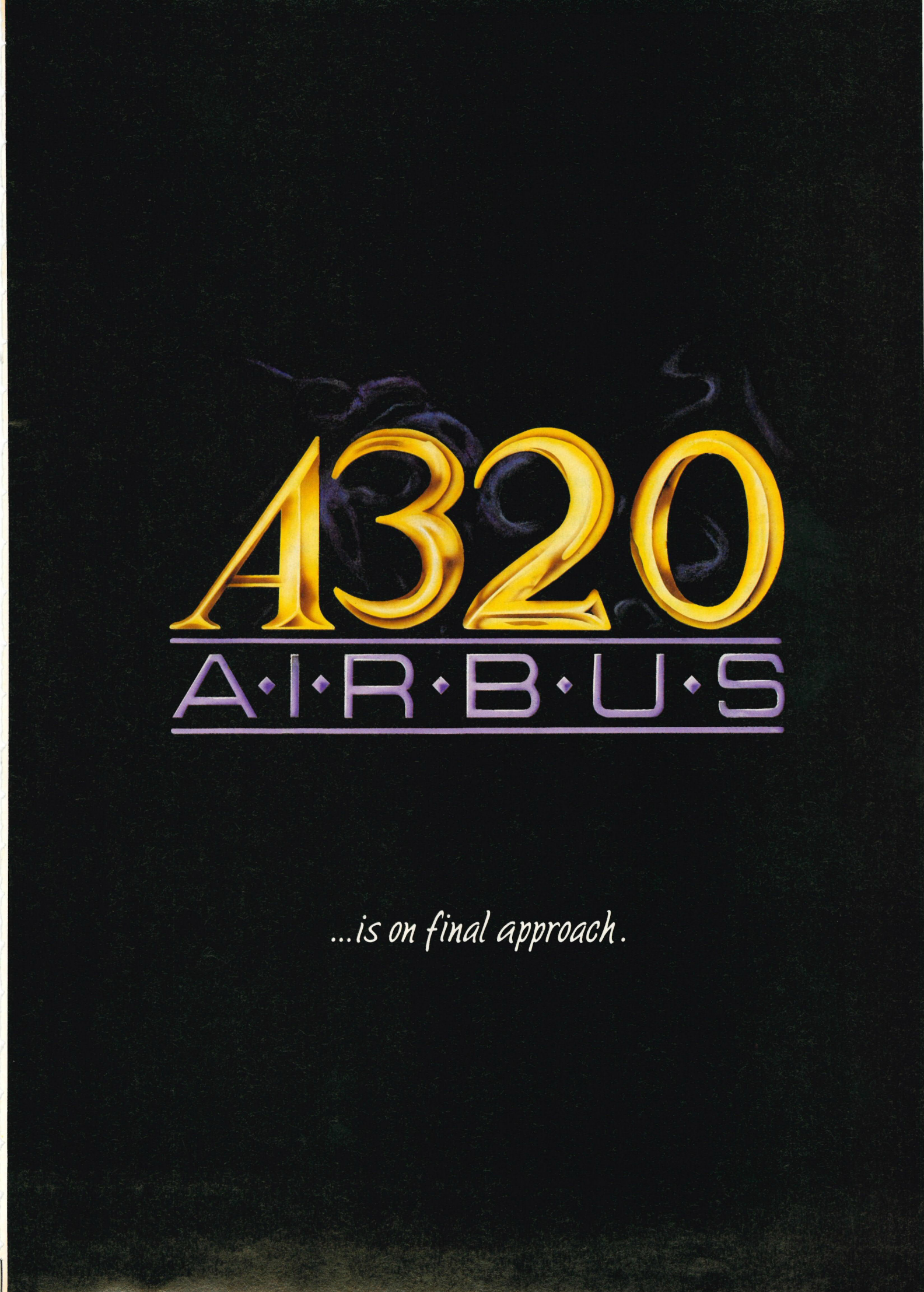
HARDWARE REQUIREMENTS

…ch program comes … its own set of disks making a grand total of eight 5.25" disks or four 3.5". Hard disk installation isn't essential - if you do use a hard disk, it will take up 2Mb.

Cribbage and Gin King comprises a very detailed cribbage game and Gin Rummy or Oklahoma rules. This program is the best of the lot: nicely presented, fast, and, like Ante-Up, gives you computer opponents of varying standards to play against.

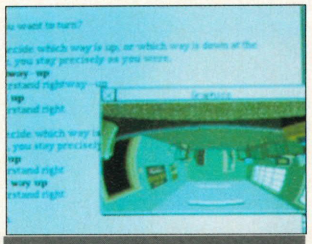


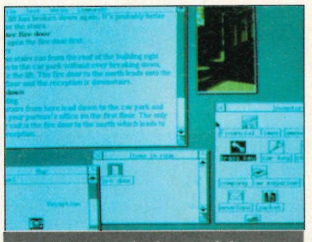
The manuals though are a big disappointment, poorly photocopied and loosely stapled. The original Cribbage manual had masses of statistics on the chances of making a good score by choosing the right discards, but sadly these have been omitted from this compilation.

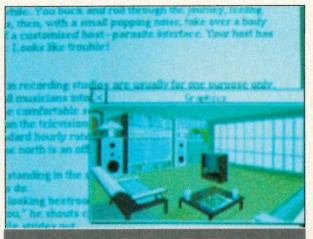

A320
A·I·R·B·U·S
...is on final approach.



■ Magnetic Scrolls ■ Virgin
■ (061) 960 2255 ■ £34.99


Upside down in a fish bowl!


Corruption in the heart of the city.

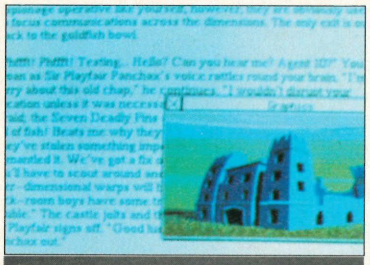

Search the sofa for a handy card.

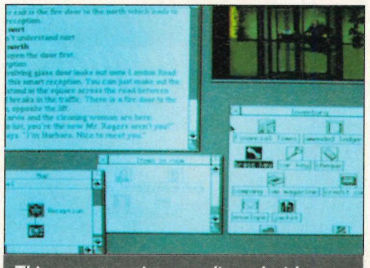
Magnetic Scrolls Collection 1

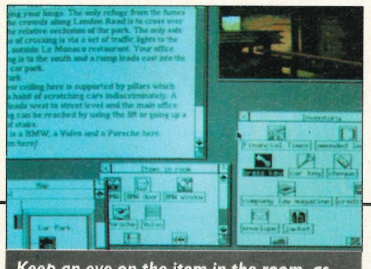
Windows, eh? You can look through them, clean them, even jump out of them. Now, through the miracle of modern technology, you can even play games through them. Previous adventure games have used either text or animated characters for exploration, but the Magnetic Windows system – first used in the excellent Wonderland game – controls input through a blend of text, icons and menus that truly allow a player to develop his or her own method of interfacing with the game(s).

Originally, the three games in this collection (Corruption, Fish!, and Guild of Thieves), were text only,with still or slightly animated graphic scenes portraying locations being visited. The new system basically takes all the common, irritatingly time-consuming elements, like mapping, keeping track of the inventory, and discovering which items in the room can be manipulated, etc - and renders them as windows and icons, which the player positions and sizes to suit his own personal style of playing. Pull-down menus operate load/save functions, the hint facility and so on, and it's possible to jump between games at any point (if playing three fairly tough adventures at once appeals!). The versions in the collection include more graphics and extra features not in the original products, thus making the collection of interest even to people who own one or two of the old-style games already.

Magnetic Windows gives a new lease of life to these adventures, which were getting a little long in the tooth.The success of the Infocom titles has proved the popularity of adventures, especially when they're at an attractive price; but this format brings the games up to date with some great little extras in the box to provide atmosphere (a fish identification chart, a map of Kerovnia for GOT, and a page from a personal organiser for Corruption). Indeed, the presentation overall is very polished, with only a couple of glitches.


The versatile window systemadapts to your play


Things start getting complicated with too many windows on the screen.


Keep an eye on the item in the room, as they provide clues for puzzles.

You can have too much of a good thing, though. The new system is a novelty at first, and aids the player in many ways (the "items in room" window especially), but constantly switch from text to icons to menus is confusing. On top of this, some games fit the system better than others. Corruption works well, if only because of its contemporary subjects (insider dealing and extra-marital affairs), while Fish!, which I've played in the 'old' MS format, seems to lose its whimsical nature - the array of windows detracts from the atmosphere of the text and graphics. Having said that, the beauty of the MW game setup is that the player can simply remove any features he finds intrusive, even to the extent of turning the game into a strightforward text adventure.

The Magnetic Scrolls Collection: Volume 1 offers three well written adventures, otherwise virtually unobtainable except via mail-order, at a good price and with a very flexible interface. This is the future for adventure games, and I can't wait for Volume 2!

MATT REGAN

HARDWARE REQUIREMENTS

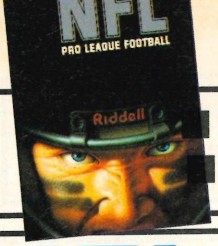
here are no restrictions as to graphics mode, although Hercules and CGA affect the range of options available, eg graphics. The box recommends 8Mhz or better, but runs quite speedily on the office 8Mhz machine. Control is best via a mouse, but the keyboard is adequate, and actually easier than a joystick.



TECH SPEC

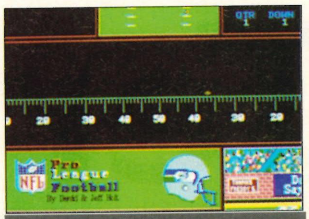
8MHz is fine, but VGA and a mouse get the best results from the MW interface. There is no sound at all, though.

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



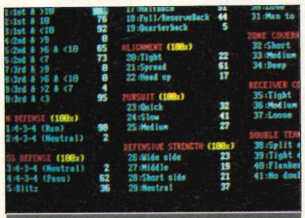
NFL Football ■ Interplay
(0753) 549442 ■ Price TBA

NFL Pro League Football



Head up football, Chargers versus Seahawks: Seahawks are ahead

Just as a cricket simulation would confuse the pants off most Americans, NFL Pro Football is likely to be pretty scarey for anyone who doesn't know more than the basics about American Football. It's essentially a strategy game rather than a full charge up and down the pitch.



The Pro League option, You must enter your own game plan here.

One of the options available is a full 28 team NFL season based around the strengths and weaknesses of actual players and teams in the NFL. In this mode it is possible to play against 27 other competitors, keep team statistics, get scout, progress and overall player statistical reports, go through the playoffs and have a Superbowl. No joke! You can even compete with other PCs using a telephone modem. Playing, however, is going to seem rather dreary to all except die-hard American Football fans as it involves typing in three pages of offensive and defensive game plans. There's no real action, just a computer simulation of a game played according to your game plan. And believe me, you really need to know your football just to understand, let alone formulate, one of these plans.

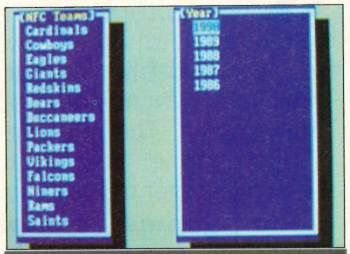


Of much more interest to European football fans is the head-to-head play, which allows direct play with a human or computer opponent, again through modem if you desire. Even here a game plan and a quick look at your own and the opposing team's stats is an extremely good idea as you could be up against some very professional opponents. As with the league option, you get to choose real teams of your own choice from the last four NFL seasons, 1990, 1989, 1987 and 1986. This means that Seattle Seahawks fans like myself can still have Steve Largent and Curt Warner, Dallas fans can hold on to Herschal Walker and Rams Fans can have Eric Dickerson back. This also means that you can compare your coaching skills with the big guys and recreate games from previous seasons in which you think your favourite team got a raw deal in real life.

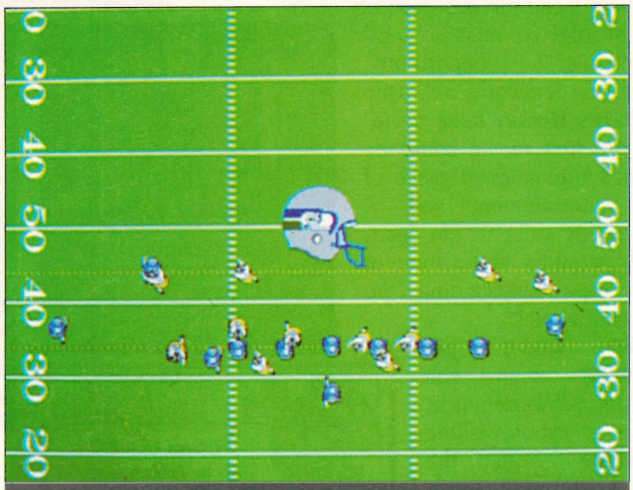
Plays are simple enough to operate, but about as difficult to put together as a 198 piece jigsaw puzzle, with that many numbered play options available. To enter a play you simply type in two numbers – now, if you already know the meaning of cross pattern, drag, trap or bootleg you are nearly there, and if you also know which running back is good, who your best receiver is and who is weakest on the opposing defense, things will become much clearer. All plays are called using reasonably user friendly cards which contain information about offense and defense and which do explain, albeit in football jargon, how to choose a play. In head up play the graphics are not spectacular but it is presented in such a way that you do get drawn into the game.

HARDWARE REQUIREMENTS

...lust be ...talled on to ...ard disk, requires 1.9Mb of memory free. Supplied with two 3.5" and three 5.25" disks.



All current NFL teams are available.



The acutal playing screen, nothing exciting but graphic enough.

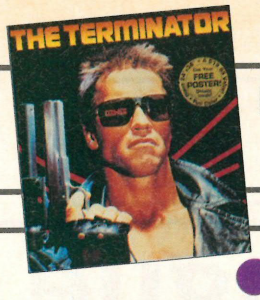
NFL Pro Football is a big football strategy game which I have little doubt will find a real home in offices and hobby rooms across the States as American PC users play the sport they have grown up with and understand fully. Here in Europe it may still be too technical for all but the most ardent fans.

Alan Dykes

Options include constant printouts of team statistics and a modem connection allowing up to 28 competitors.

TECH SPEC

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



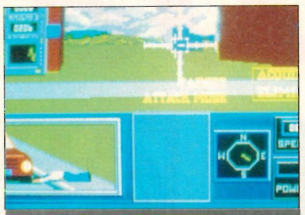
■ Terminator ■ Bethesda Softworks/US Gold ■ 021 625 3366 ■ Price £34.99

Terminator

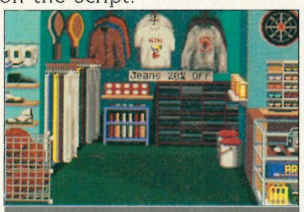
Regarded as one of the best action sci-fi films ever made, Terminator was the movie that catapulted Arnold Schwarzenegger into blockbusting productions like Total Recall, Twins and more recently, Terminator 2. The massive movie hit of this summer has become one of the biggest ever money earners.

Top games companies like Acclaim and Ocean laid down huge amounts of cash and snapped up the software rights to T2 before the ink was even dry on the script. Never one to miss a good marketing opportunity, Bethesda Softworks of Wayne Gretzky's Hockey fame decided the first movie could be turned into a good piece of PC entertainment and, if everybody stuck to the deadlines, would soak up some of the hype surrounding the movie's sequel.

In case you've never seen the movie, Schwarzenegger plays a cyborg killing machine from the future. Arnie's on a mission to kill Sarah Connor, an everyday Californian teenager who will eventually mother a rebel leader. Sarah's son sends a soldier back in time to protect her. Kyle Reese is, in fact, his father. Isn't time travel fun? This is, of course, just an excuse to have plenty of meaty action sequences and startling special effects. The Terminator movies are really the cinematic equivalents of shoot'em-ups.



The little status window in the bottom left-hand corner of the screen shows short animations of the combat sequences that occur during the game. Additional animations are promised in the form of an add-on art disk.



Looking for useful objects in the nearby sports shop. Computer games, like movies, are full of product placement these days. Can you spot this one?



After climbing into any sort of vehicle, the 'walkabout' panel is replaced by a steering wheel and other driving controls. Where are those pedestrians when you can run them down?

HARDWARE

Owners of a PC with anything less than an EGA graphics and no hard drive are spared the embarrassment of loading Terminator. Less fortunate players require about 2.5Mb free of precious hard disk space and a speedy processor.



Bethesda Softworks declares there are no preordained rules in Terminator, only a virtual reality.



How many people have been blown away or cars trashed? Check such important specs on this screen.

What went wrong with the game, then? Well, I find it easy to believe this project was originally designed before there was any connection with Terminator. None of the pace or atmosphere from the movie has been captured. Instead of set pieces representing different sequences from the film, players are expected to assume the roles of either the Terminator or Reese and wander round an unconvincing first-person representation of Los Angles looking for Sarah.

This concept of moving around a complete 3D copy of Los Angeles is a good one – walking into shops, stealing cars, fighting running gun battles with cops, and so on. However, does it suit the style of the movie? Bethesda Softworks makes a great thing of the fact that the city has been extensively modelled. Come on guys, who cares? Anyway, this release is badly let down by poor implementation. There are some very sad characters populating this 3D version of LA. These Lego-like zombies don't even mind if you walk right through them! I wonder when the playing of these 'Virtual Reality' games will actually match the neat ideas?

PC review 1

Terminator will probably sell, but only on the merits of the original movie. I can't see the most ardent Arnie fan, let alone a discerning punter, buying this game after actually playing it. If anybody needs terminating it's the people who ruined a potential blockbuster by designing this drivel. Stay sane, stay away.

RIK HAYNES

TECH SPEC

Incorporates Realsound digitised sounds and supports Soundblaster. Those in-game VGA visuals look suspiciously EGA-ish to me.

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

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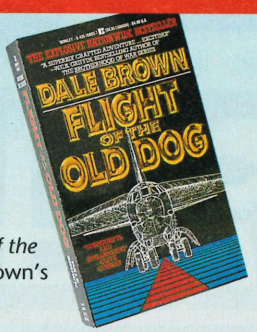
MEGAFORTRESS



Electronic Countermeasures



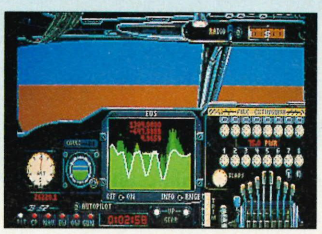
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EYE OF THE

Welcome to QED, the hints and tips section. This month, we have guides to Eye of the Beholder and Heart of China, as well as plenty of shorter tips.





LEVEL GUIDES 1-5

Mayur Maha of Orpington, Kent, has sent in an in-depth playing guide to this lavish RPG.

COMBAT

You will be hacking and shooting monsters throughout the game, so it helps to know something about it. Here are a few general pointers.

1. Use the first few levels as target practice. Test your ability at both hand-to-hand combat and long range shooting. If any of your characters die on the first two

LEVEL 1

No real worries on this level. Be sure to pick up the bones and lockpicks at the start. Rocks are very helpful. You don't really have to use any magic on this level. There is a secret room where a bright brick on the wall needs to be clicked. inside is a +2 dart.

LEVEL 2

On this level you have to manipulate many jammed doors direct to open them. Watch out for the illusionary walls. If you have cleric in your party he can turn undead so that they won't touch you until you hit them. Don't bother using the R.A.T.S. unless you want t get very disorientated and confused. Insert daggers in all the slots an you will have completed the special qu for the level (ie loads of extra experien and food). In the transporter, press the button once to go to the corrections facility (loads of skeletons to kill - and t bow is here) and press it twice to go tc another bit containing a few zombies ar the key to the end of the level.



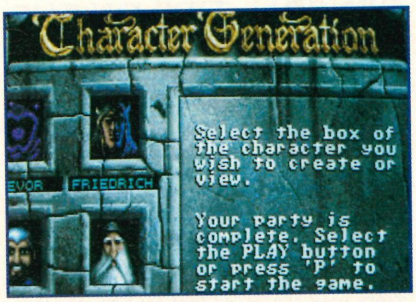
LEVEL 3

This level is fairly tricky compared to the preceding ones. The "You feel dizzy" message means that when yc step on that square it has spun you around to face the direction you just came from. In the room with the three keyholes on the wall only insert a key into the middle one. A button will appear. Press this and a secret room wi appear. Whatever you do, don't fall down any pits -as well as damaging you party, this will take you into the spider-infested section of level 4, which is not very pleasant at all. Get every gem you find. Insert the blue gems in the eyes or the walls (watch the compass). When you've inserted all four, you will have opened the way to level 4. Take out all the gems from the eyes in order to complete the special quest for the level Before going down, go to the first door which has a "jewel box" next to it and insert a red gem into the hole. In the room that opens are several useful item (arrows, speed potion and red gem). Sa before you go down any of the ladders



BEHOLDER





levels, you seriously have to improve your fighting skills.

2. Don't waste your spells on creatures such as kobolds, leeches, skeletons, zombies and kuo-toa. These are very easy to slay with close-combat weapons.

3. When you reach the later levels, you will encounter creatures like giant spiders and mantis warriors. As far as possible, avoid close combat with them. Spiders can easily poison members of your party while mantis warriors can paralyse them. When a character gets poisoned or paralysed you will have to give them a potion or cast a spell on them.

4. Remember to heal your party before you venture into an area with lots of monsters. Saving the game regularly is also advisable.

level 4.

LEVEL 4

Find the injured dwarf. Heal him and allow him to join the party (he's a fifth level fighter). If you've chosen the party recommended earlier, swap him for the cleric in front. It's best to save the game before you open any doors lest there be spiders on the other side. If you find a statue on the wall with a hand click on it as it is an Access Control Lever. Pull any chains you find. In the room with the runes and three doors, make sure that the side doors are closed before going through the middle one - you'll find the Drow Cleaver (+3 axe). Be sure to find the cure poison potions because you will need them! Be careful not to get locked out of the dwarves' domain as the doors shut permanently and then you have to kill many spiders to get back in. There is a portal on this level that is activated by the stone medallion the dwarves give you on level 5. This portal takes you to level 7.

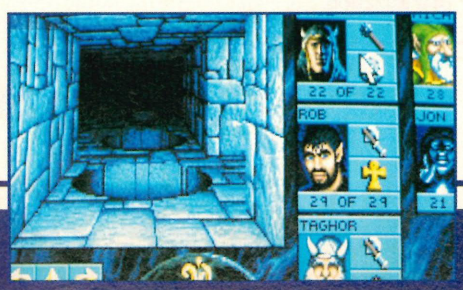
LEVEL 5

This is in much the same style as level 4. There aren't as many monsters as on previous levels, but there are many more puzzles to work out. Bump into loads of walls to discover vital secret rooms, and the pit section has to be practised before it's done correctly. The room full of R.A.T.S. is an absolute nightmare, but you'll solve it eventually. Avoid getting any slings or axes here, as they are cursed. The most important part of the level is the dwarves. Listen to what they have to say, and agree to help them. Take on the character they give you, but take his weapons and abandon him before you go to the cleric. Ask him to resurrect Anya (human fighter) or Tod Uphill (halfling cleric). Whatever you do, don't attack a dwarf standing in your way, or you'll get the whole lot of them laying into you at once!

From here you're on your own - have fun with the Kenku on level 6!

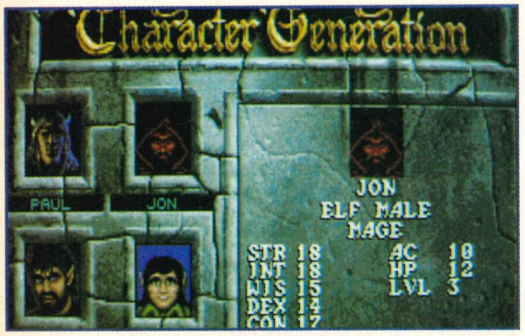
Thanks, Mayur, expect some groovy software in the post soon





Numbers refer to objects.More details next month.

HEART



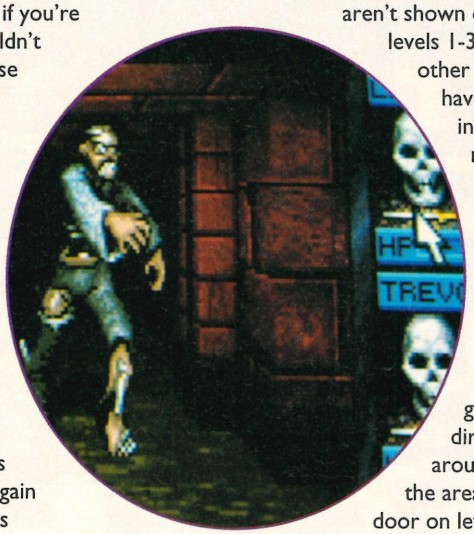
CHOOSING CHARACTERS

In general you should have two clerics, a mage, a thief and a fighter. You should definitely have a gnome in your team because they can read all the runes on the walls, and a thief is also essential as they can pick most locks if you're short of keys. I wouldn't pick a paladin because they need a LOT of experience before they can use magic, and even then their range of spells is pretty limited. There is a paladin you can resurrect on level 9.

It's best to have single-class characters rather than multi-class ones because the former gain levels quicker. This is especially useful with clerics and mages as the higher level spells are rather useful. Also, remember to use the modify option to bring the characteristics up to maximum.

RECOMMENDED PARTY:
Dwarf Fighter Dwarf Cleric
Gnome Cleric/Thief Human Mage

If you're feeling really confident, you could forget about a fighter for the first three levels (you can let fighters join you along the way - a dwarf fighter at the start of level 4, another dwarf fighter when you meet the dwarves on level 5, and the chance to resurrect a human fighter, Anya, at the dwarven cleric on level 5), and choose a gnome thief and a dwarf cleric in

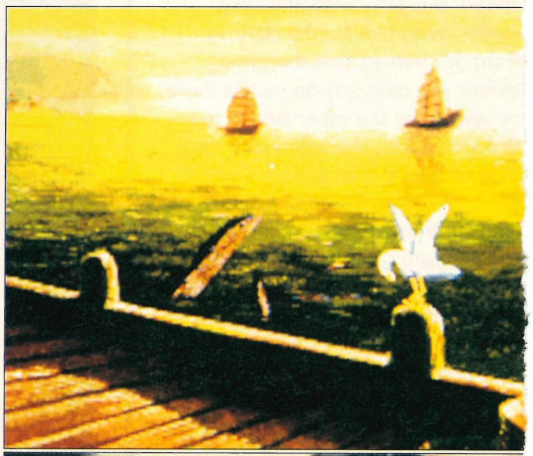


GENERAL TIPS ON THE GAME

1. GET EVERYTHING! Every bit of food monsters leave behind, every weapon you find.
2. You must pick up any bones you find lying around, because on level 5 a dwarven cleric will offer to reincarnate any dead characters you have. Take on every new character that asks to join the party. If they are really useless, you can always nick all their weapons and abandon them.
3. When a thief is trying to pick a lock, swap lockpicks regularly or they will break. if you are unsuccessful, move away for a bit, come back, and try again.
4. There are loads of secret rooms that aren't shown on the maps of levels 1-3. In these and other levels you either have to keep bumping into walls or manipulating any stone that is a slightly brighter colour than the rest.
5. Keep an eye on the compass. There are many occasions in the game when directions change around all the time - the area beyond the right door on level 2 being a good example.
6. Making a map of each level is useful. Mark in where all the treasure and monsters are and you could make life a lot easier for yourself.
7. If you find a mage scroll, scribe it immediately if you can. Doing so prevents you from using it accidentally and losing it forever.
8. If one of your characters dies, it's not the end of the world. He can be resurrected by the dwarven cleric if he is strong enough or by one of your clerics experienced enough to cast a spell on him. But if one of your clerics dies you definitely do have something to worry about.
9. The most essential thing you can do is SAVE! Do it whenever you achieve something new, and you could save a lot of frustration.

Supporting some of the best graphics seen on a PC, HOC gets the full treatment from Bruce Gilmour of Fife - the first half of which we're reprinting here. Hope you like the games we're sending you Bruce!

These hints and tips do NOT give all of the exact responses which the player should make. Instead they point the player in the correct direction and allow him (or her) to discover the exact questions and responses which will take him in the right direction. Some of the best lines in the game are only uncovered by saying the wrong thing at the prompt. In order to avoid unnecessary frustration caused by heading off down the wrong path remember to save the game at regular intervals and before any major decisions are made. It's a great game so enjoy the scenery as you play.





OF CHINA



LEAVING HONG KONG

The first part of the game is described in the manual which Dynamix supplies. Once you reach the airport just play the idiot with the customs official until he trips himself up with the old "Yes no yes no yes no no yes" routine!





IN THE HEART OF CHINA

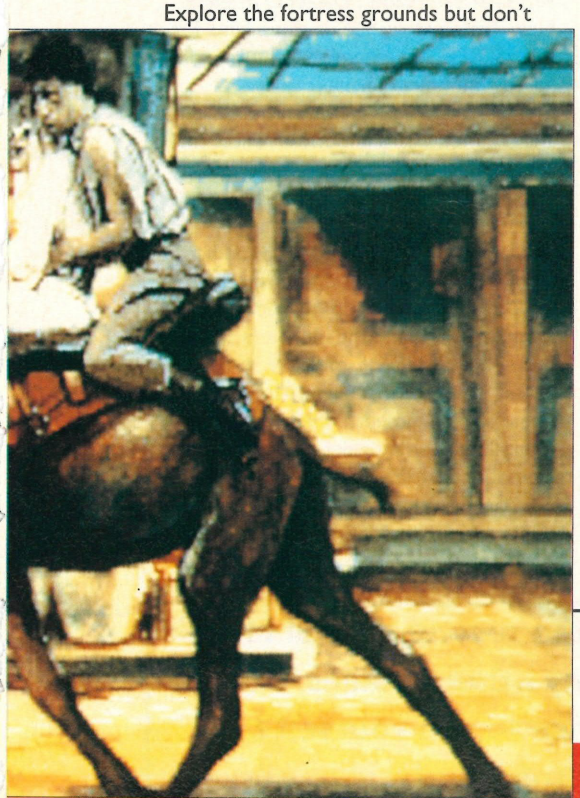
Take the rope from the aircraft and go outside. You can see a cow in the field and a peasant approaches. Let Chi talk to him and borrow his clothes. For a laugh you could try shooting the cow but it's a better idea to lasso it with the rope and let Chi keep it.

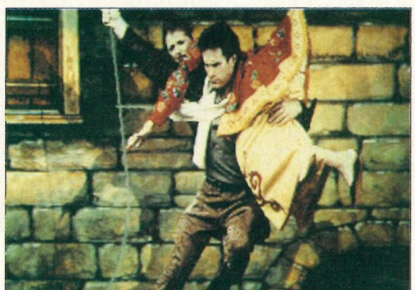
Walk to the fortress and watch as a peasant enters. Let Chi enter in the same way as the peasant did. Once inside lose the cow and wear the Ninja hood. Explore the fortress grounds but don't provoke the guards. Take the key which is hanging inside the gatehouse. Enter the main palace and go upstairs into the main room. Listen to what is said before leaving. Go downstairs again and into the dining room. Take the bottle of wine and proceed to the kitchen. In the kitchen give the wine to the cook's dog and wait for it to fall asleep. Go into the cook's bedroom and through the door on the far side. You have found Kate. Reassure her that help is to hand and return to the courtyard.

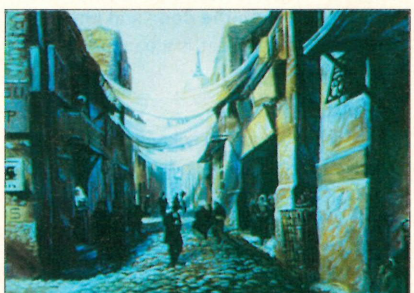
Go to the far corner of the courtyard and throw the rope over the wall to Lucky who is waiting for it. Once Lucky is safely over the wall go back to the palace via the gatehouse so that you avoid the guards. Inside the palace, wait until the guards move away from the balcony and go into the dining room. Knock over the lamp and start a fire. Go through the kitchen into the hall where Kate is held. Let Lucky shoot the snakes and then pick up Kate and make your way to the window at the far end of the hall. At the window use the curtain sash to swing out of the window and on to the ground.

Go to the tank sheds and as Lucky get the key from Chi. Start the tank by inserting the key and pressing the start button and make your escape. The ensuing arcade sequence is optional but fun, Save your game before playing it.

Part Two of Bruce's solution will be printed in next month's PC Review, so experiment on your own for now!







Chi's terrified of flying, and with a pilot like Lucky it's not surprising. Make sure you save the game before attempting to land the crate, because choosing the right spot is tricky.!





QUICKIES

XENON II MEGABLAST

On first loading the game, the option screen appears. Don't alter anything, but press the F7 key. Once in the game, press the letter I key to get infinite energy. On the last level you'll need side shot. Courtesy of Anthony Levy, Aylesbury.

BALLYHOO

This circus-based adventure game from Infocom has attracted the interest of Michael O'Reilly of Clontarf, Dublin. You need to give the fat lady the granola bar, which you find by asking Rimshaw to hypnotise you. Go to the turnstile, then



untie the balloon, inhale the helium, say hello to Harry and pass through the turnstile, press the blue or pink dot out of the ticket. Crack the whip at the lion three times, open grate, lift lion stand. To move the plywood carry the clown mask, wear the mask outside the clown's caravan, knock on the door and enter. A monkey's special treat is a banana-flavoured lolly.

PUZZNIC

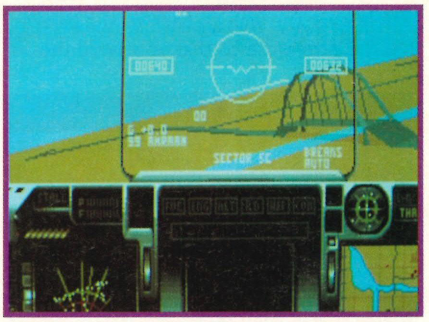
James Tregoning of Bracknell, Berks, has supplied thefollowing codes:
LEVEL 50: PASS WORD
LEVEL 55: RIMA SITA
LEVEL 59: AKIM ASHI
LEVEL 60: TEAR IGAT

ULTIMA V

You can fight for money but don't steal food, as it can be bought in Moonglow. Look in the chambers of Lord British to find the flying carpet. In Yew, ask the owner of Arms of Justice for the resistance password. You will find people in every town that know the passwords to the dungeons. To complete the game, you will need to get an item from Empath Abbey to climb the mountains. Thank you, Michael O'Reilly of Clontarf, Dublin, for that information.

ELITE PLUS

When you reach DEADLY status and are offered a Tribble for 5000 credits, don't buy it! It will breed until your ship is overrun. The only way to get rid of them is to jump to near a sun and get very near until the alarm sounds - then the



troublesome tribbles will be destroyed. Thanks to Joe Horsnell of Brentwood for that.

F29 RETALIATOR

Flying against tanks becomes much easier when you use this method provided by Phillip Mortimer of Beverley, Humberside. Take three CSWs and six Mavericks. The CSWs will blanket bomb the area (although they are clever enough not to hit your own tanks) and the Mavericks will allow you to pick off any left over.

GOLDEN AXE

On the character selection screen press keys 1-8 (NOT on the numeric keypad) to select the stage you want to start on. This cheat works in Arcade and the Duel mode. Ta to Bipean Patel of Cheltenham, Gloucestershire!

GATEWAY TO THE SAVAGE FRONTIER

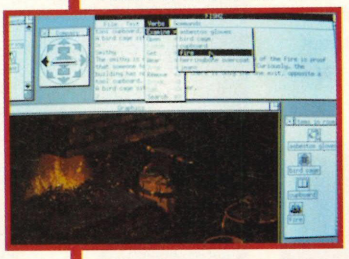
An American reader, Daniel O'Brien of New York, has rushed us some hints for this SSI RPG. To get unlimited turns, move your character next to the monster then press q (for quick). As the character strikes the monster, press the spacebar. The attack menu reappears, allowing another attack - and so on. This speeds up some of the time-wasting.

The other cheat is used during combat also. Press Alt-X during a monster's turn or during a computer-controlled character's turn and the monsters should all vanish! At the bottom of the screen the words "The gods intervene" should appear and the combat will be over. You'll get all the experience points and treasure as usual (if only that worked in real life - Ed). Daniel suggests that these cheats might work in other SSI games, so let us know.

HELP!HELP!HELP!HELP!

THE PAWN

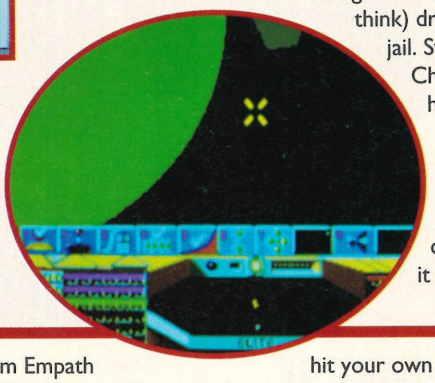
Roger Stout of Seaford, Sussex, has written in with a timely request for aid. He can't get past the dragon, the paper walled room or the white door.



The hints aren't helping him, so write in If you know the answers!

FIGHTER BOMBER

Refueling is the biggest nightmare for Michael Ollington of Goring on Thames, Oxon. The only info he can find was in an old C64 mag (!!), but the speeds given are all wrong for the PC. Can anyone help him with this in-flight problem?



POLICE QUEST I

Who can help Tiny Sandhu of Bedfont, Middlesex? This is the problem: after Laura has explained that Sweet Cheeks is in jail, and after seeing Lieutenant Morgan about it, he (we think) drives to the jail. Sweet Cheeks kisses him and but he doesn't know how to get her out of the clink. How's it done?



Next month we'll have the second part of HOC's solution, along with many other goodies. Send in your hints for the chance to win yourself £100 worth of software!

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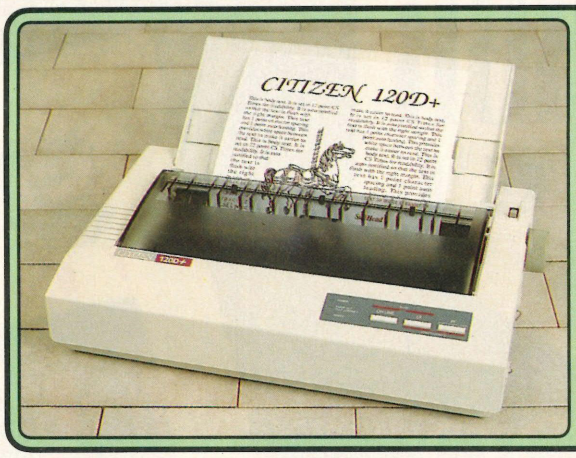
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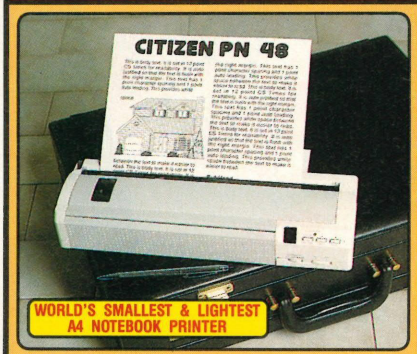
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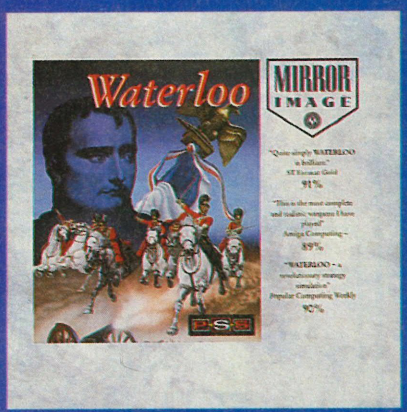
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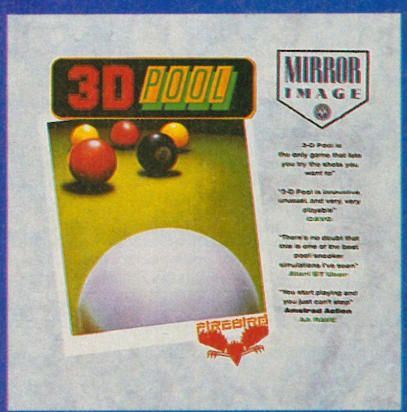


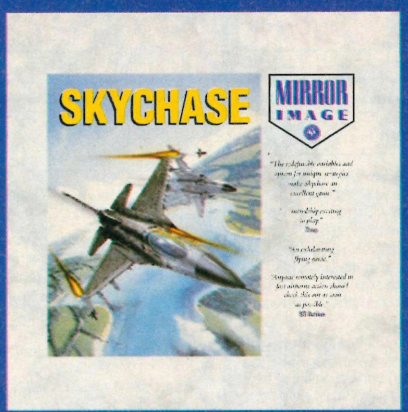










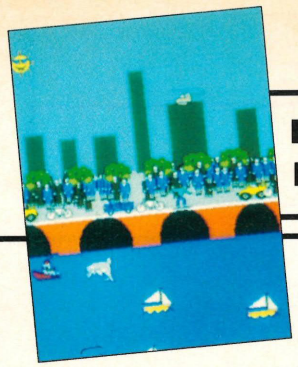




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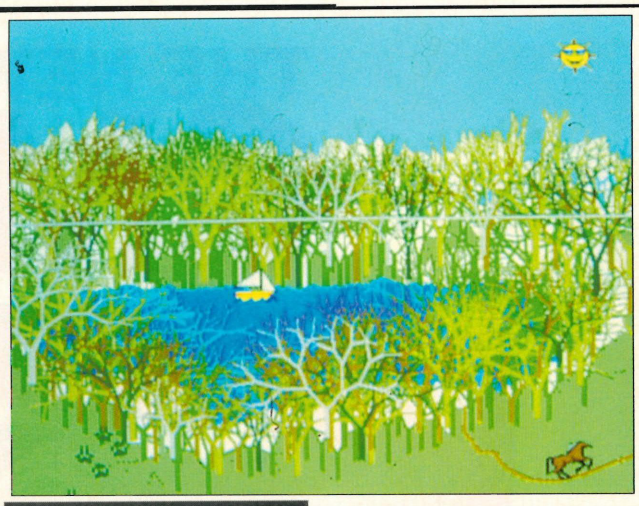


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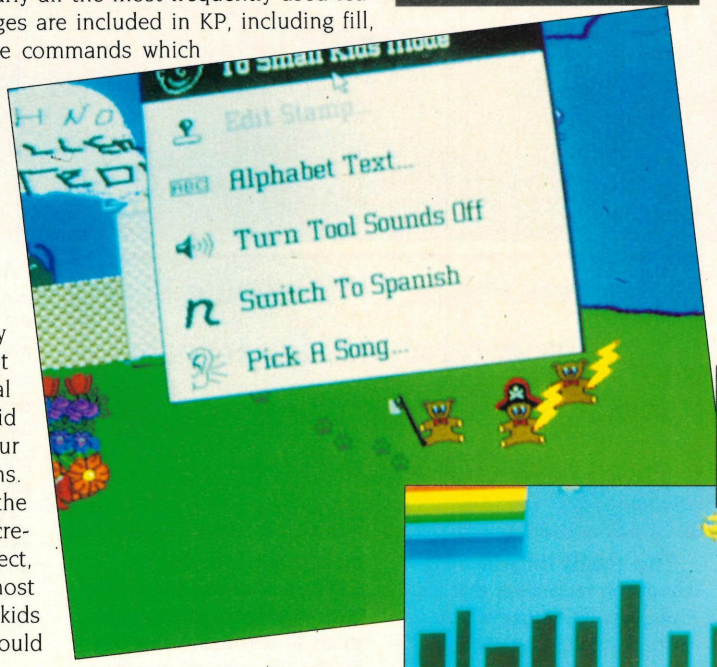
After years of playing with Deluxe Paint, adults are now forced to share the fun with their offspring. Whatever next? Letting the children play GAMES? The very idea! It's time that software catered for the youngest members of society, and this is one package that aims to do exactly that.

Educational software has an unenviable reputation. It's usually so woefully worthy (ie dull) that not even the most committed child could 'play" it and have fun. Kid Pix grew out of designer Craig Hickman's desire to create a graphics program suitable for his three year-old son, who found all the menus and icons in Dpaint confusing. To combat this, Kid Pix uses a Small Kids mode that hides all the tool options if desired.

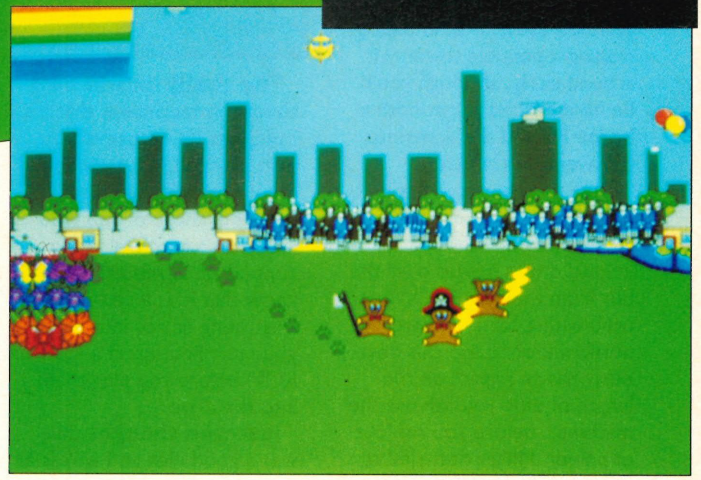


A pastoral scene.

Surprisingly, nearly all the most frequently-used features of major art packages are included in KP, including fill, zoom, and cut and paste commands which create customised brushes for stamping previously designed images all over the page. There are dozens of rubber stamps (ready-made custom brushes) available, from trucks, trains and houses, to moons, faces and, my favourite, teddy bears. Yet it's the range of original features that makes Kid Pix such a wonderful spur to children's imaginations. Brushes duplicate the effects of a leaky pen, or create a kaleidoscope effect, which turns even the most basic scribbles by your kids into art that Picasso would envy (well, nearly).



My masterpiece, Attack of the Killer Teds, and its sequel.



The manual isn't really accessible to children, but then supervision and interaction have been intended by the programmers. With some explanation, though, I can see kids shooing off their interfering parents so the little darlings can get on with it, while the adults become so absorbed with it that they forget its purpose. My illustrious editor thinks that this is as suitable for adults as children, and while this is an excellent scaled-down equivalent to other packages, it would be an expensive luxury to buy this before moving up to a more flexible program.

Children learn at an amazing speed, and this will help bring out their natural creativity, whether they're four or twelve, and that can't be said for many games or toys. Broderbund has devised a wonderful tool for kids, who tend to get a raw deal when it comes to PC entertainment. Kid Pix is a worthy addition to a Christmas list, and, if there's any justice, will sell by the paint-box-load.

A mouse and grpahics above CGA are all that's needed to run Kid Pix, and although a sound board is fun, it's not crucial.

3½ ✓	5¼ ✓	Ad Lib ✓	Roland ✗
CGA ✗	EGA ✓	VGA ✓	Tandy ✓
✗	✓	✗	✗

■ Philips CM50 CD-ROM drive ■ Price: £399
■ Philips IMS (0306) 75777.

THE NEW PHILIPS CM50



Designed for use either on the desktop or with a portable, the CM50, along with the NEC portable, is one of the most compact CD-ROM drives you will find on the market today. It is also light; indeed, Philips claims it's the lightest drive on the market at 0.85kg, making it possible to carry it around easily, although you'd be hard pushed to get both a laptop PC and the drive into the average briefcase.

One of the reasons it is so portable is that it doesn't have its own power supply, but instead draws power over the bus from the host PC. When used with a battery-powered notebook or laptop this obviously has an impact on the length of time you can use the machines, before you run out of power. Philips has tried to minimise the drive's impact on battery life by making the drive as power conscious as possible, but there is no way round the fact that it will reduce the number of hour you can use a portable machine.

> The new Philips CM50 would be a pretty good choice for anyone looking to take the plunge and buy a CD-ROM drive

The really fantastic thing about this machine is that it's caddyless. For those of you who play golf, you probably think of a caddy as a useful concept. Those of you who have come across it in the context of CD-ROM will know that it as a completely frustrating device into which you must first insert a CD-ROM before you plug them into the drive.

Just who thought this was a good idea and why is a mystery to me, but it isthe case that the vast majority of CD-ROM drives use these stupid devices, while standard CD-Audio drives don't.

Philips with its new range of drives announced six months ago, including the CM50, was one of the first to buck this trend, and good for them. It now seems that the rest of the industry is waking up, with Tandy and Victor now bringing to the market machines that have built-in drives which are also caddyless, and many other manufacturers are following suit.

Installing the little devil in your PC is no problem. It comes with a SCSI adapter board, available in a wide range of formats for both standard XT, ISA and MCA bus. You also need to install the standard Microsoft CD-ROM extensions for DOS, which is shipped with the drive, and you're up and running.

All the software that I ran on it worked fine, as most PC products use the Microsoft extensions. It has an above average disc access time of 176.4Kb per second, which means that it will still performs slowly when compared to a hard disk.

It will also play your CD-audio disks, a feature not immediately apparent since the CM50 doesn't have the familiar 'play', 'program' or 'random' buttons on the front. But, choose this option from the PC, and a character-based pictorial representation of the control panel of a CD-audio player will unfold on-screen. You will need to have the PC connected to your hi-fi system, but you can put your CDs into the drive and select the playing options by pointing and clicking on-screen.

At £399 through Optech and Microinfo, the drive is also one of the best value ones on the market.

TIM CARRIGAN

System requirements: Standard XT or AT-compatible, with hard disk, and one free expansion slot.

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PICTURE THIS

– AN AMSTRAD PC5286 GAMES PACK COULD BE YOURS!

You've read the feature, you've seen the specs ... now how would you like to get your hands on an Amstrad PC5286 Games Pack for keeps? This is the big prize on offer to one lucky winner in our ridiculously easy-to-enter competition.

Ideal for anyone who would like a no-nonsense, games-based PC, without the expense and hassle of upgrading, or if you want to get on with solving Heart of China in peace and quiet, without someone else in the family demanding just one more go at Xenon 2.

The Amstrad Games Pack

This first prize comprises the following (just in case you habitually read magazines backwards and haven't spotted our cover story yet, the Amstrad Games Pack's specifications are detailed in the box, right).

Nor need this machine be solely restricted to games-playing. With the specifications outlined here, it makes a perfectly reasonable PC-compatible in its own right. Normally, the Amstrad Games Pack costs just over £1,000 once you've shelled out the VAT; win this competition and you'll get one absolutely free.

Since there can only be one Amstrad winner, we've also put together an excellent selection of runners-up prizes, courtesy of top games publisher Domark.



SECOND PRIZE

Five copies of the brand new MiG 29 Super Fulcrum, the expanded, enhanced version of last year's hit flight sim, go to five runners-up. MiG 29 provides a full simulation of the Russian fighter plane, with training and missions for you to complete around the world. A must for flight sim enthusiasts to add to their collection.

Fully-featured PC compatible: 80286 processor at 16 MHz, 1Mb RAM, VGA card and colour monitor, 3.5" floppy disk drive, 40Mb hard drive
Built-in AdLib-compatible soundboard with integral joystick card and port
Joystick
Mouse
Two external speakers
Three quality games: Links, the golf simulation; F15 Strike Eagle II, from that master of the flight sim, Microprose; Prince of Persia, a very superior arcade exploration game
Counterpoint: an easy to use icon-driven 'front end' so that you don't have to mess around in MS-DOS to load your games



How to enter

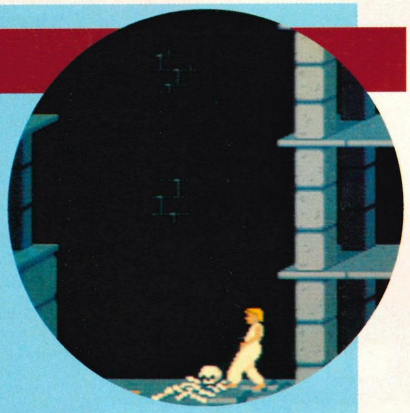
Below you'll find three close-ups from screenshots of each of the games in the Amstrad Games Pack. All you have to do is decide which screenshot portion belongs to which game. For example, if you think picture A is from Links, write A next to Links on the coupon below. And if you think this sounds a bit daunting, have a look at the short descriptions of the games above, and at the pictures on pages 23-27. These should give you a few hefty clues.

When you've matched picture to game, fill in the coupon and stick it securely to a postcard or the back of a sealed envelope. You can photocopy the coupon if you don't want to damage your copy of PC Review. Send your entry to:

Picture This
PC Review
EMAP Images
30-32 Farringdon Lane
London EC1R 3AU

and make sure it gets to us by November 15, 1991. We'll announce the winner with much pomp and ceremony in our January 1992 issue.

re A.



re B



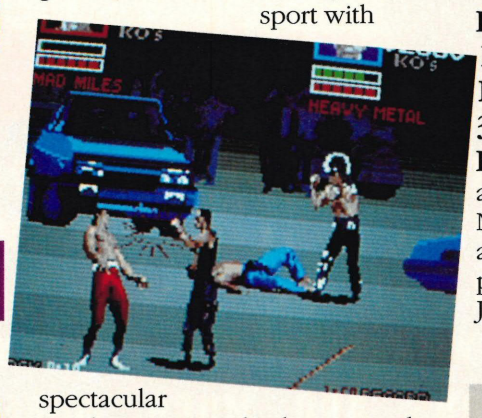
ure C



THIRD PRIZES

(if not joint second prizes, in truth)

Five copies of the equally brand new Pitfighter, an all-action arcade game based on the underground sport with



spectacular graphics. Your only chance to take part in a pit fight legally, as you face seven equally vicious opponents before facing the Ultimate Warrior. Pulls no punches!

FOURTH PRIZES

Five Pitfighter T-shirts – leisurewear with attitude – will go to the next five out of the hat.

Rules

The winner of the Amstrad PC5286 Games Pack will be the first correct entry drawn at random after the closing date.
No entries received after the closing date will be considered.
Only ONE entry per person, please. Anyone found submitting multiple entries will be disqualified.
No employees, or their relatives, or associates of EMAP Images or Amstrad are not eligible to enter the competition.
The editor's decision in all these matters is final.

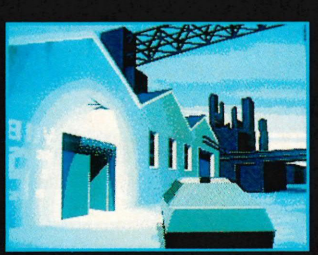
PICTURE THIS

The games from which the screenshots (A, B, and C) are taken are:
Links.....
F15 Strike Eagle II.....
Prince of Persia.....
Name.....
Address.....
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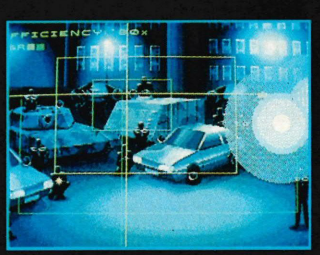
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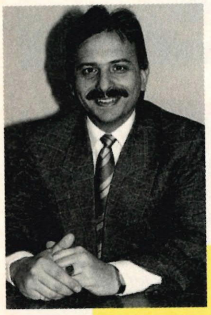
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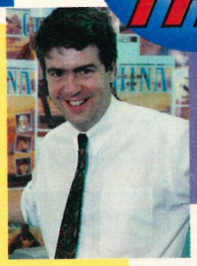
PC review ON THE SPOT



"Why is it all games seem to require VGA only these days?"



"Why do software houses make their PC games so expensive?"



"Why aren't there more arcade games for the PC?"





Pictures from left to right: Peter Bilotta, Mirrorsoft; Peter Jones, Sierra; Dominic Wheatley and Mark Strachan, Domark; Andrew Wright, Virgin; Simon Jeffrey and Mark Lewis, Electronic Arts; Peter Molyneux, Bullfrog. All promising a warm welcome to PC Review readers.

These are probably the questions we get asked most often at PC Review. And while we can answer them as best we can, there's nothing quite like hearing it straight from the horse's mouth.

To that end, PC Review will be hitting the road each month to visit publishers, developers, manufacturers - all the major players in the PC games industry - and we want you to come along with us.

The companies interviewed will be facing the questions that really matter to PC Review's readers. We can guarantee this – because it will be PC Review readers who ask the questions. Fill in the form below and you could be selected to join us when we visit the company of your choice. You'll have a chance to meet and talk to the people directly involved in publishing, game design, programming and project management. We hope you'll be able to have a sneak preview of some of their forthcoming products – exactly what's on offer will, of course, depend on the company concerned. We hope to be able to offer these visits at various times of day, so that those out at work full-time will still be able to participate.

We have six companies outlined below for our first six On the Spot features and plenty of others to follow.

ELECTRONIC ARTS

First into the PC Review hot seat is Electronic Arts, the world's largest computer games software publisher and a major supplier of PC products. We're off to Electronic Arts on November 6, and we suspect this is going to be a popular one, so please get your forms in quickly if you want a trip to sunny Slough in the next couple of weeks.

We're hoping that Peter Molyneux from EA's UK-based associate, Bullfrog, will be there to talk about Populous 2 and other Bullfrog developments in the pipeline.

SIERRA

A relative newcomer to these shores, Sierra is one of the largest US software houses in terms of sales. Sierra now has their own European office here in the UK, offering direct supply and – most important – its own hintlines and technical support. Sierra recently acquired Dynamix, a label that has since given it such superb titles as Red Baron and Heart of China.

DOMARK

This company finally confirmed its role as a major publisher by acquiring the European rights to Atari's prestigious Tengen label for coin-op conversions.

MIRRORSOFT

One of the most unusual companies around, partly due to its role within the Maxwell empire. Mirrorsoft has an innovative tradition with games such as Interphase and diverse projects that include the Maxwell New Media division for CD research and development. It also handles several important affiliate labels, including Spectrum Holobyte, of Falcon fame, FTL and Three Sixty.

US GOLD

Arguably still Britain's biggest software house, comprising a conglomerate of enterprises ranging from distributor Centresoft to affiliate labels, including Lucasfilm and SSI. US Gold made its name with coin-op conversions in the late '80s but has begun to make a mark with original titles of its own, such gems like Vaxine and E-Motion.

VIRGIN

Thrust into the games market in 1983 by Richard Branson, Virgin concentrates these days on high quality original titles ranging from the vintage Dan Dare to recent hits Supremacy and Golden Axe. Virgin has also pioneered two other areas: consoles, through its connection with Sega, and CD development.

Each month PC Review will carry a full report of the most recent On the Spot interview – hopefully answering all those burning questions and with full information on the companies and products involved.
If you want to take part in an On the Spot interview, please fill in the form below, and we'll be in touch.

Name.....
Address.....
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.....
Daytime tel no.....
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Age: Under 21 ❑ 21-35 ❑ 36-50 ❑ Over 50 ❑

Which company would you like to visit?
(please number from one to a maximum of six in order of preference)

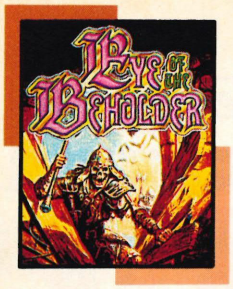
Domark ❑ Electronic Arts (November 6) ❑ Mirrorsoft ❑
Sierra ❑ US Gold ❑ Virgin Games ❑ Other (if applicable) ❑

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. If your number one preference is Electronic Arts, it would be a good idea to fax it: our fax number is 071-608 2978.

PC Review November 1991



THE BEST P.C. SOFTWARE ENTERTAINMENT ...

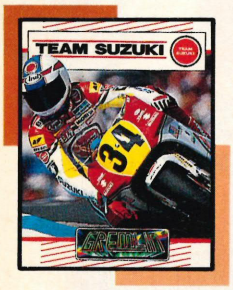
All work and no play makes the executive a dull boy. Relax, take it easy and unwind with some exciting software entertainment for your P.C.

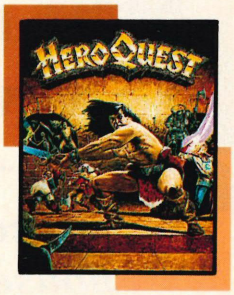
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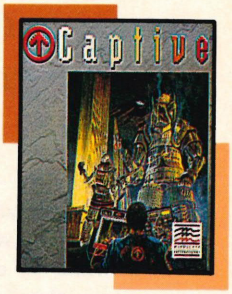
Dynamix
PART OF THE SIERRA FAMILY

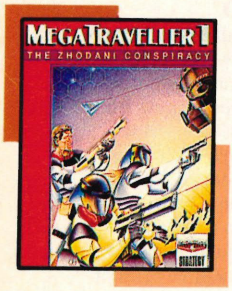
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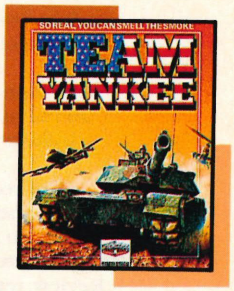
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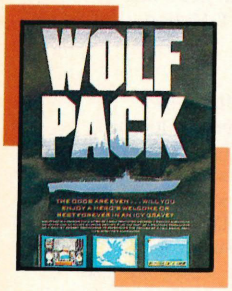


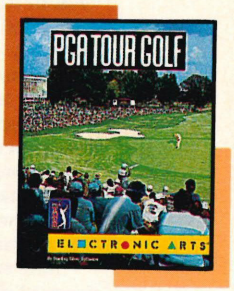


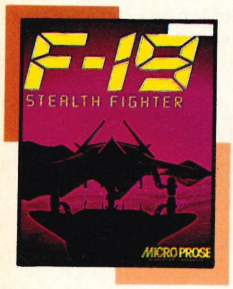


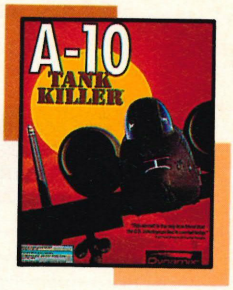
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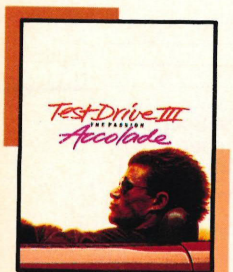
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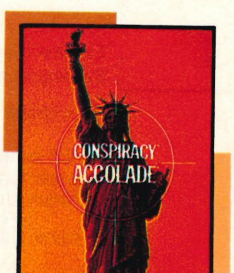






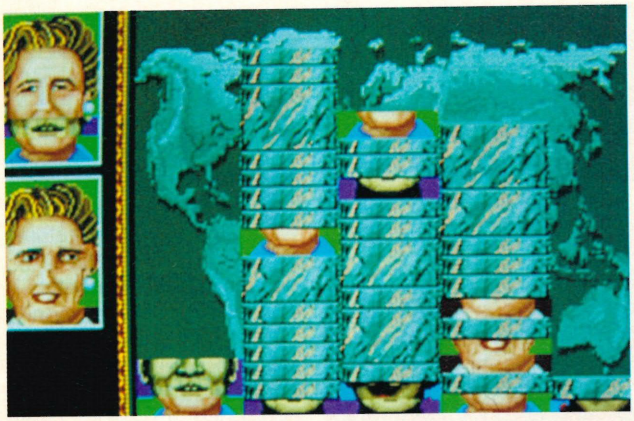






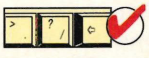
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CENTRESOFT



Faces

PC Review's cover disks are packed with well over a megabyte of PC goodies: not just the best playable demos around, but also complete utility programs. Full instructions for the programs available this month below.

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

Russian programmer Alexei Pajinitov took the world by storm withTetris, the puzzle game that's a perennial favourite with everyone. The deceptively simple process of rearranging blocks as they tumble down the screen to complete whole lines continues to keep people glued to their screens, more than three years after its original release.

Now, PC Review has an exclusive preview of Alexei Pajinitov's latest game, Faces. Not blocks, this time, but portions of, well, you guessed it, faces. This adds an extra dimension to the gameplay – instead of completing lines you must manoeuvre the falling parts to complete the full visage: hairline, brow, eyes, nose, mouth and chin must all be lined up correctly. Some of the faces will prove remarkably familiar.

What we have here is a full level from the final game,complete with clear smooth graphics in VGA mode (plus separate modes for CGA, EGA, Tandy and Hercules owners – no-one gets leftout), sound effects and music. It's an excellent mini-game in its own right – just because it's a single level, with up to 1,500 high score points available, don't assume it's a doddle.

The complete game boasts 10 levels, a multi-player tournament mode, and a two player head-to-head option, plus the facility to customise your own faces.

Keyboard controls

J	move pieces left
L	move pieces right (yes, really)
K	swap pieces
I	flip pieces
Space	make the pieces drop faster
Esc	initiate the Quit to DOS sequence

Music Maestro

Directly from the PC Review Shareware Catalogue (see page 141 for details of this) on to your cover disk, Music Maestro provides you with a fully customised database dedicated to cataloguing your record collection.

Whether your records are on LP, tape or CD, Music Maestro will enable you to keep full details of your music collection andupdate it regularly, with your own comments – to remind yourself of particular tracks, perhaps.

CONTROLS

Type Music to load Music Maestro. This will present you with the customised database form – which already includes details of some records you are unlikely to have in your collection! Don't worry: you can deal with these later.

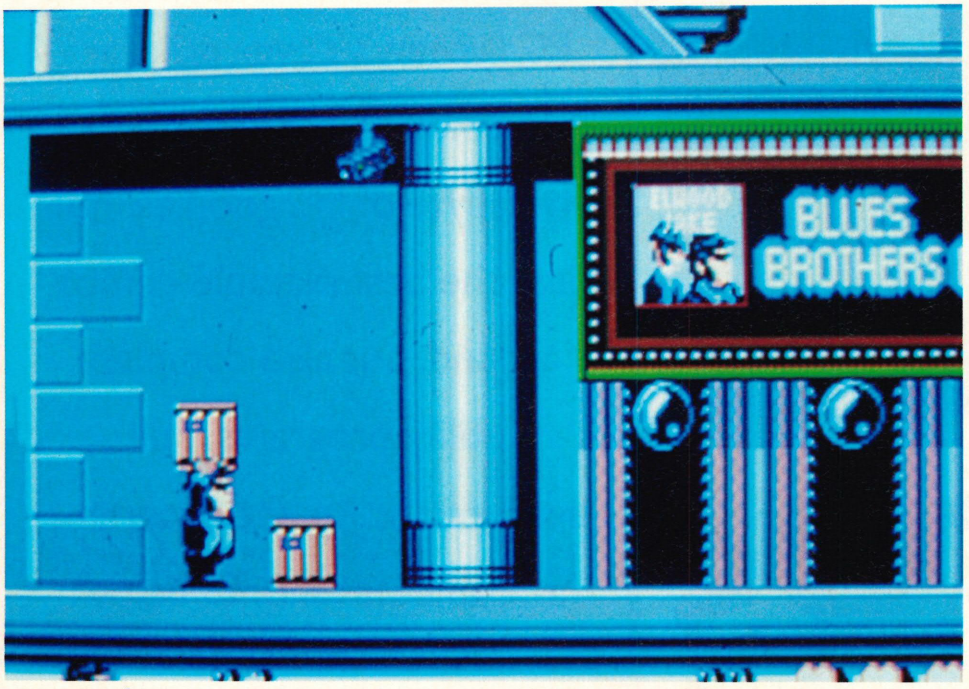
The menu at the foot of the screen details your options, and you can move from option to option either by using the cursor keys, or by pressing the initial letter of each option, ie, to access Add (which gives you a blank database form to fill in), you can simply type A.

The fields (categories for each entry in your database) available are catalogue number, date (of acquisition, say), title, artist, duration, medium (ie, LP, CD or tape), comment, year of release, and value.

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

NB: the ticks in the graphics boxes don't mean that there are separate modes for each, simply that the program works with everything.

Music Maestro is a shareware program, and thus subject to copyright just as a normal commercial title. If you like the program and use it regularly, you are expected to register with the author for a fee. In return, this will entitle you to program updates, and full documentation. Details of how to register can be found on the cover disk–and more on the whole concept of shareware and how it works can be found on page 143 of this issue.



Blues Brothers

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

Officially licensed from the cult hit movie starring John Belushi and Dan Aykroyd, this fully playable demo gives you the option to take the part of either Jake or Elwood, trying to scrape together the cash to make their grand comeback. This demo, especially written for PC Review readers, gives you an exclusive preview of the game, using a host of actual screens from the finished program, with all the graphics and background music (the Blues Brothers theme, of course).

Blues Brothers is an enjoyable platform game, with large, clearly defined graphics, lots of bonuses to be picked up and obstacles to be dodged. Look out for a full review of the game in next month's PC Review.



Controls

Use either a joystick or keyboard. On the keyboard, use the cursor keys to move left and right, the up cursor to jump, down cursor to crouch. Use space plus the up cursor to enter rooms. The space bar picks up the crates which are your weapons against the people who get in your way and lob the crate at them – pressing space also picks up the bonuses. To quit to DOS, press Esc.

PRACTICAL JOKES

The perfect revenge: give friends and/or colleagues something to scratch their heads over when their PC suddenly starts acting very strangely.

The selection includes Backtalk, where spurious on-screen messages will be generated at random; Drain – how would you feel if a warning suddenly flashed up on-screen, announcing "Water detected in drive b:"? Eaters, where a Pacman character will appear to gobble up your text, and Eye, in which a giant eye will emerge on to the centre of the monitor.

NB: THESE JOKES ARE NOT VIRUSES. They are perfectly harmless, and after a length of time – stated with each file – the effects will 'wear off' and the machine will revert to normal. There should be no loss of data suffered: whatever has appeared or disappeared from the screen.

However, we would counsel caution when you choose your victim. Make sure it's someone who can take it in the spirit in which it's meant!

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

HOW TO LOAD THE PROGRAMS

Before you try to load the disk, make sure your PC has the right minimum requirements (shown above) for the program(s) you want to run.

If your machine has no hard disk, you will be able to install Faces on to a 360K 5.25" or a 720K 3.5" floppy disk; Blues Brothers on to a 720K 3.5" disk; Music Maestro and Jokes on to a 360K 5.25" or 720K 3.5" disk. You will need separate blank disks for each of these.

Put the PC Review cover disk into drive a:, close the drive door and, if your screen isn't already showing A:>, log on to that drive by typing

a: [return]

When A:> is showing on-screen, type

go [return]

This starts the menu program and brings up an information screen. Press any key and you will be faced with the cover disk menu. You can highlight the program to install using the cursor keys – follow the on-screen prompts and the program files will be decompressed and copied from the cover disk on to either the hard drive or your second floppy disk.

SEIKOSHA DOT MATRIX PRINTERS

Silica Systems are pleased to recommend Seikosha printers to you at ***NEW LOW PROMOTIONAL PRICES***. The Seikosha range is built to the highest standards, by a company that is used to manufacturing high quality precision products. In fact, you may be wearing one of these products on your wrist as Seikosha are part of the massive Seiko/Epson group (with a turnover of £6 billion and 18,000 staff!).

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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*

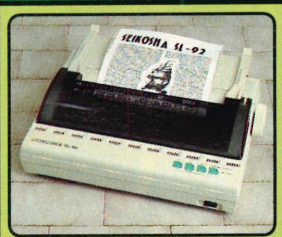
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240 CPS **136** COLUMN
- *Seikosha SP-2415AI - 9 pin - 136 col*
- *300cps SD, 240cps Draft, 50cps NLQ*
- *17.5K Printer Buffer + 5 Fonts*
- *Parallel and Serial Interfaces*
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STARTER KIT £25
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24-PIN 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*
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324 CPS **80** COLUMN
- *Seikosha SL-210AI - 24 pin - 80 col*
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- *5K Printer Buffer + 9 Fonts*
- *Parallel and Serial Interfaces*
- *Graphics Resolution: 360×360dpi*
- *Epson and IBM Emulation*
- *Optional Auto Sheet Feeder*
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- *Rechargeable Battery Pack Optional*

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- *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*
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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*
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STARTER KIT £25
TOTAL RRP: £724
SAVING: £275
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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
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£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*

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STARTER KIT £25
TOTAL RRP: £1724
SAVING: £325
SILICA PRICE: £1399
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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*
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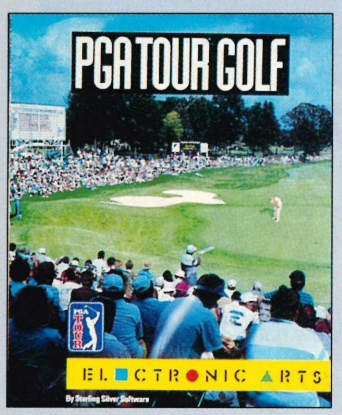
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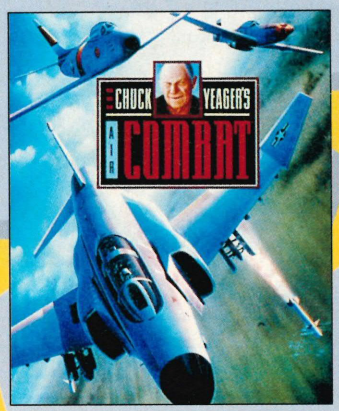


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PGA Tour Golf is the only computer game ever licensed by the US PGA. Panoramic fly-by shots and look-back view let you play real tournaments on real courses. Instant replay lets you relive great shots as you compete against 60 PGA pros!

CHUCK YEAGER'S AIR COMBAT

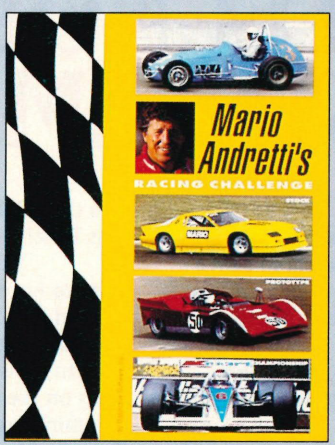
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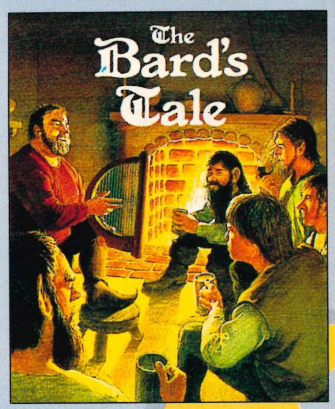
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Battle Chess	❑ 3.5"	❑ 5.25"	source code: 0016D
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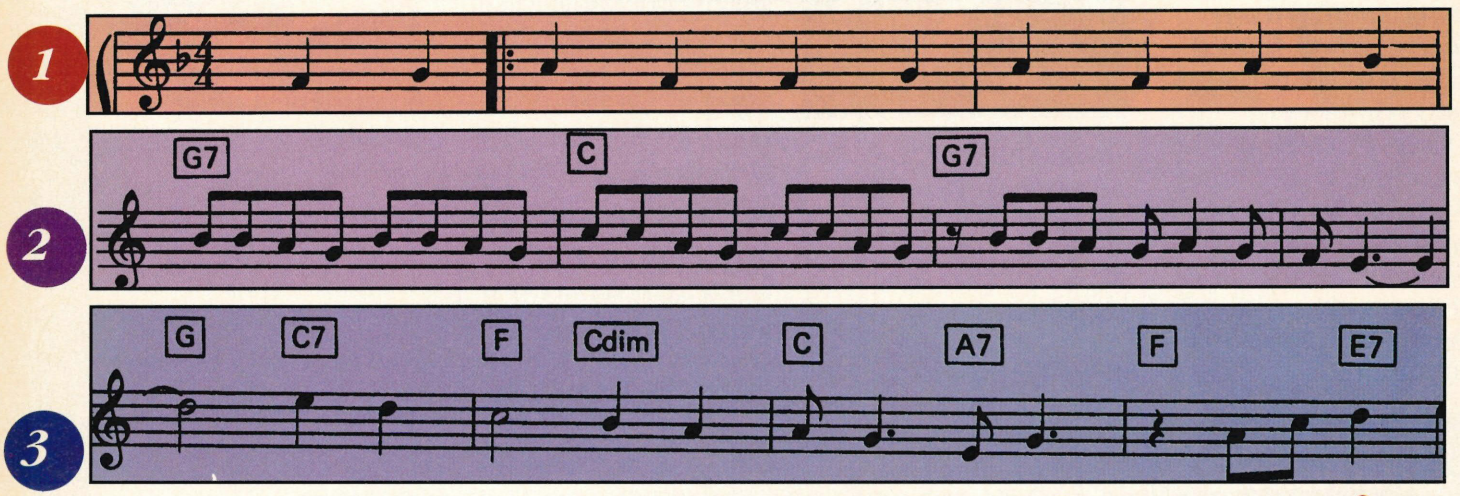
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NAME THAT TUNE ...





... AND WIN TECNOPLUS'S SOUND SYSTEM PACK

Tired of the PC's infuriating internal squeaker? Well, this could be your lucky day – we've managed to persuade Tecnoplus to part with three of its brand new Sound System packages, which we're giving away free in this rather splendid competition.

The Sound System package gives you more than just a spot of background music in your games. It will set you up to turn your PC into an all-singing, all-dancing sound machine. The box contains:

SoundBlaster sound card
Two speakers
Text to speech synthesiser
Quick Shot joystick
Five (count 'em) software programs:

King's Quest V – the latest in Sierra's acclaimed Quest series of adventures

Amazing 3D – animated adventure game

Talking Parrot – uses the speech synthesiser to demonstrate its speech capabilities

FM Intelligent Organ – turns your PC keyboard into a synthesiser

Voxkit - sampler which will play back through the computer anything you care to record through it

The soundcard has a built-in MIDI interface, and will accept Walkman headphones.

We've only got three of these to give away, so we twisted Tecnoplus's arm a bit more, and came away with 10 Quick Shot joysticks to give to 10 runners-up.

All you have to do to get your entry into the PC Review hat is to ... Name that Tune!

How to enter

Printed here are three excerpts from impossibly well-known songs. All you have to do is match the melodies to the titles on the entry form. For example, if you think number one is a snatch from Frere Jacques, then write '1' alongside its name in the box. When you've completed all three, stick the coupon on a postcard (an interesting one if possible – see page 162) or the back of a sealed envelope, and send it to: Name that Tune, PC Review, EMAP Images, 30-32 Farringdon Lane, London EC1R 3AU to arrive no later than November 15, 1991.

Winners will be announced in the January 1992 issue of PC Review.

Photocopied forms are acceptable if you don't want to cut up the magazine.

Name that Tune

The tunes are:

☐ **Bridge Over Troubled Water**
☐ **Itsy Bitsy Teeny Weeny Yellow Polka Dot Bikini**
☐ **Frere Jacques**

Name.....

Address.....

.....

.....

PC Review November 1991

Rules

The three Sound System winners will be the first three correct—entries drawn at random after the closing date. The next 10 correct entries will win a Quick Shot joystick.

No entries received after the closing date will be considered. Only ONE entry per person, please. There are still a few people who think that a feeble attempt to disguise their handwriting will fool us. Stop it, or we'll start naming names ...

No employees, or their relatives, or associates of EMAP Images or Leisuresoft are eligible to enter the competition.

The editor's decision in all these matters is utterly final.

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Silica Systems, an official GoldStar appointed dealer, are pleased to recommend this comprehensive range which combines the very latest technology with years of manufacturing experience. GoldStar's quality and reliability coupled with the Silica Systems service, provide you with the perfect PC solution for the home, business or education. From an entry level 286 desktop workstation to a powerful 486 EISA tower system, Silica and GoldStar have the answer, at an affordable price!

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Model Shown is GT212 286 12MHz
PLUS SERIES with GS1425 VGA Colour Monitor

* All the GT212 PLUS SERIES models include 2Mb RAM as standard, so that they can run Windows 3.

Model	PROCESSOR	RAM INC	MAX RAM ON BOARD	1 YEAR ON SITE	EXPAN-SION SLOTS	LANDMARK MHz	CO-PROCESSOR SOCKET	VGA CHIPS	VGA VIDEO RAM	VGA 640×480	VGA 800×600	VGA 1024×768	NO HARD DISK + Single Floppy 3½" or 5¼"	42Mb HD + Single Floppy 3½" or 5¼"	PLUS SERIES WITH DUAL FLOPPY, WINDOWS 3 & MOUSE: 42Mb HD + Dual Floppies 3½" & 5¼"	130Mb HD + Dual Floppies 3½" & 5¼"	210Mb HD + Dual Floppies 3½" & 5¼"
GT 212	286 12MHz DESKTOP CASE	1 or 2 Mb	4 Mb	●	3 2×16-bit 1×8-bit	17 MHz	287-10	PARADISE	256K RAM	16 Colours	16 Colours	N/A	£399 +VAT= £468.83	£499 +VAT=£586.33	£599* +VAT=£703.83	£799* +VAT=£938.83	£1099* +VAT=£1291.33
GT 316	386SX 16MHz DESKTOP CASE	2 Mb	8 Mb	●	5 4×16-bit 1×8-bit	21 MHz	387sx-16	PARADISE	256K RAM	16 Colours	16 Colours	N/A	£599 +VAT=£703.83	£699 +VAT=£821.33	£799 +VAT=£938.83	£999 +VAT=£1173.83	£1299 +VAT=£1526.33
GS 318	386SX 20MHz DESKTOP CASE	2 Mb	8 Mb	●	5 4×16-bit 1×8-bit	25 MHz	387sx-20	PARADISE	512K RAM	256 Colours	256 Colours	16 Colours	£699 +VAT=£821.33	£799 +VAT=£938.83	£899 +VAT=£1056.33	£1099 +VAT=£1291.33	£1399 +VAT=£1643.83
GS 320	386DX 20MHz DESKTOP CASE - FULL SIZE	2 Mb	10 Mb	●	8 5×16-bit 2×8, 1×32	25 MHz	387dx-20	OAK	256K RAM	16 Colours	16 Colours	N/A	—	—	£899 +VAT=£1056.33	£1099 +VAT=£1291.33	£1399 +VAT=£1643.83
GS 347	386DX 25MHz DESKTOP CASE - 32K CACHE	4 Mb	8 Mb	●	5 4×16-bit 1×8-bit	40 MHz	386dx-25	PARADISE	256K RAM	16 Colours	16 Colours	N/A	—	—	£1399 +VAT=£1643.83	£1599 +VAT=£1878.83	£1899 +VAT=£2231.33
GS 335	386DX 33MHz TOWER SYSTEM - 64K CACHE	8 Mb	16 Mb	●	8 6×16-bit 2×8-bit	50 MHz	386dx-33	AT Wonder+	512K RAM	256 Colours	256 Colours	16 Colours	—	—	—	£2099 +VAT=£2466.33	£2399 +VAT=£2818.83
GS 425	486DX 25MHz EISA TOWER SYSTEM - 8K CACHE	8 Mb	16 Mb	●	8 8×EISA	114 MHz	N/A	AT Wonder+	512K RAM	256 Colours	256 Colours	16 Colours	—	—	—	£3499 +VAT=£4111.33	£3799 +VAT=£4463.83

14" VGA MONITORS

MODEL N°	MONO/ COLOUR	DOT PITCH	VGA 31.5KHz	S-VGA 35.2KHz	E-VGA 35.5KHz	1 Yr On-Site	Tilt & Swivel	EXC VAT	INC VAT
GS 1405	MONO	N/A	640×480	800×600	—	●	●	£100	£117.50
GS 1425	COLOUR	.39mm	640×480	—	—	●	●	£200	£235.00
GS 1430	COLOUR	.31mm	640×480	—	—	●	●	£230	£270.25
GS 1460	COLOUR	.28mm	640×480	800×600	1024×768	●	●	£250	£293.75

OPTIONS

DESCRIPTION	EXC VAT	INC VAT
1Mb×9-bit SIMM Memory Board	£50	£58.75
287 -12MHz Maths Co-Processor - For GT 212	£100	£117.50
387sx-16MHz Maths Co-Processor - For GT 316	£85	£99.88
387sx-20MHz Maths Co-Processor - For GS 318	£100	£117.50

OPTIONS

DESCRIPTION	EXC VAT	INC VAT
387dx-20MHz Maths Co-Processor - For GS 320	£150	£176.25
387dx-25MHz Maths Co-Processor - For GS 347	£150	£176.25
387dx-33MHz Maths Co-Processor - For GS 335	£160	£188.00
337Mb SCSI Hard Disk Drive - 10.7ms Access	£999	£1173.83

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- ***FREE CATALOGUES:*** Will be mailed to you with offers and software/peripheral details.
- ***PAYMENT:*** By cash, cheque, all major credit cards, or extended payment plan.

Before you decide when to buy your new GoldStar PC, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals or software, or help and advice. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for over 12 years and, with our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest Free literature and begin to experience the "Silica Systems Service".

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Opening Hours: Mon-Sat 9.30am-6.00pm No Late Night Opening Fax No: 071-323 4737

LONDON SHOP: Selfridges (1st Floor), Oxford Street, London, W1A 1AB **Tel: 071-629 1234**
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Address: .....

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..... Postcode: .....

Tel (Home): ..... Tel (Work): .....

Company Name (if applicable): .....

Which computer(s), if any, do you own? 66B

E&OE - Advertised prices and specifications may change - Please return the coupon for the latest information.

NEXT MONTH IN PC REVIEW

This is only the beginning. We've got some fantastic things lined up for our December issue that we just can't keep to ourselves a moment longer.



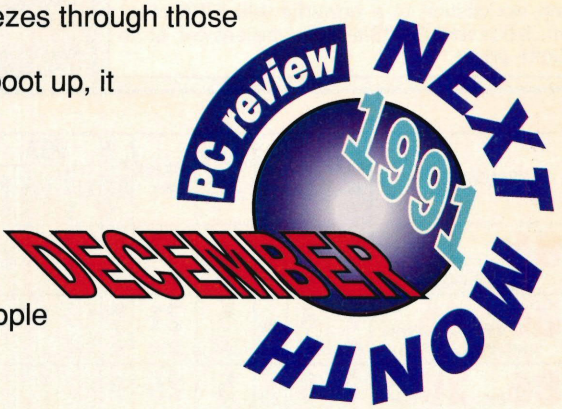
GAMING ON THE MOVE

With a laptop PC, you can fill in a spare half hour anytime, anywhere, with your favourite game of the moment. Or can you? What games will work on an LCD screen? How long will those batteries really last? Where can you put the mouse? Find out the truth in the great PC Review Laptop Roadtest.

WHAT IS THIS THING CALLED MS-DOS?

Why on earth...? might be a better question to ask about MS-DOS at times. But PC Review has a few tricks up its sleeve to simplify the process.

* How MS-DOS works, and why, sometimes, it doesn't.
* What the PC is actually doing when it grunts and wheezes through those interminable game installation procedures.
* How to configure your system so that every time you boot up, it tailors itself to your own preferences.



PC CHRISTMAS SHOPPING

Yes, it's *that* time of year again. We've got loads of ideas for everyone with a PC: the games you should be angling for; handy accessories to make life with your PC that bit easier; presents to buy for those 'difficult' people who seem to have everything already.

MORE REVIEWS

Exclusively yours: Patton Strikes Back is the latest game from Chris "Balance of Power" Crawford. MiG 29 Super Fulcrum, LeChuck's Revenge and Pitfighter are just some of the other biggies we've got lined up for a PC Review grilling.

YOUR TOP 50

The full rundown on how you voted for your favourite PC games.

MORE SHAREWARE

Another amazing selection of shareware from the PC Review Shareware Catalogue.

COVER DISK

Something for everyone here. Plus, the Gallery, a brand new disk section showcasing screens from games in development. Seeing is believing! Don't forget – PC Review is available in both 5.25" AND 3.5" cover disk versions.



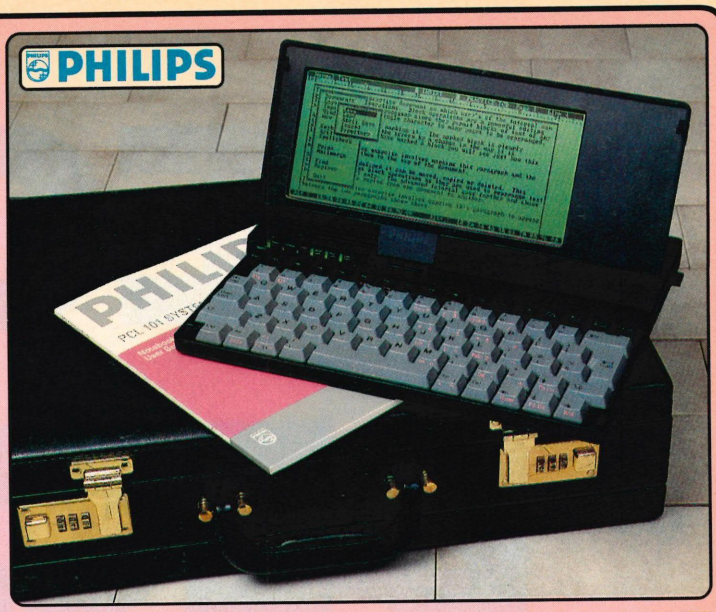
Plus: all the latest news, previews, CD-ROM software reviews, your queries answered, tips, tactics and solutions, competitions, and the Buyers' Guide. Don't know how we're going to fit all this in, but we will, we will.

THE DECEMBER ISSUE OF PC REVIEW WILL BE IN THE SHOPS ON NOVEMBER 15.
MISS IT, AND YOU'LL MISS OUT!

Contents may be subject to change.

PC XT NOTEBOOK

- **BUILT-IN CGA DISPLAY**
- **WEIGHS ONLY 3¾lbs**
- **3 HOUR BATTERY LIFE**
- **1 YEAR ON-SITE WARRANTY**



SPECIFICATIONS

- 80C86 10MHz PROCESSOR
- BUILT-IN 3½" 1.44Mb DISK DRIVE
- 1Mb RAM
- SOFTWARE - RESIDENT: MS-DOS 3.3 IN ROM
- SOFTWARE - SUPPLIED: GW-BASIC 3.22, MICROSOFT WORKS 2.0
- REAL-TIME BATTERY BACKED CLOCK
- 80 KEYS - EMULATING 101/102 KEY ENHANCED KEYBOARD
- HIGH CONTRAST LCD CGA DISPLAY
- RESOLUTION: 640×200 PIXELS
- SERIAL, PARALLEL & VIDEO PORTS
- LED INDICATORS FOR POWER, FLOPPY DISK & BATTERY LOW
- POWER - MAINS & BATTERY: 4 RECHARGEABLE NI-CAD CELLS. POWER MANAGEMENT GIVES APPROX 3 HOURS OPERATING TIME
- DIMENSIONS (W×D×H): 11"×8⅔"×1"
- WEIGHT: 3¾lbs
- OPTIONAL: ADDITIONAL RECHARGEABLE BATTERY PACKS

The super-compact Philips PCL 101 Notebook, takes up less surface area than an A4 page, weighs just 3¾lbs, is just over 1" thick, yet only costs £449+VAT. The PCL 101 is fast (10MHz CPU) with 1Mb RAM and a 1.44Mb, 3½" standard floppy disk drive.

The easy to read LCD CGA screen measures just 3½"×7½" and displays crisp, clear characters and sharp graphics at CGA resolution (640×200 pixels). The keyboard has 80 full size, full travel keys with 12 separate function keys, emulating a full-size industry standard keyboard.

Industry standard serial, parallel and external monitor ports, are all included. Power can be supplied from the mains via an auto-sensing, multi-voltage adaptor and charger, or by a Ni-Cad battery pack that snaps flush into the main body case. With its sophisticated power management, the battery lasts for about 3 hours (and takes 4 hours to recharge). The PCL 101 offers automatic audio 'battery low' warnings, to help ensure that you never lose any valuable data.

PACKAGE INCLUDES

- MS-DOS 3.3
- GW-Basic 3.22
- Microsoft Works 2.0
- PSU/Battery Charger
- Protective Pouch
- 1 Year On-Site Warranty

£449

REF: NBC 7101 +VAT = £527.58

286 + 386 PC AT NOTEBOOKS



- **BUILT-IN VGA DISPLAY**
- **20Mb HARD DRIVE**
- **6 HOUR BATTERY LIFE**
- **1Yr ON-SITE WARRANTY**
- **WINDOWS 3 + MOUSE**
- **TEXTURED CASING**

In stylish grey casing with a non-slip, textured finish and using the very latest technology, Commodore's 286-LT and 386sx-LT Notebooks are available from Silica at incredibly low prices.

Both models have a 20Mb hard disk, 1Mb RAM, expandable to 5Mb RAM using two 2Mb RAM cards, a 3½" 1.44Mb floppy disk drive and industry standard parallel and serial ports to allow connection to a wide range of printers, mice, modems and LAN adaptors.

Bright, backlit LCD screens display VGA graphics at 640×480 resolution, with a port to plug in a colour VGA monitor to show the graphics full potential.

These compact Notebooks weigh just over 5.9 lbs (7 lbs with battery) and measure 12¼"×10"×2". They can be powered from the mains, via the multi-voltage mains adaptor, or by their own batteries, which can be recharged while in use, or independently in approximately one hour. Commodore's Powersave feature increases battery life to up to 6 hours and, along with optional rechargeable battery packs, gives you continuous PC power on the move!

SPECIFICATIONS

	286	386
PROCESSOR	286	386sx
CLOCK SPEED	12MHz	16MHz
LANDMARK (MHz)	11.5	21
1Mb RAM EXPANDABLE TO 5Mb	●	●
2Mb RAM UPGRADE	£299	£299
20Mb 23ms HARD DISK DRIVE	●	●
VGA GRAPHICS - Res: 640×480	●	●
3½" 1.44Mb FLOPPY DISK DRIVE	●	●
PARALLEL, SERIAL & VGA PORTS	●	●
UP TO 6 HOURS BATTERY LIFE	●	●
1 YEAR ON-SITE WARRANTY	●	●
WINDOWS 3.0 + MOUSE	●	●
MS-DOS 4.01 + GW-BASIC	●	●
80387sx CO-PROCESSOR UPGRADE	—	£279

286 WITH 20Mb HDD

£999

+VAT = £1173.83

40Mb HARD DRIVE VERSION - £1199

386sx WITH 20Mb HDD

£1199

+VAT = £1408.83

40Mb HARD DRIVE VERSION - £1399

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- **FREE CATALOGUES:** Will be mailed to you with offers and software/peripheral details.
- **PAYMENT:** By cash, cheque and all major credit cards.

Before you decide when to buy your new Notebook computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Notebook, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for over 12 years and, with our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest FREE LITERATURE and begin to experience the "Silica Systems Service".

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Which computer(s), if any, do you own? 70A

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~~LEGAL~~

~~DECENT~~

~~HONEST~~

TRUTHFUL?

FLOOR 13

Murder... Torture... Corruption...
The Power behind the Democracy

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PC Buyers guide

If you're thinking of upgrading, adding some external peripherals, splashing out on utility software, or just boosting your collection of games, then you've come to the right place. Welcome to the PC Review buyers's guide, a new, regular section in which you'll find information, current prices, and contact numbers for just about anything you could ever want for your PC. The prices we give tend to be the manufacturers' suggested retail amounts: while the price of games is fixed, and you won't buy cheaper unless it's in a sale, this isn't true of hardware and some non-games software. Shopping around could yield some significant savings.

Because of the PC's open architecture, it's easy to expand the machine. Because of its international dominance as a computer standard, there are thousands of companies out here manufacturing, publishing and distributing products to complement and enhance the basic design. No matter how enormously powerful your machine seemed to be when you first bought, sooner or later you'll start thinking wistfully about extra memory, more disk space, perhaps a printer. So we've put our own sniffer dogs on the case to track down the best, the most well-known (and in a few cases, the most bizarre) of these products, and shoe-horned the results into the following 22 pages.

The guide has been organised by section. In each category, we aim to provide spot details on the nature and capabilities of each product, with a price, and contact number for the main supplier. In the games section, we've been a bit more brief, since you'll always be able to keep ahead of the rest where games are concerned in the body of PC Review. And for a little light relief, we've added a few of our own personal lists.

We can't claim that the guide in this issue alone is fully comprehensive. But you'll find that over the coming months, as we add new categories, expand (even contract in some cases, maybe) existing sections, and regularly update each list as new products come out, or prices change, that PC Review's buyers' guide will build up into a formidable reference library, ideal for anyone seriously planning a specific purchase, or just checking out what's available.

Happy browsing!

INDEX

Hardware

Memory upgrades	116
Hard cards	116
Hard disk drives	116
Graphics cards	117
Soundboards	117
Joysticks	118
Mice and trackballs	118
Modems	119
Dot matrix printers	119
Ink-jet printers	120
External drive	120
Hand scanners	121

Software

Graphics	121
Desktop publishing	121
Communications	122
Miscellaneous	122
Composing software	124
Anti-viral toolkits	124
Productivity	125

Ancillary

Suppliers	125
Portable computers	126
Maintenance and repair	127

Games

Flight sims	128
Arcade	130
Puzzles	132
Sports games	134
RPGs	135
Graphic adventures	136
Text adventures	137
Strategy games	138
God sims	139

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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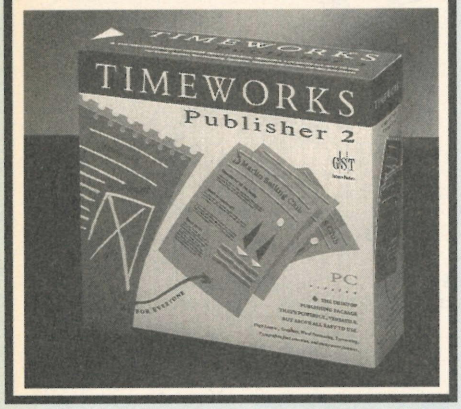
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PC hardware

INTERNAL UPGRADES
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 asthe 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.

Size/type	Price	Supplier	Comments
1Mb/card	£106	Memory Direct	For XT clones
2Mb/card	£147	Memory Direct	For XT clones
2Mb/card	£165	Memory Direct	For AT clones
2Mb/card	£250	Memory Direct	For AT clones (LIM 4)
4Mb/card	£340	Memory Direct	For AT clones (LIM 4)
2Mb/card	£252	Memory Solutions	For AT clones (LIM 4)
2Mb/card	£150	Memory Solutions	For XT clones (LIM 4)
4Mb/chip set	£160	Evesham	For Amstrad PC2286
16Mb/chip set	£815	Memory Direct	For Amstrad PC2386
640K/chip set	£30	Evesham	For Amstrad PC1512

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	Supplier	Size	Speed	Width on board
Datacard XL175	XT/AT	Time	30	60mS	1.5 slots
Datacard XL 270	XT/AT	Time	40	25mS	1.5 slots
Slimcard XL 293	XT/AT	Time	40	24mS	1 slot
Smartcard XL470	XT/AT	Time	100	19mS	1.5 slots
Nimbus 40 295	XT/AT	Spa Computers	40	na	1 slot
Nimbus 80 410	XT/AT	Spa Computers	80	na	1 slot
Nimbus 120 470	AT	Spa Computers	120	na	1 slot
32MbXT 199	XT	RSC	32	40mS	1.5 slots
45MbXT 235	XT	RSC	45	19mS	1 slot
45MbAT 235	AT	RSC	45	19mS	1 slot

HARD DRIVES

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	Supplier	Size	Speed	Price	Comment
ST325N	SCSI	Seagate	22Mb	28ms	£174	3.5" 1" high
ST351A/X	AT/XT	Seagate	42Mb	28ms	£168	3.5" 1" high

ST125A	IDE	Seagate	20Mb	28ms	£139	3.5" half height
ST157A	IDE	Seagate	44Mb	28ms	£129	3.5" half height
ST225	MFM	Seagate	21Mb	65ms	£139	5.25" half height
CP3024	IDE	Conner	21Mb	27ms	£179	3.5"
CP3044	IDE	Conner	42Mb	25ms	£198	3.5"
WD340A	IDE	W/D	40Mb	28ms	£139	
M2611	IDE	Fujitsu	45Mb	25ms	£159	3.5" half height
IMP52-ATLP	IDE	Quantum	52Mb	17ms	£199	9ms with cache

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.

Graphics adapters (various suppliers and typical pricing):

Type	Price	RAM	Size	Resolution	Colours
CGA	£46	64K	8 bit	320 x 200	4
EGA	£77	256K	8 bit	640 x 350	16
SVGA	£105	1Mb	8 bit	1024x768	256
SVGA	£324	1Mb	16 bit	1024x768	256
SVGA	£92	512K	16 bit	1024x768	16
SVGA-1	£117	1Mb	16 bit	1024x768	256
VGA	£118	1Mb	16 bit	1024x768	256
VGA	£82	256K	16 bit	640x 480	16
VGA	£82	256K	16 bit	800x600	16
VGA	£93	512K	16 bit	1024x768	16
MDA	SMC		mono		£35
VGA	SMC	256K	16 bit	800x600	£69
SVGA	SMC	512K	16 bit	1024x768	£79
SVGA-1	SMC	1Mb	16 bit	1024x768	£99

SOUNDBOARDS

Until recently, the best the PC could produce in the way of sound was 'beep'. Bu t 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 the most titles.

Name	Supplier	Contact.	Price
AdLib	Mindscape	0444 831761	£89.99

Comment Currently the most popular system, good trade-off between price and performance.

Name	Supplier	Contact.	Price
LAPC-1	Roland	0252 816181	£270?

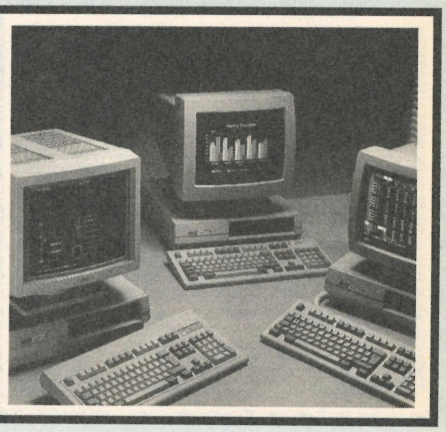
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BIRMINGHAM
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TEL : 021 633 3837



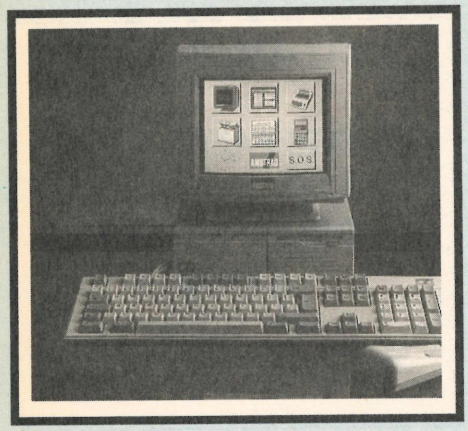


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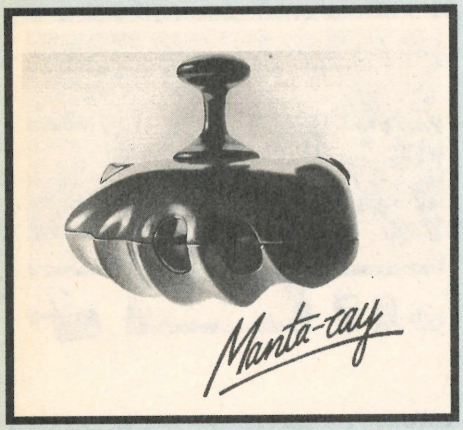
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Comment Superb sound quality probably priced out of the reach of many gameplayers. Non AdLib-compatible.

Name	Supplier	Contact.	Price
SoundBlaster	WestPoint Creative	0743 248590	£139.99?

Comment AdLib-compatible and capable of producing sampled sounds. Try it with Wing Commander 2 to hear what we mean!

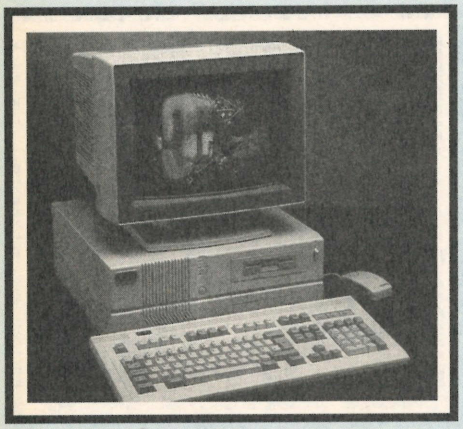


PC add ons

EXTERNAL UPGRADES 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 will give you a port for 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.

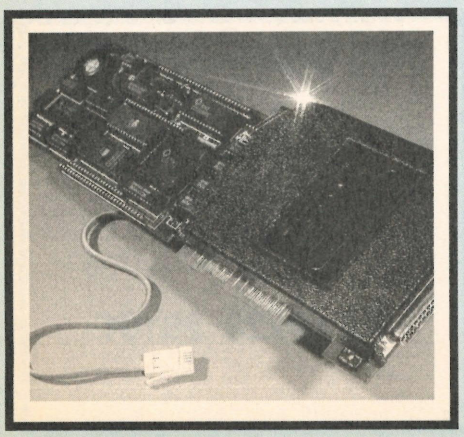
Product	Price	Supplier	Comments
Quickjoy M5	£17	Special Reserve	
Quickshot QS-120 games card	£13	Special Reserve	
Mousestick		Spectra Video	
Deltabase P	£35	Voltmace	Yoke joystick
Analog Edge	£30	Evesham	
Analog Xtra	£40	Evesham	



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.

Product	Price	Supplier	comments
AM-5 Plus	18	Watford Electronics	
GM-220P	18	Watford Electronics	
GM-D320	19	Watford Electronics	
GM-6000	22	Watford Electronics	
GM-F302	31	Watford Electronics	
GM-F303	38	Watford Electronics	
GM-W220	58	Watford Electronics	
GM-M330	69	Watford Electronics	
Truemouse	23	Evesham	
Mouseman	53	CYCA	
Cordless Mouseman	93	CYCA	uses radio technology
Trackman	69	CYCA	trackball
Contriver	30	Special Reserve	
Crystal mouse	38	Evesham	
Naksha mouse	25-40	Media Direct	
Cordless Truemouse	50	Evesham	



10 CD-ROM GAMES AVAILABLE NOW

1 King's Quest V (Sierra On-Line)
2 Space Quest IV (Sierra On-Line)
3 Leisure Suit Larry (Sierra On-Line)
4 Mixed Up Mother Goose (Sierra On-Line)
5 Stella 7 (Dynamix)
6 Jones in the Fast Lane (Sierra On-Line)
7 Defender of the Crown (Cinemaware)
8 Chessmaster 2000 (Software Toolworks)
8 Life and Death (Software Toolworks)
10 Bruce Lee Lives (Software Toolworks)

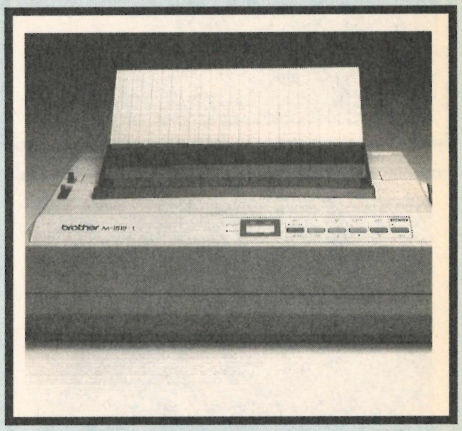
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MODEMS

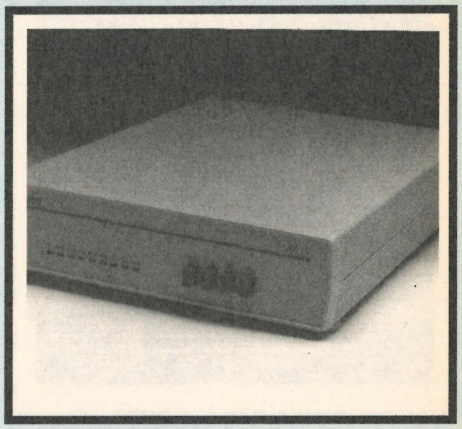
Get your PC to be more sociable. A modem will connect you to other PCs via the telephone lines, giving you access to bulletin boards, public database networks, multi-user games – or you can use it to send messages to friends.

Product	Manufacturer	Telephone
Biscom	Dataflex	081-543 6417
Comfax	Dataflex	081-543 6417
Courier 2400e Quad	Miracom	0473 233888
Hexacom	Dataflex	081-543 6417
Keycard 3000 V22	Miracom	0473 233888
Keycard 3000 V22 BIS	Miracom	0473 233888
Linnet	Pace	0274 488211
Linnet 1200	Pace	0274 488211
Linnet 2400	Pace	0274 488211
Linnet 2400 exec	Pace	0274 488211
MC2400	Amstrad	0277 228888
PC Professional	Dataflex	081-543 6417
Quadcom	Dataflex	081-543 6417
Stradcom	Dataflex	081-543 6417
WS4000	Miracom	0473 233888



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.

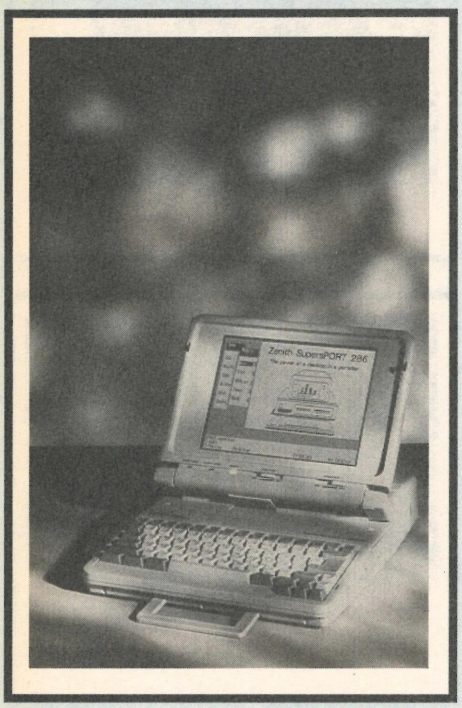


Company/model	Contact	Price	Speed	Buffer	Type
Amstrad DMP3160	0277 230322	£199?	160/40	16K	9-Pin
Brother M-1209	061 330 6531	£225?	168/35	2K	9-Pin
Citizen 124D	0895 72621	£249?	120/40	8-32K	24-Pin
Epson LX850	0800 289622	£229?	200/30	4-32K	9-Pin
Mannesmann Tally MT81	0734 788711	£159?	155/26	8K	9-Pin
NEC Pinwriter P20	081 993 8111	£299?	216/108	8-16K	24-Pin



DEALER DIRECTORY







Olivetti DM109	0908 690790	£219?	240/36	21K	9-Pin
Panasonic KX-P1180	0344 853496	£215?	192/38	2-K	9-Pin
Samsung SP 0930N	081 391 0168	£189?	300/50	3-11K	9-Pin
Seikosha SP2000	0753 685873	£199?	160/40	6K	9-Pin
Star LC-200	0494 471111	£259?	225/45	16K	9-Pin
Victor VP10D	0494 461600	£179?	175/30	None	9-Pin

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's 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/model	Contact	Price	Speed	Buffer
Canon BJ10E	081-773 3173	£345		
Hewlett-Packard ThinkJet	0344 369369	£449		
Hewlett-Packard QuietJet	0344 369369	£499		
Hewlett-Packard QuietJet+	0344 369369	£499		
Kodak Diconix M150 Plus	0442 61122	£395		
Kodak Diconix 150 Plus	0442 61122	£345		
Brother HJ100	061 330 6531	£345?	142/83	37K
Canon BJ300	081 773 3173	£595?	300/150	30-128K
Epson SQ850	0800 289622	£769?	600/198	8K
Hewlett-Packard DeskJet 500	0344 369369	£499?	240/120	16K
IBM 4072 ExecJet	081 747 0747	£739?	600/300	30K
Olivetti JP150	0908 690790	£339		
Mannesmann Tally MT91	0734 788711	£799?	220/110	32K
Olivetti JP350	0908 690790	£499?	360/120	8K

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.

Type	Price	Capacity	Suppliers	Comments
3.5"	£130	1.44Mb	Various	Not Amstrad
3.5"	£95	720K	Various	For PC 1512/1640
5.25"	£90	1.2Mb	Various	PC2000 except PC2086
5.25"	£50	360K	Various	For PC2000 series

HAND SCANNERS

Model	Price	Colours	Supplier
AG-256	£140	256 greys	Watford Electronics
Genius GS-B105G	£150	256 greys	Reeves
Genius GS4500	£80	na	Watford Electronics
AC-4096	£253	4096 colours	Watford Electronics
GSC-105	£239	256 colours	Reeves
Logitec Scanman 32	£107	32 greys	Logitech
Logitec Scanman 256	£192	256 greys	Logitech
Logitec Scanman Plus	£150	64 greys	Logitech
Marstek M-105	£160	64 greys	Reeves

PC software

GRAPHICS SOFTWARE

Product	Price	Supplier	Comments
VBase	£149	Highland Grafix	Full colour picture database.
Clip Art	£5	Cybernetic Imagination	Range of disks containg 30 images each in PCX or IMG format.
Deluxe Paint II Enhanced	£87	Electronic Arts	
Deluxe Paint Animator	£87	Electronic Arts	
Corel Draw		Corel	

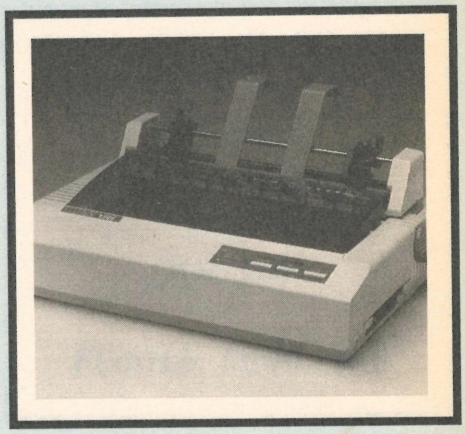
10 OFF-BEAT CD-ROM PACKAGES

1 About Cows (Quanta Press)
2 The Plant Doctor (Quanta Press)
3 Pest Bank (Silver Platter)
4 Olivia Erotica (Gazelle Technologies)
5 Seals of the US Government (Quanta Press)
6 Cancer on Disc 1988 (CMC Research)
7 Compact Library: Viral Hepatitis (Maxwell Electronic Publishing)
8 Journal of Trauma: 1985-1989 (CMC Research)
9 Obstetrics & Gynaecology (CMC Research)
10 Officer's Bookcase (Quanta)

DTP SOFTWARE

Page Plus	£137	Serif	Budget-priced page layout for Windows
Timeworks Lite	£35	GST	Simple DTP
Deskpress	£200	GST	Timeworks and more!
Pagemaker	na	Aldus	Advanced DTP
Ventura Publisher	£500	na	Advanced DTP

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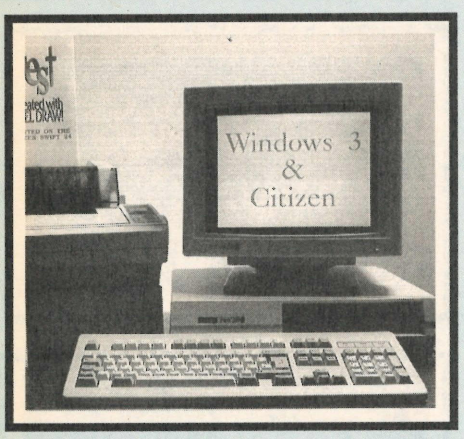


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THE COMPUTER SHOP

4 Friar Gate
Preston
Tel : 0772 201482

Timeworks DTP 2 original	£99	GST	Improved version of the budget system

COMMS SOFTWARE

Title	Price	Supplier	Comments
Chit-Chat	£67	Various	
Crosstalk (Wins3)	£69	Various	
Eazlink	Shareware	Various	Try before you buy!
Mirror 3	£125	Various	Has Teletext emlation
PC Anywhere 3	£100	Various	
Procomm Plus	Shareware	Various	Very powerful system

MISCELLANEOUS UTILITIES

Product	Price	Supplier	Comments
Autoroute Express	£52	NextBase	First-rate route planning software
Coursemaster	£25	Intraset	Betting aid for flat & jump racing.
DOS Tutor		Toolworks	Learn DOS easily
Eight in One Gold	£98	Longman Logotron	Integrated WP, spellchecker, outliner, spreadsheet, database
Flexibak Plus	£30	Nildram	Hard disk backup utility
Framework IV	£390	Ashton-Tate	One of the better integrated systems
LogoLink	£29	Locomotive	Transfer files PCW-PC
Microtext Adaptor	£171	Microtext	Half card adding Teletext to your PC
Mini Office Personal	£25	Europress	Database, wp, spreadsheet, label printer and comms
Money Manager	£50	Connect Software	Household finance
PC Tools 7	na	Central Point	Collection of powerful utilties for everyone
PC2 Teletext	£150	Microboss	External Teletext adaptor w. software
Printing Press	£39	Power Up	Make letterheads, posters etc
ProBook	£45	BBHW	Database & address book
Scoredraw	£72	RDN	Comparative analysis system for football result prediction.
Trackmaster	£20	Intraset	Greyhound racing tipster.
Xtree Easy	£50	Softsel	DOS File manager

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4D Sports Driving	21.99	LINKS	28.99
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A10 Tank Killer	28.49	Loom	24.99
Advanced Pest Sim	18.99	Lord of the Rings	21.99
Arachnophobia	18.99	M1 Tank Platoon	28.99
Back to the Future 3	18.99	Magic Candle	22.49
Bards Tale Cons Kit	Call	Magic Candle 2	Call
Bards Tale 3	21.99	Macarther War	21.99
BAT	21.99	Manchester United	18.99
Battle Brit - Finest Hour	24.99	Manchester Utd-Europe	Call
Battlechess	21.99	Manhunter 2	24.99
Battlechess " Windows"	19.99	Mario Andretti Racing	21.99
Battlechess 2	21.99	Martian Dreams	28.49
Betrayal	24.99	Medieval Lords	21.49
Bill & Ted Ex Adv	21.99	Megafortress	25.49
Bridge Player 2156	21.99	Megatraveller	24.99
Buck Rogers	24.99	Megatraveller 2	Call
Cadaver	Call	Metal Mutant	18.99
Captive	Call	Midwinter	24.99
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Cardinal of the Kremlin	12.99	MIG 29 Superfulcrum	29.99
Castles	24.99	Might and Magic 2	21.99
Centrefold Squares	15.99	Might and Magic 3	Call
Champion of the Raj	18.99	Monty Python	18.99
Champions of Krynn	21.99	Moonshine Racers	21.99
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Chips Challenge	21.99	Nightshift	21.99
Chuck Yeager Air Combat	24.99	Operation Stealth	21.99
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Colossos Chess X	18.99	Planets Edge	Call
Command HQ	28.99	Police Quest 2	28.99
Conflict Middle East	24.99	Pools of Radiance	21.99
Conquests of the Longbow	Call	Predator 2	18.99
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Crime wave	21.99	Prince of Persia	21.99
Cruise for a Corpse	22.99	Puzznic	21.49
Crystals of Arbores	18.99	Quest for Glory 2	Call
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Deluxe Strip Poker	15.99	Rse of the Dragon	28.99
Demoniak	21.99	Risk	18.99
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Draggons Lair 2	31.99	Rorkes Drift	18.99
Draken	24.99	Rules of Engagement	24.99
E-Motion	18.99	Sarakon	Call
Elite Plus	28.99	Savage Empire	24.99
Elvira	28.99	Scrabble Deluxe	18.99
Eye of the Beholder	21.99	Secret of Monkey Island	21.99
F14 Tomcat	25.49	Secret of Silver Blades	21.99
F15 Strike Eagle 2	24.99	Secret Weap of Luffwaffe	28.99
Desert Storm Disk	12.99	Shadow Sorceror	Call
F19 Stealth Fighter	28.99	Silent service 2	24.99
F29 Retaliator	24.99	Silpheed	18.99
Falcon 3	Call	Sim Ant	Call
Flight Sim V4	38.99	Sim City/Populous	24.99
Floor 13	Call	Sim Earth	28.99
Gateway to Spy Frontier	31.99	Sorceror get the Girls	21.99
Gods	Call	Space Quest 1 or 2	24.99
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Golden Axe	31.99	Space Quest 4	28.99
Hard Driving 2	21.99	Speedball 2	Call
Heart of China	28.99	Stellar 2	18.99
Hoyles book of games 2	18.99	Strike Commander	Call
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Jack Nichlaus Courses	12.99	Teenage Mutant N Turtles	21.49
Jahangir Khan Squash	18.99	Turbo Outrun	21.99
Jetfighter 2	28.99	TV Sports Boxing	Call
Joe Montana	24.99	TV Sports asketball	24.99
Keys of maramon	23.99	Typhoon of Steel	21.99
Kick Off 2	18.99	UMS 2	28.99
Kings Quest IV	28.99	Ultima 4	24.99
Kings Quest V EGA/VGA	28.99	Ultima VII	Call
Kings Quest V 256 VGA	33.99	Vaxine	21.99
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Leis Suit Larry (New VGA)	29.99	Wing Commander	24.99
Leis Suit Larry 2	28.99	Missions	12.49
Leis Suit Larry 3	28.99	Wing Commander 2	28.99
Leis Suit Larry 5	Call	Speech Acc Pack	12.99
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Planetfall	9.49
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SGI	7.49
Sherman M4	7.49
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Sinbad	9.49
Sorceror	9.49
Speedball	9.49
Starflight	10.49
Strikeforce Harrier	9.49
Stryx	9.49
Three Stooges	9.49
Tnderblade	7.49
Toobin	7.49
TurboCup Chall	4.99
Wishbringer	8.99
World Class Leaderboard	6.99
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Xenon 2 Megablast	9.49
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Soundblaster Soundboard	119.99
Soundblaster (PS/2)	184.99
Adlib Soundboard	84.49
Visual Composer (Adlib)	109.99
Analog Edge J/S	17.49
Analog Extra J/S	28.49
Analog Plus J/S	23.99
Comp Pro PC Pack + SW	44.99
Comp Pro PC Pack No S/W	28.99
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Game Port 2 Plus Joycard	19.49
Game Port 2 & Edge J/S	11.99
Quick Shot Warrior J/S	11.99
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Big Box	24.99
Challengers	21.99
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Full Blast	21.99
Lucasfilm Ltd Edition	21.99
Magnetic Scrolls	Call
PC Gold Hits	19.99
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Virtual Reality 2	22.99
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Megatraveller 2	25.99
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SPJunior	£139	Computer Music Systems	Music package
Sequencer plus Junior	£55	Computer Music Systems	64 track sequencer
Sequencer Plus Classic	£165	Computer Music Systems	500 track sequencer
Cadenza	£169	Digital Music	Sequencer with graphic editing.
The Musicator	£314	Digital Music	Notation based sequencer
The Composer's Pen	£125	Composit Software	

10 TOP FLIGHT SIMS

1 Wing Commander 2 (Origin)
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5 Red Baron (Dynamix)
6 F-15 Strike Eagle II (Microprose)
7 F-117A Stealth Fighter (Microprose)
8 Gunship 2000 (Microprose)
9 Flight Simulator 4 (Microsoft)
10 Jet Fighter 2 (Velocity)

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Product	Price	Supplier
VIS Anti-Virus Utilities		Total Control

Fast three stage protection with upgrades

Dr Solomon's Anti-Virus Toolkit	£59	S&S International

£99 for 4 quarterly upgrades; £275 upgrades,plus 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)	£27	Sybex

Includes 5.25" disk:. what, how, why of viruses luding simulated ones on disk for quick recognition. Also disaster plans and industrial sabotage.

The Computer Virus Handbook (Richard B Levin)	£23	Osborne McGraw-Hill

Lots of advice and short programs to avoid the dreaded virus attack. Covers hard disks too

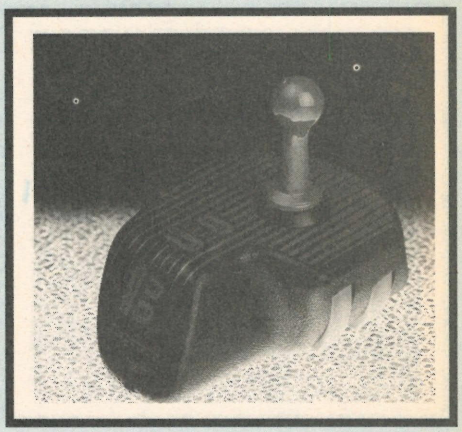
PC Immunise II	£40	SA Software

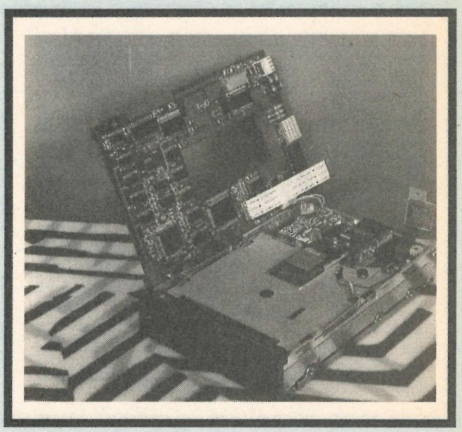
Protects hard and floppy disks and files with three levels of detection and help screens.

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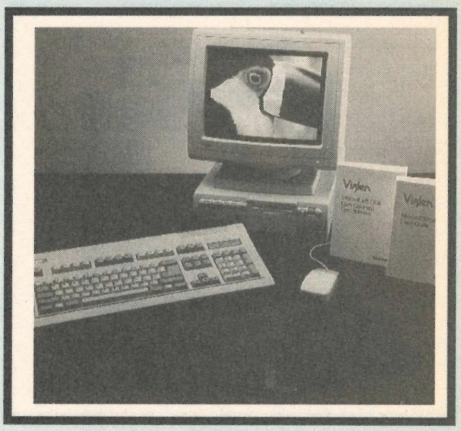
Product	Price	Supplier	Telephone
DOS Tutor		Toolworks	0444 831761
Timeworks			
Publisher 2	£159	GST	0480 496789
Autoroute Express	£49.95	NextBase	0784 460077
Money Manager	£49.95	Connect Software	081 743 9792
Page Plus	£99+vat	Serif	0473 225941





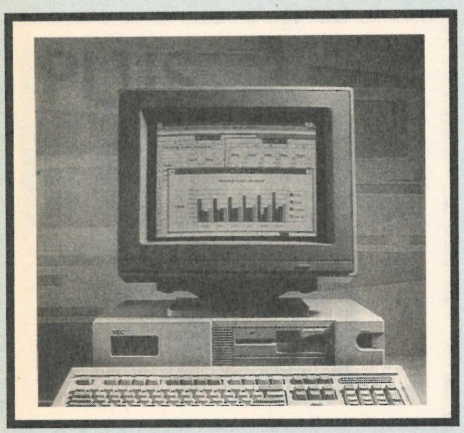
PC suppliers

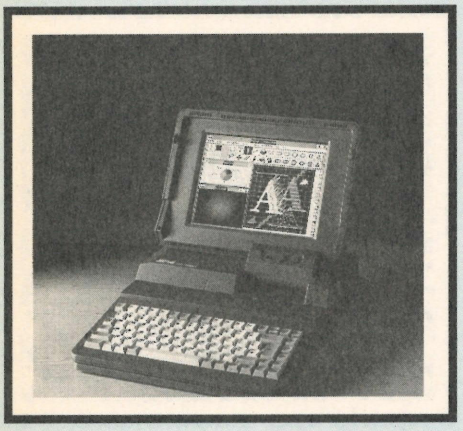
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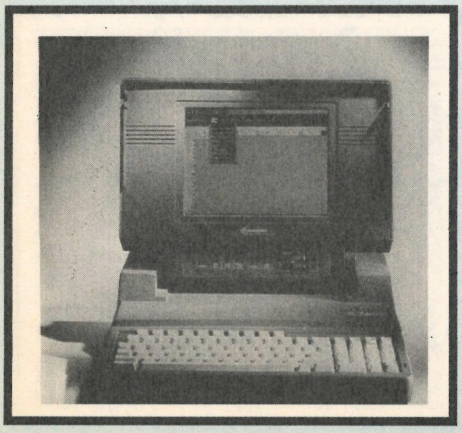


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Naksha	0925 56398
Newstar International	0245 265017
NextBase Ltd	0784 460007
Olivetti	0908 690790
Pace	0274 488211
Penny & Giles	0202 481751
Precision Software	081 330 7166
Psion	071 262 5580
SA Software	081 998 2351
Samsung	081-391 0168
Seikosha	0753 685873
Serif (Europe) Ltd	0602 421502

10 TOP FLIGHT SIMS

1 Wing Commander 2 (Origin)
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6 F-15 Strike Eagle II (Microprose)
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Shareware Marketng	0297 24088
Sharp	061 205 2333
Suncom UK	0453 753565
Symantec	0628 776343
Tandon	0527 550550
Tandy UK	0922 710000
Triumph Adler	0206 845251

PORTABLES (prices ex-VAT)

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	Contact	Price	Speed	Disk size	RAM	Screen	Slots	Weight	Size
Amstrad ACL-386SX	0277 230222	£3,999	20MHz	120Mb	4Mb				

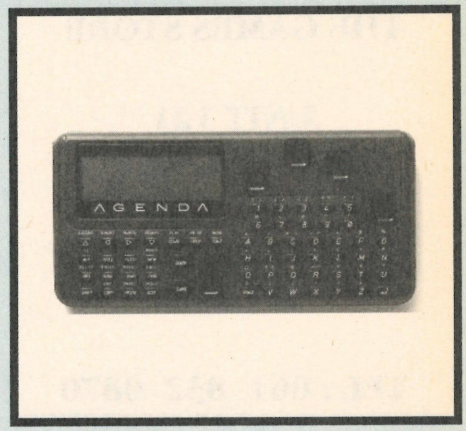
VGA LCD	Yes	8.0Kg	320x400x113	
Compaq SLT 386S/20	081 332 3000	£4,195	20MHz 60Mb	2Mb
VGA LCD	Yes	6.4Kg	106x343x216	
Dell System 320LT	0800 414535	£1,999	20MHz 20Mb	1Mb
VGA LCD	Optional	6.8Kg	318x89x360	
Epson AX 3/33	0800 289622	£5,999	33MHz 80Mb	4Mb
VGA LCD	Optional	7.8Kg	360x325x110	
NECProspeed 286	0800 181368	£3,145	16MHz 40Mb	1Mb
VGA LCD	No	6.8Kg	330x376x89	
Olivetti A12	0908 690790	£1,199	12MHz 20Mb	1Mb
CGA LCD	No	2.95Kg	297x210x52	
Panasonic CF-270	0344 853496	£2,195	16MHz 20Mb	1Mb
VGA LCD	No	3.1Kg	310x245x44	
Philips PCL101	081 689 4444	£799	10MHz No	1Mb
CGA LCD	No	1.6Kg	220x280x28	
Samsung 386S/16	081 391 0168	£2,220	16MHz 60Mb	1Mb
VGA LCD	Yes	3.2Kg	297x213x51	
Sanyo MBC-17NB	0923 246363	£1,495	12.5MHz	20Mb
VGA LCD	No	3.2Kg	310x255x52	1Mb
Sharp PC-8501	061 205 2333	£7,995	20MHz 100Mb	2Mb
VGA LCD	No	6.9Kg	318x399x94	
Tandy 1500HD	0922 710000	£1,300	10MHz 20Mb	1Mb
CGA LCD	No	2.7Kg	309x254x43	
Toshiba T3100SX	0932 841600	£3,850	16MHz 40Mb	1Mb
VGA PLASMA	Optional	6.8Kg	360x310x80	
Zenith Supersport SX	0268 668588	£2,795	16MHz 40Mb	1Mb
VGA LCD	No	7.7Kg	380x310x85	

MAINTAINENCE AND REPAIR

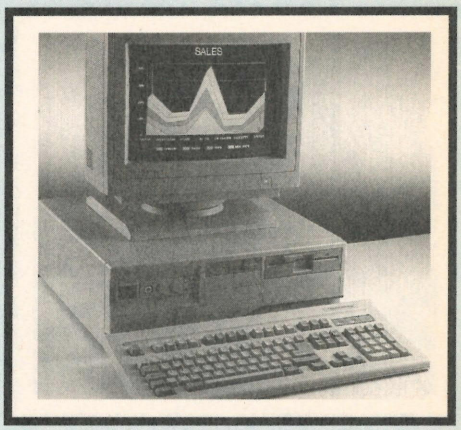
A variant of Parkinson's Law states that your computer probably won't go wrong while you still have that 12-month, on-site warranty intact. Once it expires, that's when the machine will start playing up. below we list some of the companies which will come to your rescue.

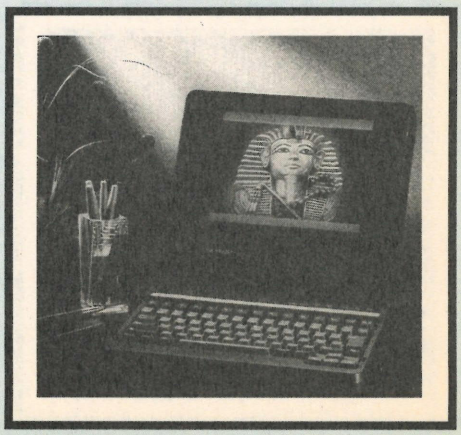
Product	Price	Supplier	Telephone	Comments
ACL Computers				
Data Recovery Service	Cost varies	na	na	081 341 3329
AEM	10-12% value	5 years	24-48 hours	0684 850505
FMG	up to 470 PA	5 years	Next day	0733 317304
Kalamazoo	8-12% of value	5 years	8 hours	021-411 2266
Newbury Data	6-12% of value	Flexible	8 hours	0784 461500
Response	8-11% of value	Flexible	8 hours	081-965 3225

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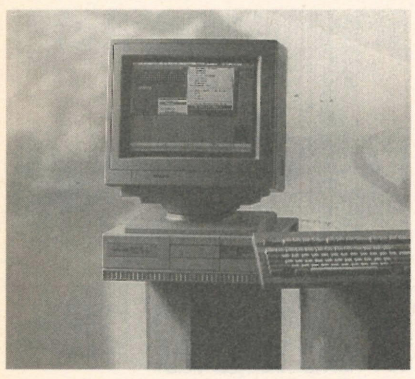
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PC games

Title **Publisher** **Contact** **Price**
Minimum recommended hardware specification
Comment

FLIGHT SIMULATIONS

Chuck Yeager's Air Combat Electronic Arts 0753 549442 £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 0666 504326 £39.99
VGA
This space simulation has, frankly, never been bettered. No wonder Microprose preferred to upgrade the presentation instead of completely reworking the game.

F-15 Strike Eagle II Microprose 0666 504326 £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 0666 504326 £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 061 832 6633 £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 0734 500741 £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 0666 504326 £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 021 625 3366 £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 0753 549442 £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 0734 303322 £39.99
16MHz, Hard Drive, VGA /Sierra On-Line
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 021 625 3366 £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 071 928 1454 £9.99
EGA, Mouse /Mirror Image
Similar gameplay to the old Star Wars arcade machine from Atari but with far superior solid-3D graphics. Fine value.

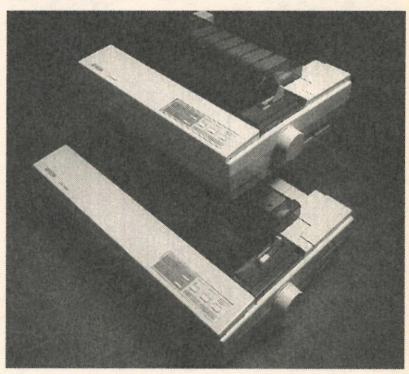
Their Finest Hour: Battle of Britain Lucasfilm Games /US Gold 021 625 3366 £39.99
16MHz, Hard Drive, Joystick
Relive the trials and turmoil of the bleak summer of 1940. Atmospheric simulation of the crucial air war between the RAF and Luftwaffe.

Wing Commander 2 Origin/Mindscape 0444 831545 £39.99
16MHz, Hard Drive (uses 21 megabytes), DOS 5.0, Expanded Memory,

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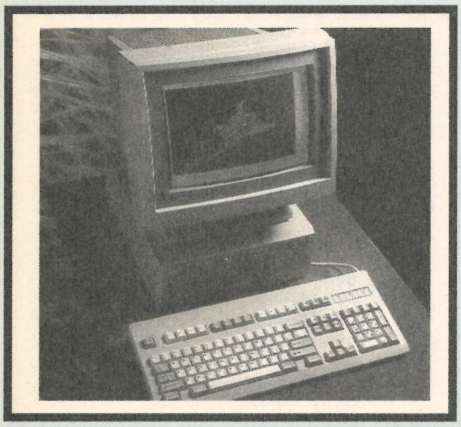
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VGA, Joystick, Soundblaster

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!

ARCADE GAMES

Battletech II Activision 010 331 49109995 £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 0666 504326 £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 081 752 0260 £24.99

EGA /Active Sales

Amusing and 'educational' Do-It-Yourself dinosaur construction kit. How long will your creation survive in the wild? Full of fun and facts.

Golden Axe Virgin Games 081 960 2255 £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 071 928 1454 £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 071 928 1454 £35.75

EGA

Programmers pay homage to the black&white B-movie Them! about giant mutant ants invading Los Angeles. Nice graphics.

Life and Death II Software Toolworks 0444 831545 £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 0666 504326 £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.

Prince of Persia Broderbund 081 780 2222 £30.64
Joystick /Domark
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 0666 504326 £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...

BEST GAMES BEGINNING WITH S

1 Secret of Monkey Island (Lucasfilm Games)
2 Savage Empire (Origin)
3 SimCity (Maxis)
4 Secret Weapons of the Luftwaffe (Lucasfilm Games)
5 Speedball 2 (Imageworks)
6 Stunt Car Racer (Microprose)
7 Silent Service II (Microprose)
8 Sentinel (Firebird)
9 Space Quest IV (Sierra On-Line)
10 Shanghai II (Activision)

Team Yankee Empire 0268 541126 £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.

Virus Firebird/Microprose 0666 504326 £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.

Xenon 2 Imageworks 071 928 1454 £9.99
16MHz, Joystick
A fast blaster that looks good and really tests your reflexes. Excellent value for money, too.

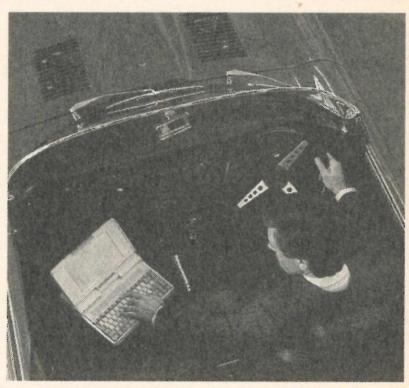
PUZZLE GAMES

Lemmings Psygnosis 051 709 5755 £34.99
Mouse
Original and addictive, the surprise hit of 1991. Organise the pathetic little

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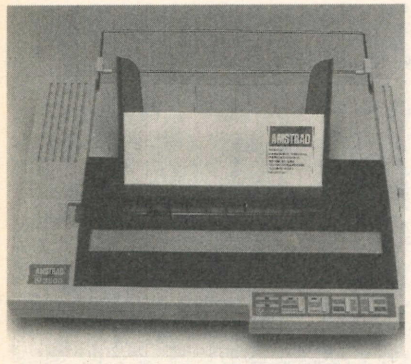
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BIZARRE SOFTWARE

1 Life and Death II: The Brain (Software Toolworks)
2 Leather Goddesses of Phobos (Infocom)
3 Barbie Print Palace (Hi Tech Expressions)
4 Designasaurus (Designware)
5 Visions (Lifestyle Software Group)
6 Designasaurus II (Designware)
7 Amazing Ollie (Storm)
8 Ollie Octopus' Sketchpad (Storm)
9 Super Mario Bros. Print World (Hi Tech Expressions)
10 Beetlejuice Print Kit (Hi Tech Expressions)

death-wish creatures through increasingly difficult levels of brain-teasing traps.

Klax Domark 081 780 2222 £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 0268 541126 £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 071 738 8199 £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.

BOARD GAMES

Battlechess Interplay /Electronic Arts 0753 549442 £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, Leisure Genius 081 960 2255 £24.99
Risk, Diplomacy
These four successful board-games cost £24.99 each.
Obviously, not everybody's cup of tea.

Laptop Chess Software Toolworks 0444 831545 £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 010331 49109995 £35.99

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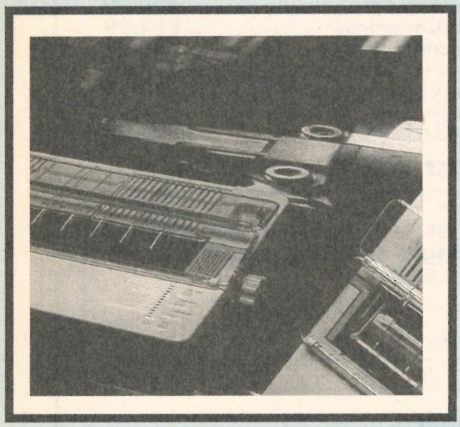
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Might and Magic III New World Computing/US Gold 021 625 3366 £40.99

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After the success of Ultima VI and Eye of the Beholder, everybody is improving the audio visual presentation of their role-playing games. Hurrah!

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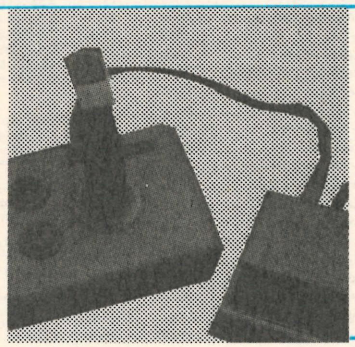
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PCR 11 / 91

Introducing PC review shareware

Although shareware has been in existence for several years, many PC users are unclear as to exactly what it is.

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 rating out of ten, based on two criteria:

1. How well does it perform the task?

2. How easy is it to use, particularly in terms of getting started, easily understood documentation and help files?

Each review identifies the name of the program, author and registration fee where known.

In popular fields there are often many different programs available to cover a particular function. In these cases the standards are very high and consequently the rating is high. 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 in the PC Review Shareware Catalogue may be obtained from one source - Advantage, which is a well-established shareware mail order company, based in Cheltenham.

PC Review readers can order their disks directly from Advantage either by phone, fax or post and can expect fast delivery. Advantage will also provide technical support.

As a special offer to PC Review readers, Advantage is offering a 25% discount on its regular prices. Please use the order form at the end of this section.

PC system requirements

There are so many varieties of PCs and versions of the DOS operating system around today that we cannot guarantee that 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 of your other work as well.

A code is placed by each program if it requires 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

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.

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

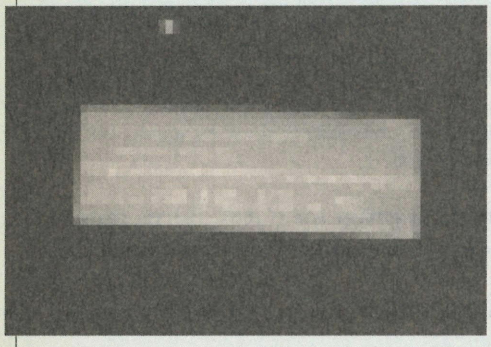
SHAREWARE REVIEWS

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.

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 and is simple to use, with menu-selection of all options. These include a permanent on-screen clock with alarm facility, calendar, notepad/text editor and appointments diary.

PC-Deskteam allows you to use your computer as an electronic typewriter for printing out, say an address on an envelope whilst 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 disks, formatting disks, etc. The latter is particularly useful if, in the middle of a great database update, you realise you haven't any formatted disks on which to save your work!

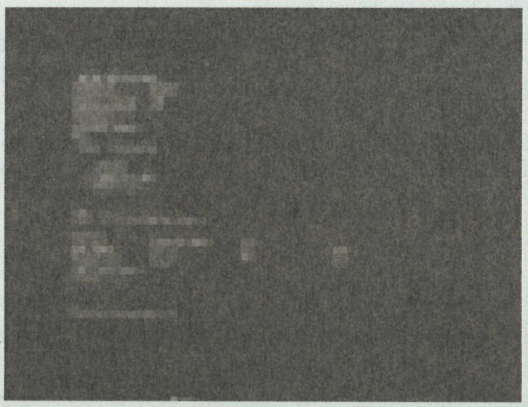
Resicalc (one disk)
Author: SoftTech Inc.
Registration: £?
Performance: 7/10
Ease of
Use: 5/10

Most desktop programs offer a simple arithmetic calculator, but those who require something more powerful should use Resicalc. It operates on the same memory-resident principle ie it will remain in the background until you press the appropriate key when it will pop up on your screen ready to use.

Resicalc is capable of running multiple calculations on a matrix principle but, if you want to just run one calculation at a time, that's fine. It offers all conceivable scientific functions that you would find on the most expensive hand-held machines including the use of variables in equations.

It may take some time to learn and appreciate the full capabilities of Resicalc because it is capable of advancedmathematics.

Expressions are entered as you would write on a paper, ending with a carriage return. You should see the result immediately. You can also define a frequently used expressions as a function.



Resicalc is a subset of more powerful Matrix Calculator, whose capabilities includes linear programming calculations, solution of system of linear and non-linear equations, numerical integration and solution of ordinary differential equations, and 160-plus page manual.

Stocks and Shares

Noyes Investment Ledger (one disk)
Author: James Noyes (UK)
Registration: £18
Performance: 7/10
Ease Of use 7/10

The author has produced an investment program which is fairly easy to use. It is assumed that you have been using manual records so far and know a little about book keeping.

Data is entered on to a main input form on the screen. Once you have mastered this part of the program, the various reports will keep a good control over your investment portfolio.

The author is an accountant who has spent many years sorting out manual and computerised accounting problems and is therefore well suited to creating a program which is appropriate to the task without confusing the user with jargon and complex setting up procedures.

The Investment Ledger features analyses of purchase and sales of investments, calculates the profit and losses and analyses cash payments and receipts.

There is also a bank reconciliation facility, memorandum database, and several reporting functions.

It can handle up to 99 cash/bank accounts, 999 nominal ledger headings and a maximum value of posting currency of £100

million which should prove more than enough for most investors!

Home Finance

Checkmate Plus (two disks) Author: Custom Technologies Registration: £15.00 Performance: 8/10 Ease of Use: 7/10

One of the most popular uses of a home computer is in the control and monitoring of domestic finances. These can range from a straightforward 12 month breakdown of incoming and outgoing monies through to a mini-accounts package offering detailed analyses and reports.

Checkmate Plus falls more in the latter category, however. It is sufficiently well-presented and well-documented to be used in any simpler application. You don't have to make use of the more advanced features initially or at all. The strength is that the more powerful features are there to be used as you gain confidence and explore the potential of the program.

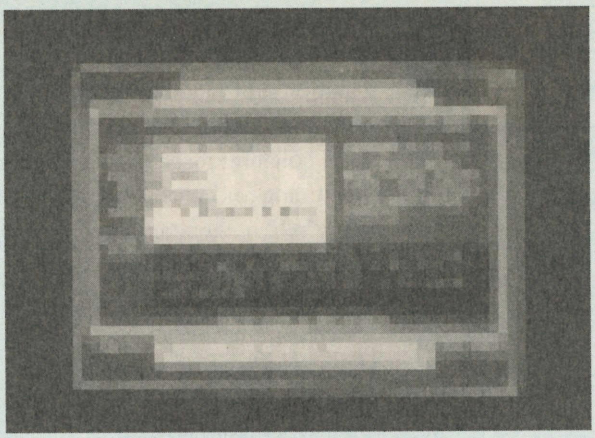
CheckMate Plus is a full-featured, easy to use, chequebook-based accounting package. It is a **real accounting** package, with **real double-entry** transactions. You can produce true balance sheets and income statements as well as numerous budgeting and graphical reports.

CheckMate Plus is intuitive, easy to use, and has extensive on-line help. To use the more sophisticated features you will need the user's guide to fully exploit its power.

CheckMate Plus comes with a disk-based introductory user's guide to aid you in evaluation. This is quite large.

Home Video (two disks) Author: Jeff Thorness Registration: £20.00 Performance: 7/10 Ease of Use: 7/10

This program was written very much from a user's point of view. The author is a film fanatic



and he found that there really isn't much software available to help keep track of the video films that were filling his library of tapes. Most lacked the features that he needed so he set about developing his own program - hence Home Video.

The program has an attractive user-interface with windows and selector bars. All menu items can be selected via the arrow keys and the user can abort any process simply by pressing the Esc key. Other keys that can be used throughout are the Ins key (to add something) the Del key (to eliminate something) the page-up key (to move up a page) and the page-down key (to move down a page).

From the main menu you have the following options:

Master listing - This is a vast listing of many of the popular films that are currently available on tape. Only a small portion of the list is included with the shareware version but the entire list will be sent to registered users.

Film types - This is a list of different types such as drama, comedy, etc.

Tape contents - This is the actual tape contents of your personal library. It includes information such as starting position, ending position, and quality of the recording.

Film listing by cast - This option allows you to list films that have a certain cast member, for example you could list all the films that Eddie Murphy is in.

Reports - This brings up a menu with various reports that you can print, including a personal library list sorted by title, personal library list sorted by tape number, and master film list sorted by title.

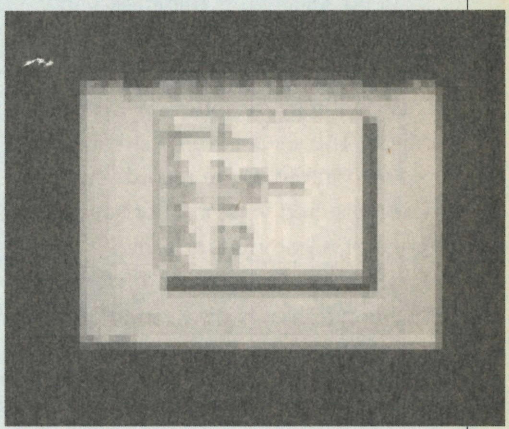
Librarian: Book Collecting (one disk) Author: Peter Richards (UK) Registration: £39.95 Performance: 8/10 Ease of Use: 8/10

Whilst there are many database 'shells' on the market which allow you to design and build your own database manager, many users, particularly newcomers to the PC would prefer it if someone else had done the work for them.

The UK author had the new user in mind when he designed Book Collecting. Most people collect books and, of course a bookshop or small library would put a program such as this to good use.

Computers are ideal for storing and manipulating information.

With Book Collecting, you can record titles, authors, dates names, and



other appropriate information.

Menu selection is minimised and data entry is a simple case of filling in a form on the screen. Once the data is entered it may be sorted, searched and edited. The shareware version offers a report printout of the records entered. The registered version offers a wider range of reporting functions.

Music Maestro (one disk) Author: Peter Richards (UK) Registration: £19.95

Customised Databases

Performance: 7/10 Ease of Use: 8/10

Written by the same author as for Book Collector, above, this is a database shell or template to help you to catalogue your music collection.

The author had the new user in mind when he designed Music Maestro. Most people have a collection of music records - whether they be on vinyl LP, compact disc or tape. As the collection grows it can be a great help to catalogue them all in a methodical way, entering information such as title, artist, duration, date issued, date purchased, location, etc.

Taking the typical requirements the author has designed Music Maestro, ensuring at all times that the program is simple and easy to use.

Menu selection is minimised and data entry is a simple case of filling in a form on the screen. Once the data is entered it may be sorted, searched and edited. The shareware version offers a report printout of the records entered. The registered version offers a wider range of reporting functions.

NB: Music Maestro can be found on this month's cover disk - so try it out for yourself! Also see page 106 for details of the program and how to load it into your system.

Hobbies - Genealogy

Gene Genie (two disks)
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 collating research 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, ie, it offers more space for text descriptions of each subject but it does not produce graphic family tree pictures.

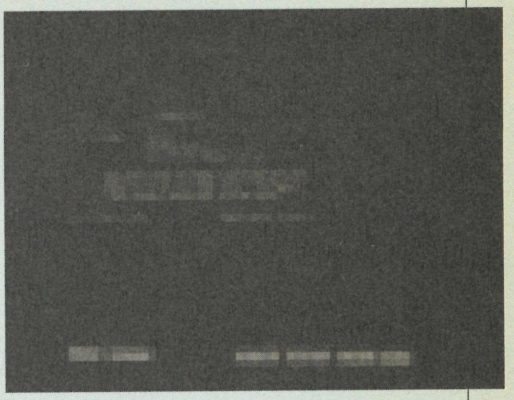
Gene Genie includes facilities to enter in all the standard genealogical details of the family: a unique record number, surname, forenames, maiden name (if applicable), sex, identity of father, identity of mother, date and place of birth, date and place of baptism, date and place of marriage(s), date 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 disk to help newcomers to this popular hobby. The shareware version limits the number of entries.

Food and Drink

Bartender (one disk) [pic]
Publisher: Dinosaur
Distributors Registration: £15 Performance: 7/10 Ease of Use: 8/10



One of the distinctive 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 that you hear about and see listed in bars at extortionate prices. Now you can see exactly what's supposed to go in them and how to mix them yourself.

Bartender is driven from on-screen menus and selection is via the function keys. You can search for a drink recipe, see the inventory section and examine definitions.

You can search the recipe files for all drinks for just cocktails (drinks that contain alcohol); just mocktails (no alcohol); or you can add a drink to the recipe file.

You can 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 (eg, Brandy Alexander, Flying Grasshopper, Gin Buck, etc) or ingredient (gin, scotch, tequila, etc), any recipe whose name or ingredient list contains what you enter will be identified as a match. For example, if you search by name and just enter the letter F to search, over 30 drinks will be identified ranging from a Fog Cutter to a Southern Freeze.

An interesting and useful program - for the price of a cocktail!

Managing Your Food (one disk)

Author: G. Aakhus Registration: ? Performance: 8/10 Ease of Use:7/10

Managing Your Food is designed for food manufacturers, restaurant managers, dietitians, diabetics, and the home shopper.

It's easy enough for the novice, yet comprehensive enough for a professional dietitian.

The program will track cost, protein, carbohydrates, fat, calories, cholesterol, fatty acids, fiber, vitamins, minerals, food exchanges, and percent RDA.

It can output a shopping list arranged by store and aisle and deduct the quantity from the inventory. The cost and nutritional information, by serving, is automatically figured for each recipe, meal or plan as it is added or updated.

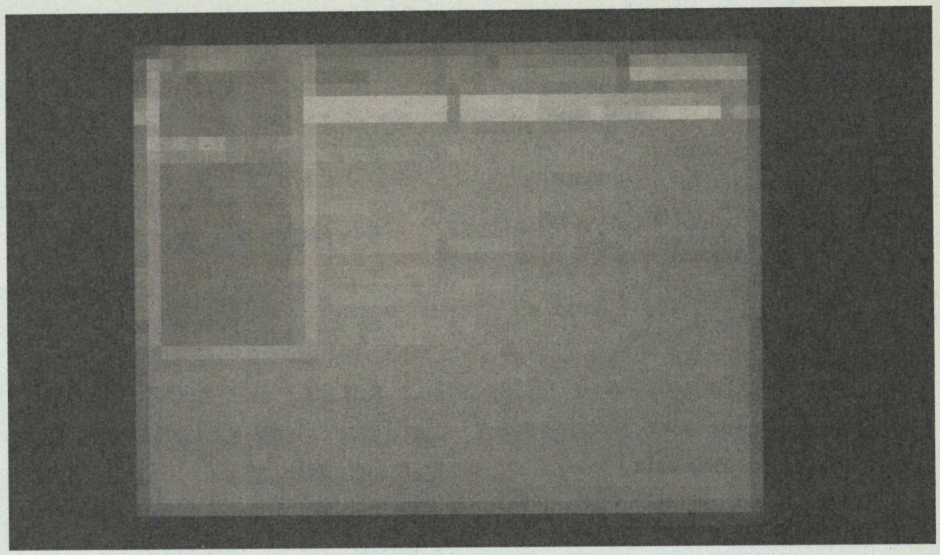
Although Managing Your Food comes with recipes and ingredients, which are yours to use, it is easily extended and designed to manage your food using your recipes. Additional ingredients, recipes, meals, or plans may be added, and any existing information may be easily modified. It comes with complete documentation, on line help, pull-down menus, and tutorial.

Edna's Cook Book (one disk) Author: Specialty Microware Registration: £29.00 Performance: 7/10 Ease of Use: 8/10

Edna's Cook Book is for recording, filing, listing, and printing recipes. Essentially, it is the equivalent of the cookbook in which you now keep all your recipes, except that it is electronic.

The program may also be used in the preparation of cook books for publication, since it facilitates organisation and printing.

If you can type, you no longer have to deal with disorganised slips of paper and clippings thrown together in a



drawer or box, only to be frustrated when you can't find that particular recipe that you remember you had, except you can't remember where it is, or what the precise name of it is.

Edna's Cook Book will take care of the tedious part, so you can get on with the real work - good cooking.

The only thing we are not told is who Edna is!

Sports & Betting

PC-Sport (one disk) Author: Geoffrey C Monkley (Australia) Registration: ? Performance: 6/10 Ease of Use: 6/10

PC-Sport is designed to aid a sports club secretary to computerise competition definition and for performing competition draws for the fixture book. It is capable of presenting the information on-screen or in the form of printed reports.

Initial definitions and amendments are performed on a screen template with full editing facilities and allow for the use of a macro to copy the team names from one grade to the next to save keystrokes.

Amendment at any time after performing the initial draw provides the option of preserving the draw as far as practicable even with a new sort of team names. This will allow late changes to the competition program to be included speedily with minimal alterations to the existing draw. It will also allow the same template to be used for following seasons by providing the facility to delete all results and to accept amendments.

The fixture book module provides for a standard draw which provides for alternating home and away fixtures as far as possible and for evening out the order of games to give each team an approximately equal number of appearances in any particular time slot. Allocation of teams to a particular template 'number' can be random, same as previous grade, or user specified as desired.

The maximum number of teams is 16.

Football Forecast (one disk) Author: W A Hunter Registration: ? 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 of the home and away teams for every fixture.

Fixed odds: estimates odds for all possible results. Input bookies' odds and know your payout.

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 introduce 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.

Cricket Scorers (one disk)
Author: Neil Burns (UK)
Registration: £29.50
Performance: 8/10
Ease of Use: 8/10

Cricket Scorers has been developed specifically to enable all cricket enthusiasts to produce neat reports and analyses of a teams performance over the season.

Details of each match played are entered into the program straight from the scorebook. The program then automatically compiles the bowling and batting averages and a complete history of the season's performance for each player.

The listings produced are suitable for pinning on the club notice board or for submission to the local press.

Additional features include strike rate and economy rate averages.

Early Learning

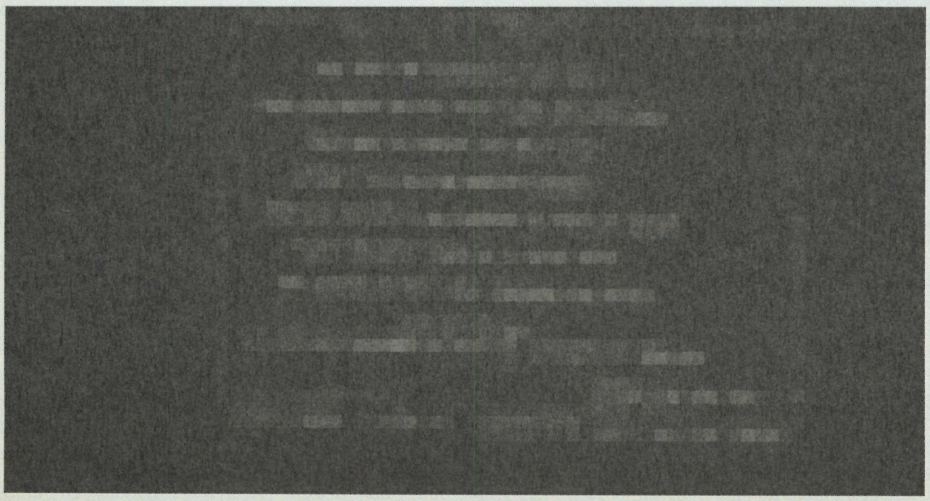
Amy's First Primer (one disk) Requires CGA
Author: Rob Robinson
Registration: ?
Performance: 9/10 Ease of Use: 9/10

It makes sense to get youngsters used to computers at an early age. They don't suffer from the same techno-fear that adults do and of course they enjoy pushing keys and seeing things happen on the screen.

This disk 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 that 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 border 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 years.

Teach Your Children (one disk)
Author: Motes Educational Software.
Registration: £29.00
Performance: 9/10
Ease of Use: 9/10

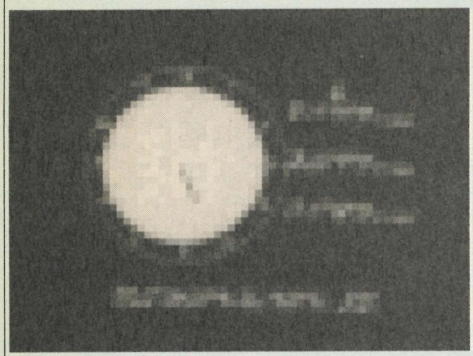
Teach Your Children is an educational tool for children of all ages. Its main options are music, art, spelling, English, maths, exams, and time. Each main section has several sub-sections providing a wide range of subjects and teaching methods which all aim to make the learning process more fun.

There is also a separate program for parents and teachers for making additions and changes to the data files.

Art has five options: draw, spider webs, space tunnels, space worms, and space ribbons. Each encourages drawing, coloring, freehand or structured. Mouse support is available.

Spelling has five options - alphabet, random words, new spelling homework, last spelling homework, and old spelling homework.

Music Composition has three options. You can use these sub-options to compose and play tunes. Note that in all three Music sub-options, only the



treble staff is shown; therefore,only octave three.

English has four levels. In the first level you are taught about nouns, verbs, adjectives, and adverbs. The second level develops skill in forming sentences by asking you to unscramble sentences. The third level teaches you about the five basic sentence patterns and the fourth level teaches subject-verb agreement.

Maths is divided into six options. These are Laser Blast, Bug Numbers, Applespider, addition and subtraction, multiplication and division, and pre-algebra math (sic - remember this is a US-originated program).

Exams: This module has three options. These are 'make exam', 'take exam', and 'see scores'.

Time has four learning levels. In each level a clock is shown on the screen and you must choose the correct time from a list of three answers. Choose an answer by using the appropriate arrow key to get the red arrow directly over the correct choice, then press Enter. When the correct answer is chosen, a tune will be played if sound is on, points will be added to the score, and the digital time will be displayed below the clock.

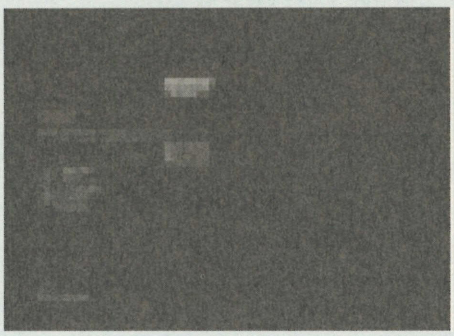
Exploring

Exploring Your IQ (one disk) Author: Various. Public Domain Performance: 6/10 Ease of Use:8/10

Computers are quite good at selecting questions and setting little problems for you to do. This suite of programs gives you the opportunity to boggle your braincells with a varied collection of items all based on the themes used for IQ tests.

These include number sequences, eg, what's the next number in the series 1, 3, 6, 10 ..., memory tester, antonyms, synonyms, analogies, anagrams and a novel game called Hexadecipals.

Although these programs are quite old by computer standards (about 1985!) they still offer a reasonable combination ofentertainment and education.



Exploring Music (one disk) Author: Various Performance: 7/10 Ease of Use: 7/10

The sound facilities for IBM compatible machines is definitely not brilliant. Unlike the newer 16-bit machines designed more for family use with multi-channel stereo synthesiser chips and all, no-one back in 1982 really thought there was any point in putting in anything more sophisticated than a single channel 'beep' function. However programmers are not ones to be beaten and it is really quite amazing what they can get out of this relatively crude sound system.

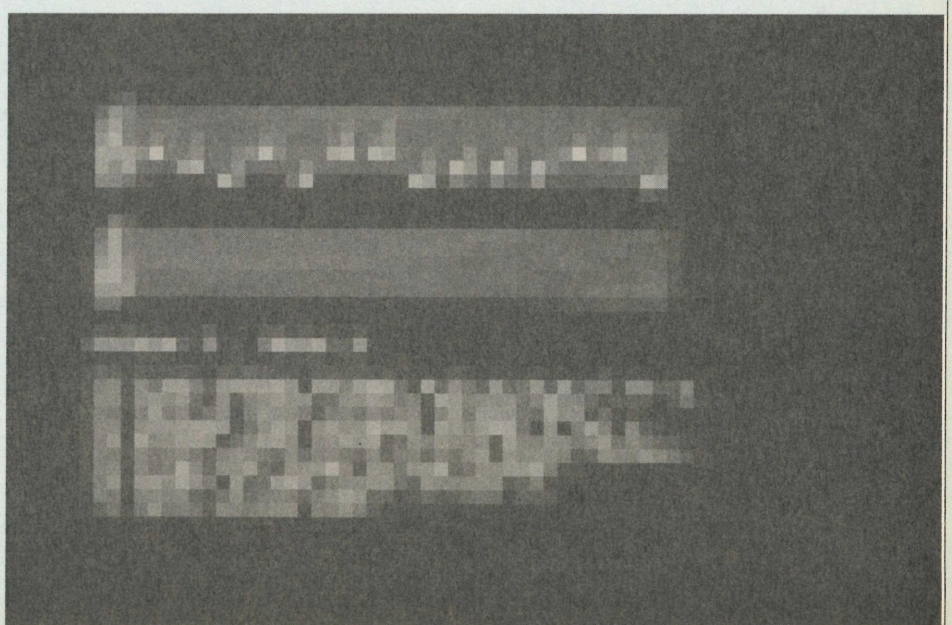
Exploring Music contains several programs by different authors which use the sound facility to demonstrate and teach elements of music in a practical way.

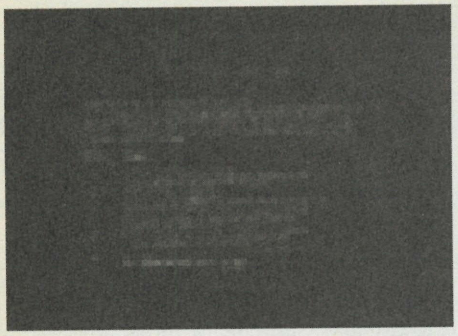
Player Piano looks a bit like the mechanical piano roll and offers an assortment of ready-to-run tunes, Composer allows you to write your own tunes using an on-screen stave. It has a save and load feature. There is even a program which manages to produce polyphonic music. ie a pseudo multi-channel effect. Over 70 songs are supplied on the disk.

Using The Computer

PC-Tutor (one disk) [pic] 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 disk, deleting files, copying files, taking back ups and formatting blank disks.

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 that 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.

DOS Summary (one disk)
Computer Tyme
Registration: £0 (freeware)
Performance: 7/10 Ease of Use: 8/10

A good companion to the PC-Tutor and from the same author. There is no registration fee - the program is yours for the price of the shareware copy.

For anyone who is likely to use more than one or two DOS commands this program is invaluable.

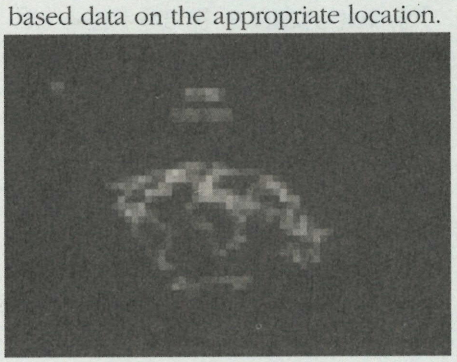
When starting DOS Summary you have the option of accessing either an alphabetical menu of DOS commands or a menu where commands are grouped by function.

A second way of accessing a command is by starting the program with a command name as a parameter. DOS Summary will find the closest match to the command you entered - so exact spelling is not necessary. Only DOS commands are in this version; batch commands and CONFIG.SYS commands are not. Support is given up through DOS version 4.01.

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 on–screen 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 latitude and longitude
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 three is selected by pressing the Enter key. The largest area is one and the most detailed is five. Scale five will show you the names of all world capitals and any locations you have.

Whilst the graphics are fairly crude, this program has plenty of information and facilities and is a good introduction to world geography.

MapMaker (one disk)
Performance: 8/10 Ease of Use: 6/10

This program is not really designed for the casual user and is sophisticated enough for professionals and educationalists. The shareware version includes data for the continental USA

MapMaker produces two common forms of quantitative maps; Choropleth (Area Coloring) and Graduated Circle, on an IBM PC colour monitor, and if desired, in black and white on a matrix printer.

Any set of statistical values may be displayed for corresponding geographical areas. Map areas must be comprised of bounded units such as states, counties, census tracts, or areas delineated by the user. On any given map, only one variable is shown for each map unit.

Choropleth maps display statistical variables by using a sequence of colours (maximum of three). Circle maps represent data with proportionately-sized circles. Proper usage of both map forms is discussed in detail later in the manual. MapMaker

can also save and later recall screen images without going through the create process.

Directions and suggestions are provided on the screen throughout the program and it is possible for users who have little or no experience in mapping to produce maps. In order to produce statistically meaningful and visually effective displays, however, users should read the manual thoroughly prior to creating maps.

Given the appropriate data sets, MapMaker has a great variety of applications, including scientific research, governmental planning, business and education.

If hard copy is needed, maps can be printed in monochrome on matrix printers, or slides may be taken directly from the color screen.

Drawing and Painting

PC Draft II (2 disks) Author: Natural Software Registration: £50.00 Performance: 9/10 Ease of Use: 7/10

PC-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 IBM's color graphic adaptor high resolution graphics mode (640 x 200 dots per screen). Such a drawing will more than fill an 8.5 x 11" 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 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.

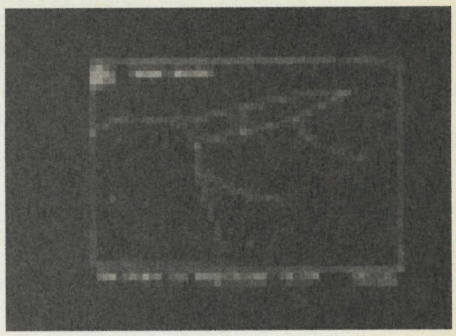
Paint by Numbers (one disk) Author: Compass Systems Performance: 7/10 Ease of Use: 9/10

One thing most children enjoy is colouring in pictures. Now here's a way for them to do it that's not only enjoyable for them but also avoids the mess of paintpots and pencil shavings.

The program only runs on EGA/VGA screens but this is the only way the authors can get the resolution, dither the colors, and produce the type of animation.

Paint by Numbers comes with a selection of line drawings on-disk ready for colouring in. Neither this version or the registered version allows you to save a picture.

The 'select a picture' screen allows you to preview what page you want. The two action buttons, certain keyboard function keys and (if the keyboard is selected as the input device) the arrow keys, Home, End, Pgup, and Pgdn are active. These will move the cursor around and colour the picture. At random intervals, the program will either play a song or



perform a bit of animation.

A source of entertainment for the children for an afternoon and well-produced, but probably lacking in sustained interest.

Astronomy

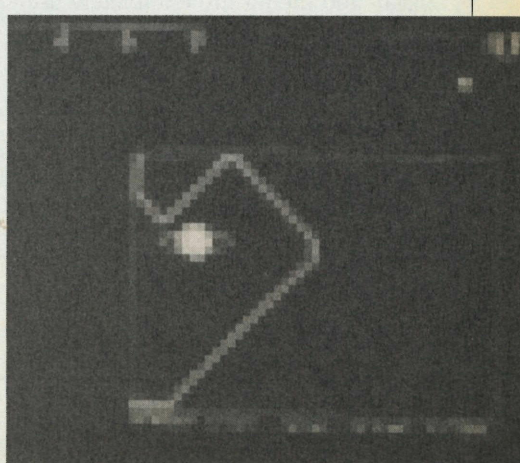
The Night Sky (four disks) Author: A C Stevely Registration: £24.95 Performance: 8/10 Ease of Use: 8/10

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 The Night Sky, 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.

For anyone interested in the subject and for serious astronomers this program is a must.

Menu Systems

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-directory 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, 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.

File and Disk 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.

Programming Tutorials

C and 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. Whilst not the easiest to understand initially due to its 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 disks, the first is full of text files containing the tutorial which takes you from beginner through to intermediate level. The second disk contains a collection of source code examples to study and compile.

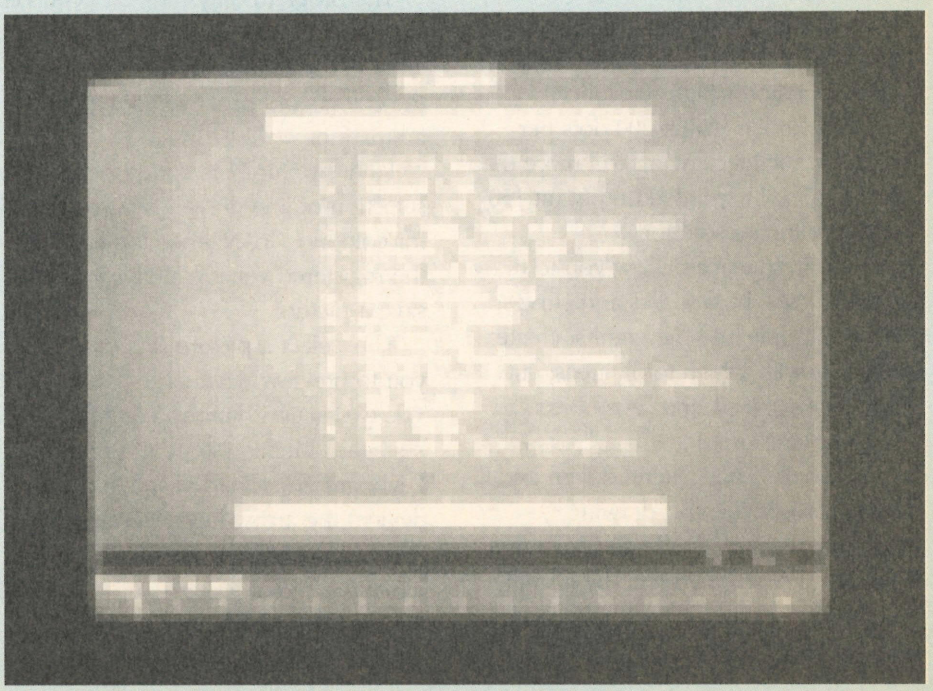
The author recommends the use of Turbo C, Power C or Microsoft C, if you want to try the examples out.

Board Games

Power Chess (one disk) Author: H Heiss 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 very many versions of the game through the years ranging from text based ones with no bopard graphics at all through to arcade action



commercial games like Battle Chess where the pieces literally fight it out.

PowerChess 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 lasrt 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 disk. the pieces are moved using the arrow keys and a cursor. Power Chews runs on all types of display and adjusts itself accordingly. It is also available in several languages.

PC-Scrabble Author: Chris Hall Registration: £20.00 Peformance 8/10 Ease of Use: 8/10

Here is a very good computer game based on the famous board game. The author has cleverly managed to get the board representation clear enough on any type of display ranging from mono through to VGA, by using the extended IBM character set for blocks and corners and careful use of colours (or tones of grey on mono).

The game follows the original fairly well but of course, because you are playing against the computer you have to be honest and not make up words with your weird assortment of letters, declaring them to be valid when challenged by your computer opponent.

The disk comes with a reasonably extensive dictionary but the chances are you will want to build it up. This you can do while playing, any word deemed to be valid can be added to the dictionary.

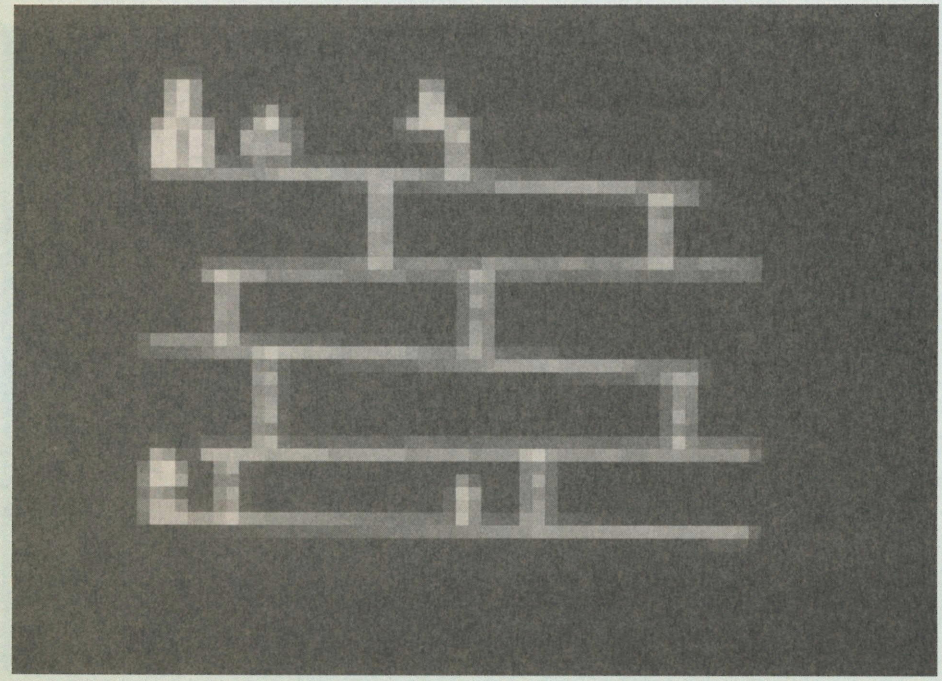
This disk also has room for an alternative game which can be played between two players though really you might as well use the proper board in this case. It will only work on AT 286 computers or upwards.

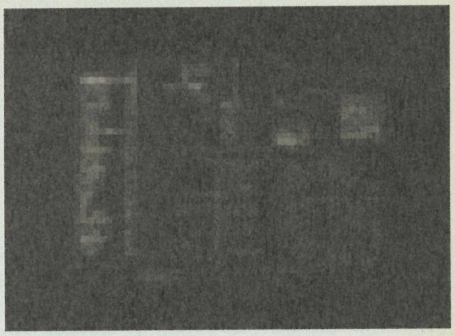
Sports Simulations

Grand Prix Author: Wizard Games (UK) registration £12.00 Performance: 8/10 Ease of Use 8/10

This game is very well thought out and involves the player in all the different aspects of motor racing:

1: get a good driver - choice of 50 available





2: make a good car

3: treat your staff well - hire and fire as appropriate

4: notice what other teams are doing

5: heed your chief mechanic and designer

The game is split into two sections. During the close season you have to attend to your finances to enable you to construct a competetive car.

The various engines available are Judd, Ford Cosworth, Honda, Renault and Ferrari. Ferrari engines are used exclusively by the Ferrari team, but any of the others can be bought at the prices listed. It is up to you to diskover whether cost has anything to do with efficiency.

Next comes the qualifying section. Qualifying occurs before every race. It determines the grid positions and the unfortunate handful who are too slow to get into the race itself. To qualify you must finish in the top 26.

Finally, the race. The top six cars are constantly visible in the top left of the screen. The top right contains a lap counter and a few race statistics. The middle of the screen is reserved for important information received during the course of the race: e.g. weather conditions, pit stops, cars pulling out of the race. The bottom of the screen contains uptodate information on your driver(s).

Soccer Game (one disk) Author: Wizard Games (UK) Registration: £12.00 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. Whilst 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.

Soccer Game uses a database of 1,270 players, 100 teams, 100 treasurers, 100 scouts, 100 physiotherapists, 100 managers, 100 assistant managers.

Quiz Games

Trivia Quiz (one disk)
Requires CGA Performance: 6/10 Ease Of Use 9/10
Registration: None

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 that there are several Trivia type 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 that you score points by entering correct asnswers to wide assortment of multi-choice questions.

There are five categories altogether and game play is quite fast, particularly on 286 computers.

Wheel of Misfortune (one disk)
Registration: £15.00
Performance: 7/10
Ease of use 9/10

I expect you have watched the game on TV - either the original one which started in the USA back in the 60's or the British equivalent. Well, inevitably programmers have had a go at writing computer based versions of the game.

This disk contains two of the best versions of the game based on the presentation, neat gameplay and overall quality. One of them is designed for mono or CGA users, the other is for EGA. Understandably, the EGA version has better graphics and makes quite good use of them but graphics are not necessarily a key part to this type of game.

In case you did not know, the principle of the game is to guess a well known phrase or saying contained in a series of blank boxes. You spin the wheel and can either buy letters or answer a question. Correct answers are rewarded by either a vowel or consonant. When you think you know the answer you must wait until the wheel points to the appropriate option. Success yields points of course.

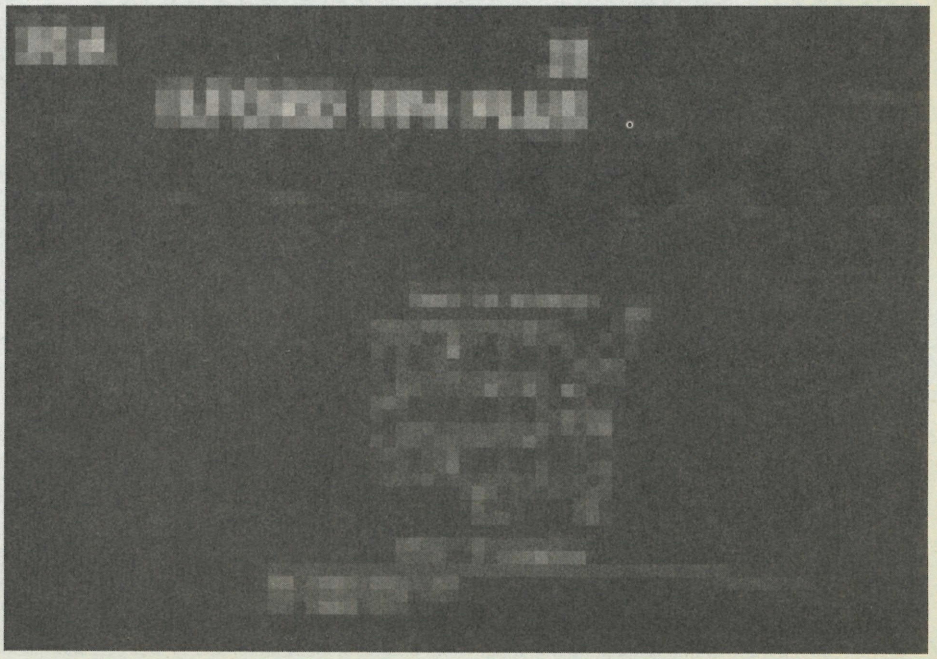
The standard of both games is reasonably good and the game would be suitable for families of up to six players, age ranging from, say, eight years up.

Card Games

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 roonm on it for two different bridge simulations each has its relative strengths but both offer a practical soultion to the need to practice on your own.

BridgePal 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 BridgePal 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.

So now you can brush up your bridge playing without embarrassment!

Arcade Games

Pinball Wizard (one disk) Requires CGA Public Domain Performance: 6/10 Ease of Use: 8/10

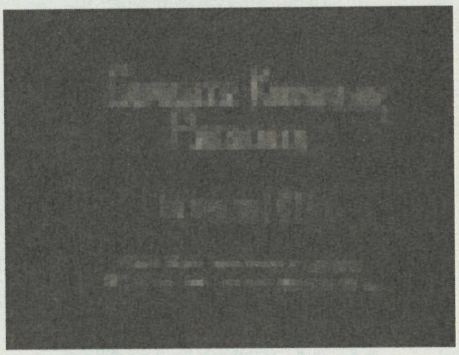
A few years ago there was a commercial program called the Pinball Construction Kit. It could be used to design all sorts of different pinball game simulations including all the standard features such as springs, rubber wheels, booby traps etc.

This disk contains five different Pintables designed this way. Each is sufficiently different to present new and interesting challenges. The scrolling of the ball is very smooth and the movements around the pintable look realistic.

There is a neat scoring system which allows for individual or team play. The only disadvantage of this set is the miserable old IBM standard three-colour graphics.

If you can't get enough of this sort of thing, there are two other disks in the series, each containing five more games - Pinball Fanatic and Pinball Madness.

Moraff's Superblast (one disk) Author: Moraffware Registration: £35.00 for complete set of games Performance: 8/10



Ease of Use: 9/10

There have been many games based on the original Breakout theme where your task is to bounce a ball at a wall using a simple 'paddle', chipping away at the bricks until you get to the other side - but none of them is in the same class as Moraff's Superblast.

This one has so many new features that it brings a whole new life to the theme. The action is fast but not so fast that the game is unplayable (and it can be adjusted) but interest is sustained by the fact that each time a screen is completed a totally new and very different one comes up.

The variety of objects is also quite wide, some break up, some explode into a myriad of more balls, some bounce off, some make your paddle bigger, others make it smaller, others are one-way only.

The program has been cleverly designed to work on all types of monitors and adjusts the resolution and graphics accordingly.

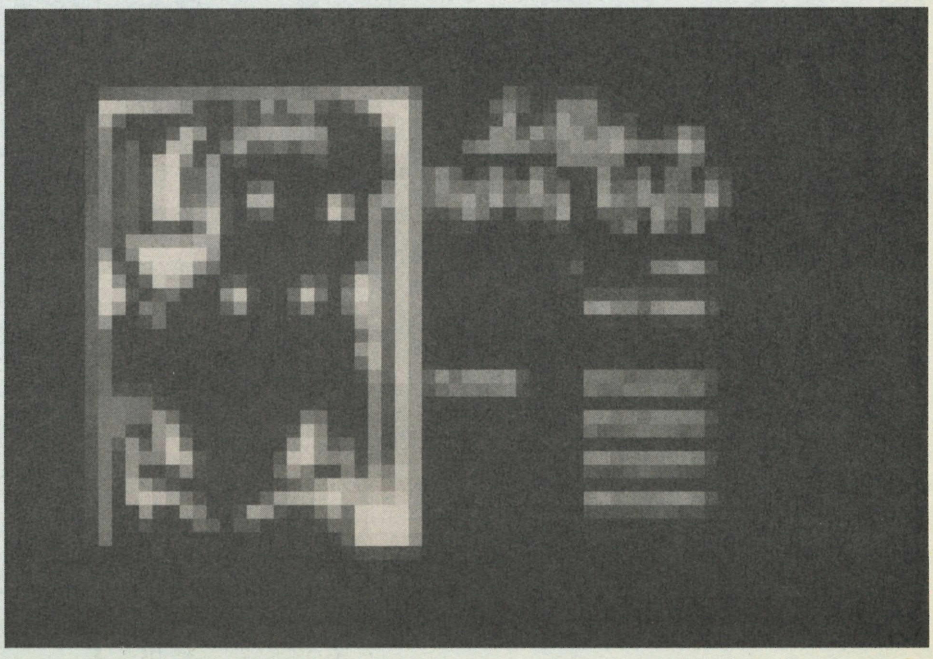
This is the sort of game you should't start late at night or you'll be going to bed in the wee small hours!

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.

Commander Keen and the Vorticons of Mars (one disk) [pPublisher Apogee Software Registration: £19.95 Special Requirement EGA/VGA graphics Performance: 9/10 Ease of Use: 9/10

Commander Keen is certainly a very impressive piece of software. From a technical point of view the programmers have squeezed a lot out of the PC and have achieved a standard of animation that was not thought possible. Apparently they use a 40 frame per second scrolling rate which is better than that used on standard cartoons.

The game itself is equally brilliant, using full 360 degree scrolling play fields, arcade standard sound effects, joystick support and hundreds of screens to explore.

The story of Commander Keen parallels the escapades of Flash Gordon and other superheroes. The shareware version is a fully working game and is the first in a series if three - the other two have to be paid for by registration with the publisher or their agents.

Keen's first adventure takes you to Mars, where the Vorticon invasion force is planning their conquest of Earth. While Keen is exploring Mars the Vorticons steall pieces of his ship and hide them within their vast cities. Can Keen recover all the pieces and repel the Vorticons?

Text Adventure Games

Colossal Cave Adventure Public DomainPerformance: 6/10 ease Of Use 9/10

Back in the days when a computer filled a room and it was controlled by a series of terminal often in another room, all the programming was of a rather 'serious' nature. Inevitably as the programmers got a bit tired of all this and, presumably in their lunch breaks, but probably at other times as well, they started trying to write lighter programs to give a little relief from the other dull stuff.

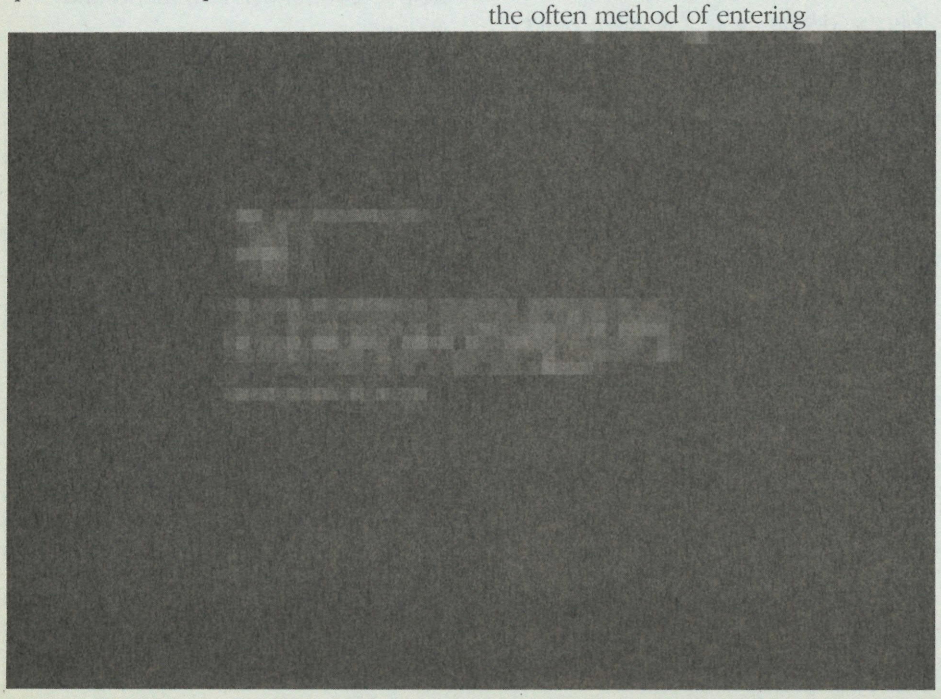
In those days the screens were all monochrome text only (no graphics - not even Hercules) and a 'Teletype' was the often method of entering instructions and receiving messages back from the computer on a printout (no joysticks either).

No-one really knows who started the idea but the first and most enduring game to be created on these main frame computers was what is now refered to as a text adventure. Basically it is story with which you can interact to change the outcome.

The computer sets the scene (text description of course) and, by issuing simple instructions (like Go North or Take Key or Light Lamp) you explore various locations with the intention of finding the pot of gold in the cave without getting caught by the various traps and monsters lurking about.

Colossal Cave was the first and most well known text adventure and continues to be popular even to this day. It still stands up well to the more modern graphics adventures which show all the scenes on the screen and often allow you to point and select your options without doing any typing. The main reason that it endures is that it forces you to use your imagination which can often be more interesting.

Has anyone ever finished it?



Aliens Laughed at my Cardigan Author: A M Boyle Registration: £30.00 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. His style is of the Hitch-Hikers 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.

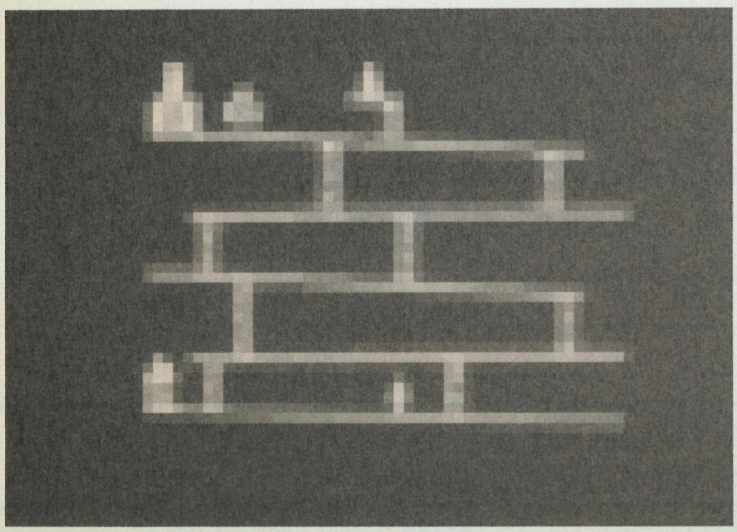
Classic Games Mostly Public Domain. Most require CGA Peformance (given their age) 7/10 Ease of Use: 9/10

It seems extraordinary in these days of sophisticated, animated VGA graphics, AdLib stereo sound cards and complex gameplay that many users continue to ask for old faithfuls like Space Invaders and Pacman. But they do, whether it's through nostalgia or the fact that 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 ofer 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 oftern are so complicated as to put people of persevering with them.



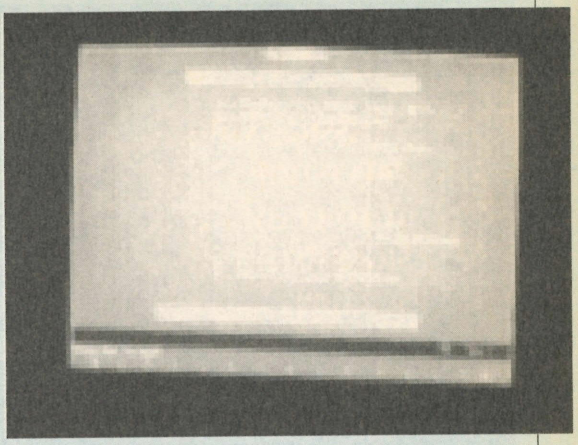
Take a Break [pic] Public Domain (UK) Performance: 7/10 Ease of Use: 8/10

Here is a varied selection of games to suit all tastes.

The Bannochburn Legacy -All activities, except for the very beginning take place within Bannochburn castle. The castle contains a number of monsters, including an 'angry Warlock' and a 'fire-breathing Fearbringer' who wander throughout the castle whilst you are playing the game, waiting for the chance to leap upon you, and to tear you from limb to limb. The castle also contains bottles of magic potion, chests which contain good and bad surprises, sheets of papyrus with magic spells written on them, and more besides.

The Stronghold of the Dwarven Lords - in this game you are in a cavern which holds the gold, which can be in one of three different places each time you play. The only information you get as to your progress is the information provided by the Dwarven Source Beam.

Hyperwar - you are in charge of patrolling a cube-shaped sector of space, which is ten persecs along each side. The enemy is the race known as the Dosznti. The object of the game is to get your 'alien kill total' to the highest point possible before your energy banks are exhausted.



Chairman of the Board - the aim of the game is to keep your factory running until you manage to make £50,000 - a kind of management simulation

Death at the Manor - you are a frustrated policeman on night duty who gets a telephone call at some unearthly hour and as a result of which are sent to the manor where a murder has been reported. It is your job to question the seven suspects. You will have to accuse one of them of the murder.

Swarms - swarms of killer bees are invading the United States! The aim of this game is to fight off the invading swarms and to keep the human casualties as low as possible.

THE ADVANTAGE TOP 50

1 (1). CLASSIC GAMES
2 (2).PRINTSHOP
3 (3).TUTOR.COM
4 (6).SIGNSMITH
5 (4).SCRABBLE
6 (5).PC KEYDRAW
7 (7).WORLD ATLAS
8 (8).FORD SIMULATOR II
9 (11).PRINTER TOOLBOX
10 (13).AMY'S FIRST PRINTER
11 (12).PAGE FIN. CONTROLLER
12 (9).PC MONOPOLY
13 (20).HENRIETTA'S B. OF S.
14 (18).HOORAY FOR HENRIETTA
15 (15).FRENCH TUTOR
16 (17).EDUCATING JUNIOR
17 (31).ARCADIA
18 (22).MATHS TUTOR
19 (10).GALAXY LITE
20 (23).EXPLORING WORDS
21 (19).ANDY'S WORD GAMES
22 (16).ESSENTIAL UTILITIES
23 (25).DUNGEON AND DRAGONS
24 (14).GENE GENIE
25 (29).NIFTY NUMBERS
26 (36).CROSSWORD SOLVER
27 (21).MUSIC MAESTRO
28 (24).PC FILE V
29 (26).PLAY 'N' LEARN
30 (46).FUN AND GAMES
31 (41).STAR TREK
32 (40).AS EASY AS
33 (35).FLO DRAW
34 (NE).LEARNING MATHS
35 (34).EXPLORING MATHS
36 (28).WACKY WORDS
37 (33).PC DRAFT II
38 (43).DISK CAMMANDO
39 (45).HELPDOS
40 (NE).KEEP THEM AMUSED
41 (38).FORM MASTER
42 (27).CHESS AND CHECKERS
43 (44).GRAND PRIX
44 (42).POWER MENU
45 (47).SKILL AND STRATEGY
46 (30).RUBICON
47 (37).KNIT WIT
48 (39).CIRCUIT DESIGN
49 (32).T. SQUARE
50 (NE).STAR TREK II

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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.

Great gaming essentials

PC review LETTER STAR

As a regular reader, and rather than add to the paeon of praise for PC Leisure, I thought a few comments about games as a class might be of interest. Needless to say, as a PC user of many non-games, I do have a lot of games as well – I've sent in my card giving my favourite as requested.

What do we serious users of the PC turn to? First it must be uncomplicated, (eg, Ultima VI is too elaborate – one can't remember the rules.) Next, it must have good graphics (ie, not just VGA colour).Then, we must understand it. (Poor manuals are rife and controls weird – and what's wrong with using the cursor keys to move about?) Next, it must have a way of saving one's position. (Or at least, it would be brilliant if one didn't have to start always from the beginning).

More seriously, after paying out good money, some games either don't work properly, or are full of bugs. (On my machine, Infestation is a good example – yes, I have had the disk replaced). Then I don't like games with master disk protection. One has first to find it and later worry about dropping tea all over it. It seems ludicrous to have the game on your hard disk and still have to put in a floppy. Finally, text games, although one could go on and on. (The dodo is also extinct.)

So what's good? Tetris, that old favourite, I often use. Lemmings is brilliant (pity about some of the colour), and Rick Dangerous likewise – not too difficult. Chessmaster 2100 is too good for me, but one can easily play a quick game, as one can play checkers, and there are masses of solitaires.

A Burgess
Devon.

PC review REPLIES

THANKS FOR YOUR VIEWS – and we'd be interested to hear from other readers on this subject. What do you think are the essential ingredients of a great game?

A change for the better

I am all in favour of the "all change PC Review" but what happens to the people who have subscribed (£13.00) to PC Leisure now that PC Review is £2.95?

At last, 3.5" disks! Maybe now you can cram games like Commander Keen on. I mean for instance, Humbug is a decent game, but the majority of us PC gamers prefer arcade type games (VGA sharks etc.). I know, same old story, some people only have CGA!

And for what reason does *Flight Sim* not get a Timeless Classic award? Please don't stop the free disk lines (although they can be somewhat inefficient) But congratulations on a brilliant magazine (hopefully soon to get even better!)

J Chilton
Coventry

PC review REPLIES

ALL EXISTING SUBSCRIPTIONS to PC Leisure are being honoured for as long as they run with copies of PC Review. You will, however, find that your six or 12-issue subscription runs out a bit more quickly now that we're a monthly publication.

As for the Timeless Classics, we haven't actually awarded any yet. The article in the last issue of PC Leisure detailed some of our own personal favourites as a guide and as an incentive to get you writing in with your votes. The supplement attached to this issue contains the PC Review list of all-time greats, but we're still collating all your entries for the definitive readers' all time PC classics. You've still got time to send in your Top Fives – October 30 is the last date we can accept your votes.

Quest for Battletech

Great magazine; good articles! Re: Activision article pp 35-37, PC Leisure issue 9: where/when will I be able to purchase Battletech programs? Can you help?

R Dobson

PC review REPLIES

BATTLETECH II: THE CRESCENT HAWK'S REVENGE should be out before Christmas, and available from your usual software supplier.

Soundboards: more details required

I would like to point out a slight problem (for me) about some of the articles in your mag. The problem is why is the contents of the text nearly always so shallow?

A prime example is PC Leisure, issue 9, page 18. Look at the letter entitled Which Soundboard, then look at the response, which isn't initialled and says virtually nothing and is completely non-committed.

Why couldn't the response say things like Adlib + Soundblaster do not give Stereo sound? Adlib and Soundblaster sound the same, but Soundblaster version 1-6 has a CMS speech chip?

Neither Adlib nor Soundblaster are as good as an Amiga, but are both better than a CBM64. How about the sampling feature on the Soundblaster? How come there is no reference to the big announcement and breakthroughs in PC Sound by Activision on Page 37 (which again says very little indeed) in the same mag? Why no mention of the new games which need both a Roland and an Adlib compatible (and with CMS? A picture of which appears next to the letter, Wing Commander. What about the Amstrad PC with built in Sound Card? By the way, the loud speakers, joysticks and Wing Commander soft do not come as standard with soundblaster, I think its a kit by Leisuresoft at about £180. Soundblasters (specially supported before next week) V1-6 are about £140.

D Purvis
London

PC review REPLIES

THE REPLY TO THE LETTER in the last issue was necessarily pretty brief (due to pressures of space) on a subject which, as shown by the points you've raised, merits an article in its own right. We take your point – and we've done

constructive about it.

Firstly, the advancements in the world of soundboards for the PC are detailed in our feature earlier in this issue (see page 34).

Secondly, because there just isn't enough room on the letters pages to give detailed answers to queries, from this issue on, you'll find a dedicated question and answer section (just after the hints and tips), where you can write in to ask anything, no matter how technical or basic, about your PC that you don't understand. This gives us more space on these pages to let you have your say – which is what a letters section should be for.

The easy way to £30 million

While exploring a saved game of Railroad Tycoon, I found out that changing the characters in Sector 27 of 0328 and sector 28 off est 0254 in the file RR? SVE using a disk editor to FF7F this gives you over £30 million.

R Rone

No chance of winning?

I am writing to you because I regularly read your excellent magazine.

I have entered the competition for the Suncom Plus joystick and card in your July/August edition of PC Leisure. However the chances of me winning are very scarce. I would be eternally grateful if you could send me the address of Suncom so that I can directly purchase one of the joysticks. If however this is not possible could you please send me an address or telephone number of a company from where I could acquire a joystick and card for an IBM PS\2 model 70.

Mrs Sandhu
Middx

PC review REPLIES

SUNCOM is at 1 Middle Street, Stroud, Gloucestershire, GR5 1DZ and the telephone number is (0453) 753565.

Space-saving in Wing Commander

I would like to add to the helpful comments made in Issue 8 by Phil Harrison of Mindscape about overcoming memory problems.

I have a 386 with 4Mb memory. Until I replaced MS Dos 4.01 with version 5.0 I had to use various methods to get the best out of some memory-hungry software and these might help others to overcome the same problems.

To overcome problems with Wing Commander and Their Finest Hour (Battle of Britain), I formatted a bootable floppy and set this up with "stripped down" CONFIG.SYS and AUTOEXEC.BAT files (this meant that I didn't have to interfere with my standard startup files) plus a batch file menu which enabled me to select either game from the hard disk. The CONFIG.SYS file configured same of the extended memory as expanded, and the AUTOEXEC.BAT started the menu. Booting from this floppy enabled me to run both games without problems, although I could not display all of the bomber gunnery screens in Their Finest Hour. I also saved some hard disk space by placing two smaller games in subdirectories on the same floppy.

I couldn't get Railroad Tycoon to run at all under Dos 4. To overcome this problem, I obtained a second bootable floppy formatted under Dos 3.3, and put similar "stripped down" start up files on it. I could not access the hard disk from this floppy as the partition is greater than the 32 megs Dos 3 limit, so I placed Railroad Tycoon in a subdirectory on the same floppy. It ran perfectly satisfactorily this way except that loading and disk access during the game slowed things down a bit.

Since installing MS DOS 5.0 with its enhanced management, I am able to run all my software without problems and I get all of the screens in games.

D Crabtree
Leicester

Night Shift: the alternative installation

I have a Tandy 1000EX with a printer, colour monitor, internal 5.25" disk drive, 640K of memory and an external 3.5" disk drive. I don't have a hard disk.

I would like to say that I was rather disappointed when I read that the cover disk "Night Shift" on issue 8 would not work without a hard disk. I fiddled about and soon got it to work on two 3.5" disks.

For readers as disappointed as I was I have listed down what to do :

Why not mention Tandy ...?

May I point out that a lot of the software you do write ups on support Tandy graphics, I feel this should be looked at because a lot more software companies are now supporting Tandy graphics along with EGA & VGA (Wing Commander supports Tandy Graphics so do all Sierra games new or old).

For the last four years I have been buying leisure software (and business software) for my two Tandy computers, about 70% of my games support Tandy computers.

If you are not sure the software supports Tandy Computers I would gladly try it for you.

K.Lunt
Tyne & Wear

... or Super VGA graphics ...?

I am one of the fortunate owners of a Opus PCSX which has got a 386 SX co-processor inside. It also has a SVGA display which most people know has got 256 colours.

The problem that I am having is that in your review section of your magazine there is a little box that shows what display you will need for the game. Seeing that your screen shots are so good I really can't tell the difference between VGA and SVGA graphics because I used to have a machine that had a Hercules Monochrome screen (2 colours) which is pretty shoddy (Rubbish, whatever you want to call it) compared with SVGA, so I haven't seen VGA graphics a lot of times

So would you let me know if you are going to make these changes to your magazine.

Name & address illegible

PC review REPLIES

MOST OF THE GAMES which support Tandy come from the US where this graphics mode has historically been more of an established standard than it is over here. However, a significant number of UK owners have Tandy systems, and from this issue on, we're including Tandy graphics in the specs box. SVGA isn't supported by that many games at the moment. There are so many different PC configurations that we have to be selective – otherwise the Tech Specs alone would take over the entire review! However, I'm happy to throw this one over to you. Anyone who needs to know if the games reviewed support SVGA, PGA, XGA, or any other GA you have lurking on your graphics card, should write in to tell us, and if we're snowed under with pleas for any one of them we'll certainly consider including a specific box.

... or hard disk space?

I have a Dad who doesn't like his hard disk stuffed with games, so please could you include in your verdict box something that says whether the game will run from floppy or must be run from hard disk (if so, how many megabytes the game needs)?

P.Brown
Newcastle Upon Tyne

PC review REPLIES

YES. As you'll have seen from the reviews section, this information is included, and will be a standard feature of our reviews from now on.

1) Format two 3.5" disks to 720K and label them 1 and 2;

2) Put the second disk in drive A and type MD Night;

3) Put the 1st disk into drive A and the PC Review disk into drive B:

4) At the B> type Install B: A:

5) Follow the instructions and when DISK 3 comes up to it will come up with and error and stop installation;

6) Make sure you are on Drive B and type again Install B: A: With the first disk in and press enter;

7) It will come up with the same names but it will say "Overwrite? (Y/N)" Press N until it says Disk 2 before the overwrite message. Insert the second disk and press N and then wait till it comes up with the installation complete. Then change to drive A and type CD..

8) To start up Night Shift just put in the disk and type IML.

I have not done it any other way so I'm afraid anyone else will have to put on there thinking caps.

One day could you possibly put a demo of Golden Axe on one of your great cover disks for I prefer one big/good game/demo to two small games or demos.

J McNaught
Ayrshire

Don't forget Amstrad CGA owners

Please could you make your cover disks Amstrad CGA compatible.

The first issue I ever bought I could only get the supplementary issue, that did not have a cover disk. On the second one I could only get Monuments of Mars (which I really liked) to run, and the third issue would not operate on my Amstrad 1640 computer.

It would be helpful if you could state, in your disk information, whether disks are compatible with Amstrad CGA.

A Down.
Sheffield.

NOW THAT PC Review is available in two versions (5.25" or 3.5" disks, both in the shops) and that we have more memory capacity on the disks, we certainly hope to be able to include something for everyone each month.

The PC with go-faster stripes

I own a 16Mhz PC and have been very happy with it for quite some time. Recently I decided to make it go faster. I have read a lot of magazines, and they all say buy a motherboard. This is not the only answer. Most 12Mhz 286's have been designed so that it can be upgraded to a 16Mhz 286. the reason they do this is so that they can manufacture two different machines using the same motherboard.

All you have to do is contact the manufacturer of your machine and ask then what you have to do (that's the hard bit). I had to buy a new 80286 16 Mhz processor and a faster crystal module. Plug in the processor, and solder in the crystal. Hey presto, my 12Mhz 286 was now running at 16.9Mhz. Using the machines setup program, I changed the memory wait state to zero. Now I am running at a respectable 18.2Mhz, and that's not bad for an old 286.

J Cooper
Cambridge.

LET ME JUST reiterate one point of your letter: anyone who wants to do this – please check with the manufacturer first that it's feasible. Also note that if your machine is still under warranty, that warranty will be invalidated, when you open it up to change components.

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!

WINNER

Now that we've made our great leap forward, it shouldn't really be a time for looking back. However, we thought it might be a good idea to put readers out of their misery and explain one of the great unsolved questions of PC Leisure's lifetime: just who were the competition winners?

After painstaking research in the archives of EMAP Towers, much rune-reading and the sound of thousands of envelopes being stirred around in hats, we can now name names:

CASTLE COMPETITION (PCL issue 8)

This was a bit of a toughie, especially to anyone used to the usual "Answer three easy questions" format. So stand up, **Barbara McCourt**, of Hitchin, Herts, as PC Review's equivalent to Mastermind. Barbara wins an all-expenses paid weekend in one of Britain's historic mediaeval castles.

In fact, this particular compo was so tough, that only the following entrants got all the answers right, and thus qualify for the runners-up prizes of an Electronic Arts game of their choice: Adrian Weir, London N15; Iain MacDonald, Ayr; Dermot McParthland, Camden, London NW1; Simon Wasp, Manchester; Sarah Goode, Clare, Suffolk; W D Wilson, Bishop Auckland, Co Durham; Clem Thom, Knocking, Shropshire; B Parker, Allenheads, Northumberland; Kate Ivens, London NW3; Julian Rister, Swansea.

Hearty congratulations to this select few, who knew that the answers were 1) Richmond Castle is the oldest existing stone castle in Great Britain, and 2) Osaka Castle was built and rebuilt since the 4th century.

NOW I'M FLYING (PCL issue 8)

Joysticks and flight sims make the perfect prizes, judging by the number of readers who had a go at this one. Our six worthy winners are: **Robert Thistlethwaite**, Ashgate, Chesterfield; **Ben Braiden**, St Ouen, Jersey; **S Fisher**, Chalgrove, Oxford; **A S Thompson**, Southsea, Hants; **J P Roberts**, Watton-at-Stone, Herts; **P E Frost**, Lindfield, W Sussex.

And the answers? 1) four fire buttons on the Suncom Plus joystick; 2) Northern Cape and Europe are the areas other than Iraq on the F15 scenario disk.

CONCERTOS UNLIMITED (PCL issue 9)

A superb first prize of a Miracle Piano Teaching System was up for grabs here, and, not too surprisingly, this competition drew a huge postbag. However, first out of the barrel-load was **S J Harper** of Blackburn, Lancs, who should be tinkling the ivories with aplomb from now on.

The runners-up prizes weren't too dusty, either: 10 copies of Wing Commander 2 go to Mr H Helm, Wokingham, Berks; Sean Kirwan, Kilnamanagh, Dublin; R A Dobson, Inverness; William Purkis, Dedham (hooray!), Colchester; Neil Biles, Winton, Bournemouth; Graeme Jamieson, Irvine, Ayrshire; Mrs S Matheson, Wokingham, Berks; Reginald Lee, Northolt, Middlesex; Andrew G Finney, Wigan, Lancs; M Channon, London NW10.

The answers, incidentally, were 1) Jean-Michel Jarre gave an open air concert in London's Docklands; 2) Wing Commander 2's sub-title is vengeance of the Kilrathi; 3) The author of the Wing Commander games is Chris Roberts.

CHOCKS AWAY (PCL issue 9)

Another competition that drove our postman to the osteopath. Apache helicopter models go to **Gary Davis**, of Hemel Hempstead, Herts, and **Mr W J Platt** of Thatcham, Newbury.

Models of the F117A to **Dave Young**, of Aberdeen, and **Mr A M Kirk** of East Grinstead, West Sussex.

The runners-up prizes were allotted as follows: copies of F117A Stealth Fighter to Robin Chapman, Stamford, Lincs; Mr S Clarke, Astwood Farm, Worcs; Mr W J Francis, London NW9; Michael Lowther, Malmesbury, Wilts; Paul Neil, Edinburgh;

The next five are now the proud owners of Gunship 2000: E A D Boyling, Dartford, Kent; Mr G J Olsson, Dorking, Surrey; Mr M Eckersley, Hyde, Cheshire; Kabo Morley, Tilehurst, Berks; Andrew White, Burgess Hill, W Sussex.

These 12 all spotted the correct answers: 1) The real-life F117A has no air-to-air weaponry; 2) McDonnell Douglas manufactures the Apache; 3) Jeffrey Briggs wrote the Gunship 2000 music. s

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ADVERTISERS INDEX

Amstrad.....11
Azure Computer Systems.....123
Centresoft.....104
Core.....163
Cornwall & Devon Computers.....129
Domark.....22
Electronic Arts.....18, 19
GamesExpress.....161
Gremlin.....27
Infogrames.....63
Microprose.....30,38,58,59
Mindscape.....13, 89
MirrorImage.....96
Ocean....IFC, 102, 164
PC Action.....157
P.S.S.....33
Psygnosis.....46, 69
RCSimulations.....129
Shareware Conn...161
Silica Systems.....95, ...107, 111, 113
Special Observations Group.....157
SpecialReserve...6, 99
SoftwareCity.....
.....140
StrategicPlus.....157
Subscriptions.108,109
Thalion.....85
U.S.Gold.....52, 53
Virgin.....14, 114
Viz Trade.....133
Westpoint Creative.45

Better than no publicity?

PC Review was waiting with bated breath for the "extravaganza" promised by Diamond Computer Systems when it launched its new retail concept. But the specified date came and went without so much as a whisper. Some days later, we received a letter from Diamond explaining why the extravaganza had been, in the end, something rather less than a damp squib. "Due to an accident during shipping of Italian marble for the PC Penthouse" the extravaganza had been cancelled. This is the sort of explanation that raises more questions than it answers. What was the Italian marble for? Why Italian? Was anyone hurt? And what is a PC penthouse, anyway? We've been intrigued by thoughts of Amstrad 5286s in provocative poses ever since.

Willkommen, Bienvenue...

One feature of the all-new PC Review of which you may not be aware is that while you read this in good old Blighty, editions are winging their way across the Continent, in French, German, Italian and Spanish. Each language version has its own editor, whose job is to make sure that the translations are good adaptations, rather than making the foreign PC Reviews read like Japanese car manuals. The editors also have their own creative input into the magazine; so we'll be on the spot as the European market grows apace.

And if you're still in any doubt about the explosive growth in PC games over the last year or so, take these quotes from industry trade paper CTW. CTW ran an eight page special on the veteran Atari ST machines, asking all sorts of industry heavyweights what they thought of the ST's prospects.

We've now reached a stage where ... the PC will definitely overtake next year" – Pete Stone, Palace Software.

"PC games are just about level with them, but obviously growing all the time" – Ian Stewart, Gremlin.

"After Populous II and Bob are out of the way, our lead format will be the PC" – Les Edgar, Bullfrog.

Seems PCs are the words on everyone's lips.

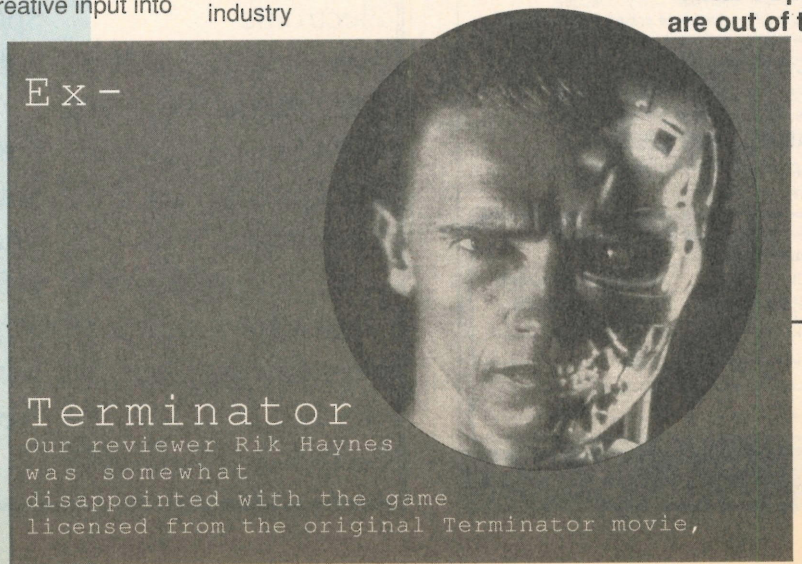
QUIT

Answers on a postcard ..

Normally, when we run competitions, we ask for entries to be submitted on a postcard or the back of a sealed envelope. It saves on paper, and maybe the odd tree or two, and also saves us from having to open all those envelopes. The only thing is, that the postcards are so damn dull. Not that we particularly want to know that you're sunning yourself in Barbados while we're chained to our desks in the crypt at EMAP Towers, but we reckon the time could be right for a campaign for interesting postcards. To kick off this scheme, Peter Ammelrooy of Amsterdam came up with these cards for the Chocks Away and Concertos Unlimited competitions in the last issue of PC Leisure. Thanks, Peter. Then again, Mark Billinge of West Sussex, went just a bit too far. He submitted his Concertos Unlimited pasted to the back of an actual compact disc, which seems a highly uneconomical way of getting noticed. You will notice, though, that whether your postcards are wacky or just plain white, it makes no difference to your chances of winnng. In Mark's case, it may even have hindered his chances: that CD probably sank like a stone to the bottom of the capacious PC Review hat.

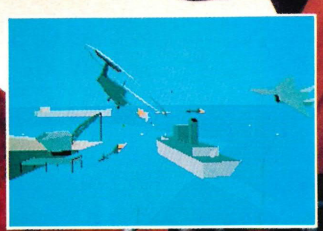




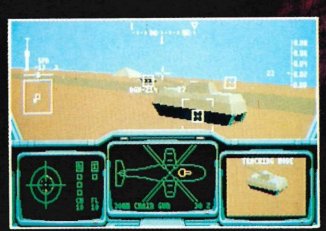


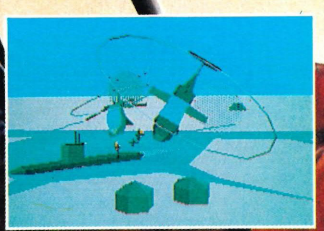
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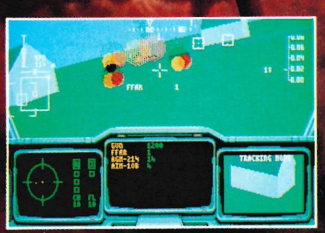
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